

Ottawa Light Rail Commission

Jonathan Hulse
on Monday, May 2, 2022



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OTTAWA LIGHT RAIL COMMISSION
PARSONS/DELCAN - JONATHAN HULSE
MAY 2, 2022

--- Held via Zoom Video Conferencing, with all
participants attending remotely, on the 2nd day of
May, 2022, 2:00 p.m. to 5:00 p.m.

1 COMMISSION COUNSEL:

2

3 Kate McGrann, Co-Lead Counsel Member

4 Carly Peddle, Litigation Counsel Member

5

6 PARTICIPANTS:

7 Jonathan Hulse - Parsons/Delcan

8 Mitchell Kitagawa - Kelly Santini LLP

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11 ALSO PRESENT:

12

13 Janet Belma, Official Court Reporter

14 Alicia Sims, Virtual Technician

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I N D E X

WITNESS: JONATHAN HULSE

Examination by Kate McGrann.....4

The following list of undertakings, advisements and refusals is meant as a guide only for the assistance of counsel and no other purpose

INDEX OF UNDERTAKINGS

The questions/requests undertaken are noted by U/T and appear on the following pages: None

INDEX OF ADVISEMENTS

The questions/requests taken under advisement are noted by U/A and appear on the following pages:
None

INDEX OF REFUSALS

The questions/requests refused are noted by R/F and appear on the following pages: 48, 84

1 -- Upon commencing at 2:00 p.m.

2 JONATHAN HULSE: AFFIRMED

3 KATE MCGRANN: Good afternoon,
4 Mr. Hulse. My name is Kate McGrann. I'm one of
5 the Co-Lead counsel for the Ottawa Light Rail
6 Transit Public Inquiry. I'm joined by my
7 colleague, Carly Peddle, who's a member of the
8 Commission counsel team.

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

17 JONATHAN HULSE: Okay.

18 KATE MCGRANN: This interview is being
19 transcribed, and the Commission intends to enter
20 this transcript into evidence at the Commission's
21 public hearings either at the hearings or by way of
22 procedural order before the hearings commence.

23 The transcript will be posted to the
24 Commission's public website along with any
25 corrections made to it after it is entered into

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

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

12 Pursuant to Section 33(6) of the Public
13 Inquiries Act, 2009, a witness at an inquiry shall
14 be deemed to have objected to answer any question
15 asked him or her upon the ground that his or her
16 answer may tend to incriminate the witness or may
17 tend to establish his or her liability to civil
18 proceedings at the instance of the Crown or of any
19 person, and no answer given by a witness at an
20 inquiry shall be used or be receivable in evidence
21 against him or her in any trial or other proceeding
22 against him or her thereafter taking place other
23 than a prosecution for perjury in giving such
24 evidence.

25 As required by Section 33(7) of that

1 Act, you are hereby advised that you have the right
2 to object to answer any question under Section 5
3 of the Canada Evidence Act.

4 If at any point anybody needs a break,
5 just say so, and we will pause the recording.

6 JONATHAN HULSE: Okay. Can you hear me
7 okay?

8 KATE MCGRANN: I can hear you just
9 fine. Are you able to hear me okay?

10 JONATHAN HULSE: Yeah.

11 KATE MCGRANN: Wonderful. Would you
12 please give us a brief description of your
13 professional experience and expertise as it related
14 to your work on Stage 1 of the Ottawa Light Rail
15 transit system?

16 JONATHAN HULSE: Yeah. So I have been
17 an engineer now for nearly 40 years. I came over
18 to Canada in 1994 from the UK and worked for
19 Bombardier, Bombardier rail transit systems in
20 Kingston, Ontario, and I've been -- so and since
21 '94 to the present day, I've been working totally
22 in rail systems and rail-system solutions. I
23 left -- left Bombardier in 2008, beginning of 2008,
24 when I then spent a year with York Region Rapid
25 Transit and then came back to Kingston to work for

1 Delcan Corporation which later was -- was acquired
2 by Parsons.

3 So during that time, I worked on
4 state-of-the-art train control transit systems
5 including, for example, the -- the driverless
6 system in Vancouver and other driverless metros
7 around the world.

8 So I have international experience on
9 all types of train technology and supported --
10 supported Delcan, now Parsons, on many other
11 projects around North America and indeed in -- in
12 Europe as well.

13 KATE MCGRANN: Have you ever been
14 involved in the launch of a brand-new system, as
15 was done in Ottawa?

16 JONATHAN HULSE: Not as is done as was
17 done in Ottawa. Ottawa was fairly unique in -- in
18 some -- in some ways in that it was being operated
19 by the City and maintained by -- by the contractor,
20 but on other transit systems, yes, including --

21 KATE MCGRANN: Oh, did you --

22 JONATHAN HULSE: -- extensions in
23 Vancouver and new systems in -- in the United
24 States, a new system in -- in Malaysia, a new
25 system in -- in South Korea, for example.

1 KATE MCGRANN: And had you worked on a
2 P3 project being delivered by way of a
3 design-and-built finance maintain model before?

4 JONATHAN HULSE: I've worked on a P3
5 project for Bombardier back in the early 2000s
6 in -- in Yongin, South Korea.

7 KATE MCGRANN: And was that also a
8 design build finance --

9 JONATHAN HULSE: Design, build,
10 finance, operate, and maintain. This one was
11 unique in that it was design, build, finance, and
12 maintain without the operate.

13 KATE MCGRANN: And in the work that you
14 were doing, did this particular model pose any
15 challenges by virtue of the division of the
16 operations and the maintenance or otherwise?

17 JONATHAN HULSE: I think we came in,
18 we, Parsons/Delcan -- Parsons came in later on in
19 the -- in the program, so a lot of the work had
20 already been commenced.

21 So I think in terms of -- in terms of
22 challenges, if you have a -- a P3 system -- a P3
23 project to deliver a system that is -- is not being
24 operated by a P3 member, you always have additional
25 challenges.

1 KATE MCGRANN: And what would those
2 challenges be?

3 JONATHAN HULSE: The challenges may be
4 additional siloing, communication between multiple
5 parties. That would probably be the -- the main
6 issue would be making sure that the -- the
7 contractor is delivering a system that can not --
8 not only be maintained by their own parties but
9 operated by another party.

10 KATE MCGRANN: And would you explain
11 what Parsons was retained to do with respect to
12 Stage 1 of the Ottawa project.

13 JONATHAN HULSE: We had -- we were
14 engaged under a test-order contract, and we had a
15 number of purchase orders for separate tasks.
16 Excuse me. I'm just getting over a cold. And so
17 we were supporting them on the implementation of
18 the communication-based train control system which
19 is implemented by Thales.

20 We were supporting them on
21 operational -- operations and maintenance matters,
22 and also on system safety where they were the --
23 generally four categories that we were supporting
24 the City of Ottawa on.

25 KATE MCGRANN: So implementation of the

1 CBTC system, operations, maintenance, and system
2 safety and security?

3 JONATHAN HULSE: Mainly systems safety,
4 not -- not so much the security.

5 KATE MCGRANN: Okay. And of those four
6 areas, were there any that were your particular
7 focus?

8 JONATHAN HULSE: As the project manager
9 for the team, I was the principal consultant, so I
10 had -- I -- I supported my team members, gave them
11 advice, and also looked for their leadership as
12 well in specific areas. So I was involved in all
13 of them, but my primary focus is on the safety side
14 and operational readiness.

15 KATE MCGRANN: Safety and operational
16 readiness. Okay.

17 JONATHAN HULSE: That's right.

18 KATE MCGRANN: With respect to the
19 project management work that you were doing on this
20 project, could you describe to me what that
21 involved.

22 JONATHAN HULSE: The project management
23 I was doing was -- so there's -- there's
24 overhead -- it's a project, so I need to invoice
25 the client. I need to develop proposals if they

1 want additional scope of work. I need to make sure
2 we get paid on time. I need to make sure the --
3 the staff are available when they need to be, make
4 sure that their expenses get paid, so lots of
5 administrative functions and not just technical
6 functions.

7 KATE MCGRANN: And with respect to
8 supervising the members of your team, what did that
9 look like?

10 JONATHAN HULSE: Supervising them, the
11 members of the team are all experienced people.
12 The -- the teams changed over time. One of our
13 team members left -- left and went to another
14 company. We had new team members come on.

15 But all of the team members had
16 significant experience, so really -- really, it was
17 more a case of supporting each other and
18 communicating than -- than real direct supervision
19 required. The team were all quite capable and
20 experienced in -- in managing their own work.

21 If they had a problem, then I might
22 help them with the problem. It might be resolution
23 required by communication with the City of Ottawa
24 or other party -- other parties for escalating a
25 problem through the City. But generally, the City

1 members needed very little supervision.

2 KATE MCGRANN: So they're largely
3 self-directed save and except for they need --

4 JONATHAN HULSE: Yeah.

5 KATE MCGRANN: -- some assistance from
6 you? Okay.

7 JONATHAN HULSE: Because generally, we
8 were working within a City organization, so they
9 may take direct supervision from members of -- of
10 the Rail Construction Group or the City of Ottawa
11 on a day-to-day basis.

12 KATE MCGRANN: Could you describe who
13 the key members of your team were and what areas of
14 the mandate they were focusing on.

15 JONATHAN HULSE: The key members were
16 Glen McCurdy. So Glen was mainly focused on the
17 communication-based train control system which was
18 delivered by Thales. Glen was ex-Thales. He
19 understood the technology. He'd worked with me at
20 Delcan, now Parsons, for a number of years and was
21 well experienced in delivery of that type of
22 technology.

23 We also supported the general testing
24 commissioning making sure that the -- the
25 contractor was -- was ready to test or commission,

1 that test procedures were adequate, and that test
2 reports demonstrated that they tested successfully,
3 passed the required tests.

4 KATE MCGRANN: Okay. And who else?

5 JONATHAN HULSE: Oh, sorry.

6 KATE MCGRANN: No. That's okay.

7 JONATHAN HULSE: Michael Palmer,
8 Mike Palmer. So Mike had been Ex-Chief Operating
9 Officer of the TCC. He had worked for London
10 Underground. Mike was really very experienced in
11 all matters transit, and Mike came on to support
12 the -- again, more -- more on the operational
13 readiness side making sure that he operates at --
14 sorry -- that the RTG, the contractor, had
15 developed the necessary procedures which then
16 handover to OC Transpo to operate the system.

17 So Mike was mainly adjusting
18 operational matters which could have included, for
19 example, is the system ready to operate? Is --
20 does the system have the correct functionality
21 necessary to -- to put into practice the particular
22 service schedules or service performance required
23 by the -- required by the City?

24 KATE MCGRANN: Okay.

25 JONATHAN HULSE: We had another member,

1 Tom Fedor, who left -- left the company a couple
2 years ago. Tom was looking after -- sorry. I've
3 got this cough. Tom was looking after maintenance
4 readiness making sure that the RTG and the
5 maintenance facilities and procedures met the
6 necessary requirements and to fully support the
7 system through its intended service life.

8 We had -- Andrew Howard came on later.
9 He supported safety, safety aspects, specific
10 questions on reliability, availability,
11 maintainability, and safety. So if you hear me use
12 the term RAM, R-A-M, that stands for Reliability,
13 Availability, and Maintainability, so we talk about
14 RAM safety or just RAMS encompassing them all.

15 We had other staff engaged on more of a
16 part-time basis, Bruce MacDonald helped out on some
17 issues they were having with track work and
18 track-work maintenance; Bill Sidaway helping out
19 on -- on communication systems and -- and the
20 systems readiness. So we had a number of other
21 staff, but the key ones were myself, Glen, and --
22 and Mike --

23 KATE MCGRANN: Okay.

24 JONATHAN HULSE: -- with exception of
25 Tom, who left.

1 KATE MCGRANN: And so their reporting
2 up to you is needed, these team members. And then
3 I think you mentioned that you're working within
4 the City offices. Is that right?

5 JONATHAN HULSE: Yeah, and the City of
6 Ottawa had their own -- Owner's Engineer as well,
7 and -- and so we were often filling in gaps which
8 were not supported by the Owner's Engineer.

9 KATE MCGRANN: Was the Owner's Engineer
10 Capital Transit Partners?

11 JONATHAN HULSE: That's right. Yeah.

12 KATE MCGRANN: When did your work on
13 Stage 1 of the Ottawa Light Rail transit system
14 begin?

15 JONATHAN HULSE: I recollect -- I think
16 we got the first purchase order in 2015, so it was
17 ramping up from then all the way through to,
18 really, 2020.

19 KATE MCGRANN: Okay. So you remained
20 on the project after it launched a public revenue
21 service?

22 JONATHAN HULSE: Yeah. We -- there
23 were closeout issues, closeout activities, so it
24 was a little bit of work after it went into revenue
25 service. And we also -- under the same contract,

1 we also started working on the Stage 2, so we had a
2 bit of an overlap between the Stage 1 project and
3 the Stage 2.

4 KATE MCGRANN: Okay.

5 JONATHAN HULSE: And we're still
6 supporting Stage 2 now.

7 KATE MCGRANN: Our focus is on Stage 1,
8 but I may ask you some questions about Stage 2 as
9 it pertains to the work that was done on Stage 1.

10 JONATHAN HULSE: Okay.

11 KATE MCGRANN: In terms of who you and
12 the members of your team that you've identified
13 were interacting with most of the City, who were
14 your main points of contact there to the extent
15 that you can speak for others but at least for
16 yourself?

17 JONATHAN HULSE: Our main points of
18 contact were Richard Holder, Eric Dubé,
19 Michael Morgan. And there were others within
20 OC Transpo as well, for example, Dwayne Duquette;
21 other staff came and went, Joe Lemieux, but there
22 were -- there were a few transitory positions as
23 well.

24 KATE MCGRANN: Do you remember what the
25 first area that you were asked to deal with was

1 when you started up work in 2015?

2 JONATHAN HULSE: I think if -- if I --
3 if I recollect, so one of the primary tasks that we
4 had to do, both us as a group -- first of all,
5 Tom Fedor was working on operations and maintenance
6 procedures and oversight of -- of RTG from the
7 maintenance perspective. Glen was assigned
8 immediately to the Thales activities, the train,
9 for the train control.

10 Myself, I started out working
11 developing a concept of operations, making sure we
12 all understood how -- what the operating model
13 would be for the -- for the new railway, so making
14 sure that all the operational readiness was
15 channeled towards an end goal and a vision of how
16 we want to operate the railway, so a concept of
17 operations.

18 KATE MCGRANN: When you started, what
19 was the status of the City's work on the areas that
20 you had been -- you, Parsons/Delcan, had asked to
21 come in and assist with?

22 JONATHAN HULSE: I think that if I
23 recollect correctly, we were between preliminary
24 design phase and the final design phase. So PDR,
25 Preliminary Design Review, I think had occurred and

1 even perhaps some of the Final Design Reviews, FDR,
2 had -- had occurred. So it was about towards the
3 end of the -- of the preliminary, final design
4 phase, so it was still under design, not -- so not
5 yet under construction.

6 KATE MCGRANN: And the responsibility
7 for completing the final design lay with RTG. Is
8 that right?

9 JONATHAN HULSE: That's correct. Yeah.

10 KATE MCGRANN: And the work to be done
11 by the City is to review those designs --

12 JONATHAN HULSE: To review, that's
13 right, review and comment, and make sure they were
14 complying with the project agreement.

15 KATE MCGRANN: With respect to where
16 the City was in its work, were they where you would
17 expect them to be, given the status of the project
18 when you joined?

19 JONATHAN HULSE: I did not believe at
20 the time that they were where they ought to be, no.
21 I did not think the designs were mature enough and
22 showed a level of -- necessary level of
23 integration.

24 KATE MCGRANN: When you say that the
25 designs were not mature enough, what do you mean by

1 that?

2 JONATHAN HULSE: They were a little
3 thin in -- in technical content, and -- and I think
4 one reason -- a reason for that was the -- the
5 structure of the -- of the consortium that
6 information transfer from the suppliers up to RTG
7 as integrated did not always occur, so lots of
8 information that perhaps Thales had, it wasn't
9 being transferred through RTG up to the City of
10 Ottawa.

11 KATE MCGRANN: Did you have a view of
12 why that communication was not working as you would
13 have expected it to?

14 JONATHAN HULSE: Yes. I think my view
15 was that the structure of RTG was such that it
16 would just pass down requirements to the suppliers
17 without doing any necessary level of integration
18 themselves and were not too interested in the
19 designs being developed by the suppliers.

20 KATE MCGRANN: And when you say that
21 they weren't too interested in the designs being
22 developed, what do you mean by that?

23 JONATHAN HULSE: They were downloading
24 requirements without managing the requirements.

25 KATE MCGRANN: And what would be

1 involved in the proper management of the
2 requirements prior to download?

3 JONATHAN HULSE: Well, it would be
4 making sure, for example, you understood the
5 overall system architecture, making sure you
6 understood all the subsystems within that
7 architecture or systems, how they interface with
8 the -- how the systems elements interface with
9 civil, looking at the systems elements including
10 the vehicle. You have a vehicle with train control
11 on board from Thales.

12 You have the vehicle interfacing with
13 the -- with the running rail, a vehicle interfacing
14 with the overhead catenary, vehicles interfacing
15 with the stations, so making sure that we
16 understood the -- from a top-down perspective,
17 the -- the LRT system, how that LRT system is
18 composed of other systems and subsystems, and how
19 they ought to operate, integrate together. And we
20 have to pay attention to that in the design aspects
21 before we ever get to construction and then testing
22 and commissioning.

23 KATE MCGRANN: Is there a standard
24 document or a manner of capturing the understanding
25 of the system that you just described that you

1 would expect to see from either the City or RTG at
2 this phase in the project?

3 JONATHAN HULSE: I would expect to see
4 mature plans for system engineering and integration
5 and for -- also for the RAM and safety aspects to
6 make sure they had mature plans and all team
7 members were operating -- were working to those
8 plans.

9 KATE MCGRANN: And were those plans in
10 place?

11 JONATHAN HULSE: I don't recall seeing
12 those plans.

13 KATE MCGRANN: Did you see those plans
14 later in the process? Were they ultimately put in
15 place?

16 JONATHAN HULSE: I -- actually, I did
17 I -- you know, let me correct myself. I do
18 remember seeing the plans, but it is one thing
19 having a plan sat on a computer or on a shelf
20 somewhere, but everybody working to the plans
21 is not --

22 COURT REPORTER: I'm sorry, sir. You
23 cut out there. The last part I have is, on a shelf
24 somewhere, but every.

25 JONATHAN HULSE: Sorry. Can you hear

1 me now?

2 COURT REPORTER: I can. You cut out
3 for me. I have the last words were --

4 JONATHAN HULSE: Okay.

5 COURT REPORTER: -- on a shelf
6 somewhere, but I --

7 JONATHAN HULSE: So there were plans,
8 yeah. There were plans, but I think the plans
9 were -- were fairly thin. And there's one thing
10 having plans, but making sure everybody's working
11 to the plans is another matter, and I don't think
12 that was the case.

13 KATE MCGRANN: Did that continue to be
14 the situation throughout the construction period?
15 And by that, I mean, was it the case that there
16 wasn't the kind of system integration work done by
17 RTG or somebody on its behalf that you would have
18 expected to see?

19 JONATHAN HULSE: That's correct.
20 Until -- until at some point they brought in
21 another company called SEMP, S-E-M-P, and then SEMP
22 tried to pick up all the pieces and integrate them
23 by which time most of the construction -- and the
24 system had been built, so they're already in place.
25 So you've got all the components of

1 your car assembled, but none of -- none of them
2 work together.

3 KATE MCGRANN: Do you remember
4 approximately when SEMP was brought in?

5 JONATHAN HULSE: I would say around
6 2018.

7 KATE MCGRANN: And you said by that
8 time many of the components were built and they
9 weren't working together.

10 JONATHAN HULSE: All in place, yeah, so
11 it's far harder to -- to deal with issues when
12 something's being built compared to when it's in
13 the design phase.

14 KATE MCGRANN: At that point are you
15 stuck either dealing with things by way of retrofit
16 or by adjustments to standard Operating Procedures?

17 JONATHAN HULSE: You -- yes, indeed,
18 and if you can't fix it through -- if you can't fix
19 the design, then you have to make amendments to --
20 adjustments to how you operate the system safely to
21 make sure it is operated safely.

22 KATE MCGRANN: The lack of
23 system-integration work that you saw at RTG, did
24 you raise that issue with anybody at the City or
25 alert them to the fact that you felt that that work

1 that should be done was not being done?

2 JONATHAN HULSE: Yeah, that's -- that's
3 right, in meetings or through emails or through
4 onsite dialogue.

5 COURT REPORTER: Through what, sir?

6 JONATHAN HULSE: Onsite dialogue,
7 talking to people. We worked -- and this is
8 pre-COVID, so we're all together in common working
9 areas, and we're able to knock on somebody's door
10 and say, hey, we've got a problem.

11 KATE MCGRANN: And what response did
12 you receive when you raised that concern with the
13 City?

14 JONATHAN HULSE: I -- the City
15 listened. The City -- the people I was dealing
16 with listened.

17 KATE MCGRANN: And what, if anything,
18 did you see the City do in response to what you had
19 shared?

20 JONATHAN HULSE: Well, I wasn't always
21 party to letters written between the City and
22 the -- and RTG. You know, I was just a consultant
23 providing advice, so I was not necessarily copied
24 on -- on everything, and there's probably a lot I
25 didn't see.

1 So I understand the -- the issues are
2 raised at the managerial level to the -- to the
3 contracts, but I wasn't necessarily party to all of
4 them.

5 KATE MCGRANN: And prior to SEMP's
6 retainer in 2018, did you see any improvements in
7 the system integration work being done by RTG, or
8 was it pretty much the same --

9 JONATHAN HULSE: No, I didn't see any
10 improvement. No.

11 KATE MCGRANN: What, if any,
12 implications did the lack of systems integration
13 work done by RTG have for the work that you and
14 your team were doing?

15 JONATHAN HULSE: It's fundamentally --
16 it's fundamentally increased -- well, it -- it
17 created delays for the project which did more work
18 for, you know, a prolonged period of time because
19 if something doesn't work in the field and it needs
20 a software modification, then it takes time to
21 modify that software, test it in -- in-house,
22 reinstall it, test in the field, recertify it. So
23 you've got a lot more revisions to software to fix
24 problems.

25 So that takes more time or review time

1 for -- for ourselves, and -- and in some cases,
2 adjustments to a lot more work in terms of
3 understanding hazards, mitigating the hazards, and
4 make it through the design and making sure any
5 unresolved mitigations or residual risks are
6 captured in -- in Operating Procedures.

7 KATE MCGRANN: Any other implications
8 that the lack of systems integration had for your
9 work?

10 JONATHAN HULSE: Frustration, but more
11 and more, just more work to do.

12 KATE MCGRANN: Can you give me a sense
13 of how much time you spent onsite during the
14 construction period.

15 JONATHAN HULSE: My work was not in the
16 field. My work was in the City of Ottawa Project
17 Office. I probably spent two or three days a week
18 because I wasn't dedicated just to -- to this
19 particular project. I have other projects as well,
20 so there might be periods of time when I wasn't in
21 Ottawa at all but then other periods where I may be
22 there two or three times a week, and that would be
23 typically all day.

24 KATE MCGRANN: Yeah, so you'd be there
25 for two or three full days on average a week?

1 JONATHAN HULSE: Yeah, well, living in
2 Kingston, I could drive backwards and forwards
3 anyway, so...

4 KATE MCGRANN: To the extent that you
5 can, what was the magnitude of delay introduced
6 into the project by the lack of system integration?

7 JONATHAN HULSE: I would easily put it
8 at nine months. That's my opinion.

9 KATE MCGRANN: I believe you said that
10 the first thing that you worked on when you started
11 was a concept of operations; is that right?

12 JONATHAN HULSE: That's right. That's
13 right.

14 KATE MCGRANN: And what is a concept of
15 operations? You've described it a little bit,
16 but --

17 JONATHAN HULSE: Well, generally, a
18 concept of operation would start at the -- the
19 beginning the project so you understand what --
20 what's the concept of this system we want to
21 deliver and put into service; what's the vision of
22 this system? How is it going to operate? How are
23 we going to do -- conduct normal operations? How
24 are you going to manage failure modes? How are you
25 going to manage abnormal circumstances? How are

1 you going to manage a concert, downtown concert,
2 and a large number of -- of people? How are we
3 going to manage major weather events and making
4 sure that we understand how we're going to operate
5 the system, reflects -- should -- should guide the
6 way we're going to design the system.

7 We have project requirements, but we've
8 got to make sure those requirements are managed in
9 a way -- and I'm not talking about contract
10 changes -- but managed in a way that deliver the
11 intended operation.

12 KATE MCGRANN: So is the concept of
13 operations sort of a -- it sounds to me like it
14 takes the project specifications and envisions what
15 they look like brought to life, and then they're
16 used to guide the design of the system. Is that
17 fair?

18 JONATHAN HULSE: Yes, you know, I think
19 new -- yes, but we're not putting new requirements
20 in the -- or specifications in the concepts of
21 operation, but it guides our -- how we want to
22 maintain the system, how we want to release trains
23 in the morning, how we want to bring them back at
24 night, how we adjust service levels during the day
25 for peak and off-peak demand, and making sure that

1 all the process -- all the systems processes and
2 people are -- are in place to do that.

3 And that's -- and that's, you know,
4 coordination of RTG, coordination of Rideau Transit
5 Management's, coordination of OC Transpo to bring
6 their concepts to something realizable.

7 KATE MCGRANN: Is this a document that
8 would be made available to RTG and its
9 subcontractors to assist in their work?

10 JONATHAN HULSE: It was certainly made
11 available to RTG, yeah.

12 KATE MCGRANN: And in the normal
13 course, if it had been designed when you would have
14 expected it to, is it something that you would have
15 expected RTG to have in hand for its preliminary
16 and final design work?

17 JONATHAN HULSE: It would be expected
18 definitely prior to a preliminary design, yeah.

19 KATE MCGRANN: Any implications that
20 you could see flowing from the fact that the
21 concept of operations was completed when it was?

22 JONATHAN HULSE: It's hard to say, to
23 be honest with you, I mean, because I think we were
24 end -- ended up having to mold the concepts of
25 operations to the design we had rather than develop

1 the concepts of operations and then design to it.

2 KATE MCGRANN: And do you remember any
3 compromises or any steps that you had to take in
4 the concept of operations that ideally you wouldn't
5 have taken and if it had been done at the beginning
6 of the project?

7 JONATHAN HULSE: I think that there --
8 there were compromises. There -- there were
9 compromises. For example, one big compromise I can
10 recall was the lack of a tracked maintenance
11 vehicle, the ability to have a maintenance vehicle
12 out on the guideway conducting maintenance
13 activities that are tracked by the train control
14 system.

15 There's track by the train-control
16 system which would thereby avoid any collisions
17 between an automatic train and a piece of equipment
18 that's driven manually by an operator, so --

19 KATE MCGRANN: So just to make sure --
20 please go ahead. I didn't mean to cut you off.

21 JONATHAN HULSE: No. You just make it
22 clear. You're going to ask your question?

23 KATE MCGRANN: Yeah, I just wanted to
24 make sure that I understood. So is it the case
25 that you would have wanted to have a separate

1 dedicated track for that track maintenance
2 vehicle --

3 JONATHAN HULSE: No.

4 KATE MCGRANN: -- to do its -- no?

5 JONATHAN HULSE: Not a dedicated track.
6 It was intention to have, I think, a maintenance
7 vehicle, maintenance vehicle that could operate on
8 the track but would be tracked by the -- by the
9 system to make sure that we separated it from any
10 operating vehicles to make sure there could have
11 been no collision.

12 KATE MCGRANN: And what about that plan
13 was not able to be put into place because of the
14 work on the concept of operations?

15 JONATHAN HULSE: Well, I don't think it
16 was just the concepts of operations. I think
17 that -- that perhaps they -- they were not able to
18 fulfill the requirements. But certainly, had we
19 known that earlier, then earlier action could have
20 been taken.

21 I think another -- another big area is
22 the fact that it was intended that the Belfast yard
23 would be fully automated which would mean you
24 didn't need train operators moving the trains
25 around putting them into revenue service, but

1 they'd be moved around the storage yard and between
2 maintenance bays automatically, and then a train
3 operator would pick them up to transfer platform,
4 and take them into revenue service.

5 So I think, you know, that was
6 certainly a failure of functionality or a failure
7 to deliver functionality which we expected to be
8 provided and was written into the concepts
9 of operations.

10 KATE MCGRANN: Just because I think I
11 haven't quite got the full story on the track
12 maintenance vehicle, was it the case that there was
13 supposed to be one and one was not ultimately
14 provided?

15 JONATHAN HULSE: That's right. There
16 are -- there were maintenance vehicles provided but
17 not tracks so you could safely and reliably
18 understand where they are on the guideway.

19 KATE MCGRANN: Okay. And with respect
20 to the complete automation of the Belfast yard, is
21 that also referred to as the Maintenance and
22 Storage Facility?

23 JONATHAN HULSE: Yes, that's correct.

24 KATE MCGRANN: And do you know why that
25 complete automation of the yard was not completed?

1 JONATHAN HULSE: There may well have
2 been contractual issues. I don't know. I mean,
3 it's not unusual --

4 MITCHELL KITAGAWA: Well, Jon -- Jon --
5 JONATHAN HULSE: Yeah.

6 MITCHELL KITAGAWA: Only answer what
7 you do know, okay? Don't provide them with any
8 guessing. Just answer what you do know.

9 JONATHAN HULSE: I don't know. I'll
10 say that I don't know. I could only speculate,
11 which I shouldn't.

12 KATE MCGRANN: No. Okay. Fair enough.
13 I'm wondering why you raise the automation of the
14 maintenance yard as we're talking about potential
15 implications of the late introduction of the
16 concept of operations.

17 Was there any connection between the
18 concept of operations and the automation of the
19 maintenance yard in your mind?

20 JONATHAN HULSE: The Concept of
21 Operations was written assuming there would be a
22 fully automated yard. I think having a concepts of
23 operations early on against which you can test your
24 design and measure your design and measure your
25 design development is certainly a big advantage.

1 You can understand how we intend to
2 operate the system; what are the risks? What are
3 the hazards? How do we -- how do you properly
4 mitigate them? How do you develop functionality to
5 achieve our operational concepts? And that's why
6 we do a concepts of operations at the outset
7 generally.

8 KATE MCGRANN: What were the references
9 or inputs used to generate the concept of
10 operations? I understand it would be the
11 project-specific output specifications, but what
12 else went into the work done on this particular
13 concept of operations?

14 JONATHAN HULSE: Well, certainly the
15 PSOS but also workshopping with OC Transpo and
16 other members of the team to make sure we
17 understood how we expected the system to operate.
18 We developed the concepts of operations and went
19 through an iterative process to make sure we
20 understood its operation, how to integrate fare
21 collection, for example, which was being delivered
22 separately by the -- by the City, so integration of
23 fare collection; integration of the LRT with, let's
24 say, bus loops and -- and other transit -- transit
25 modes; and really to make sure everybody's on board

1 the -- when the system is delivered, these are the
2 constraints you're going to have if you can
3 identify any constraints early on, if we develop
4 the con-ops early on, identify those constraints,
5 you've got far more opportunity to fix them than
6 when you're later on in the project.

7 If you're developing a concept of
8 operations when the design is largely complete,
9 then it doesn't give you too much latitude to make
10 the types of changes you might -- you might wish to
11 make. So stakeholders -- stakeholder engagement is
12 a key part of it.

13 KATE MCGRANN: Any involvement of
14 anyone from RTG in the concept of operation work?

15 JONATHAN HULSE: I don't recall there
16 were -- there wasn't too much involvement. I think
17 it was decided that the City ought to do this
18 because City are going to operate.

19 So we were working on those constraints
20 based on the known designs that were had on the
21 PSOS, and I believe it was reviewed by RTG, but
22 they didn't participate in the development of it.

23 KATE MCGRANN: Okay. In their review
24 did they have the opportunity to provide feedback
25 or raise any questions or anything like that?

1 JONATHAN HULSE: I -- I recall so, yes.

2 KATE MCGRANN: And do you recall if
3 there was any feedback that RTG provided that
4 wasn't incorporated or accounted for in the concept
5 of operations?

6 JONATHAN HULSE: I think the -- I think
7 the main -- I think the main feedback we got was
8 where, if we had written something down the way we
9 thought the system was going to behave, and they
10 might provide clarification that this system design
11 would not -- you know, there was a constraint in
12 their design which would not -- which we could not
13 meet in the con-ops, so we had to adjust the
14 con-ops to meet the design. So I think those are
15 the main comments we got back related to that.

16 KATE MCGRANN: And I think you said
17 con-ops. Is that a short form for concept of
18 operations?

19 JONATHAN HULSE: That's right. Yeah.

20 KATE MCGRANN: Do you recall any
21 particular constraints that were introduced into
22 the concept of operations that raised concerns on
23 behalf of you or your team about implications for
24 when the system went into revenue service?

25 JONATHAN HULSE: Not about the delivery

1 dates, no.

2 KATE MCGRANN: And what about the
3 performance of the system following the delivery
4 date?

5 JONATHAN HULSE: Well, we expected the
6 performance of the system to be compliant with the
7 PSOS so expected full performance of the system.

8 KATE MCGRANN: And as your work on the
9 project progressed, did you change that assumption
10 based on information that was made available to you
11 about how the system was performing in reality?

12 JONATHAN HULSE: As the project
13 progressed and based on my involvements in the
14 project and reviews of documents and reviews --
15 technical reviews with RTG and the City, I realized
16 that the whole system was not as well integrated as
17 it should be for a semi-automatic transit system.

18 KATE MCGRANN: And did that have any
19 impact on the work that you and members of your
20 team were doing?

21 JONATHAN HULSE: Just increased reviews
22 and increased work, increased the workload for us.
23 We finished in 2019, and in 2019, early '20
24 wrapping up problems. We should have been finished
25 well earlier than that, so it was additional cost

1 for the City of Ottawa to continue engaging in
2 some -- Stage 1.

3 KATE MCGRANN: You mentioned SEMP
4 earlier. Do you have any knowledge of them being
5 brought in to do a systems engineering health
6 check?

7 JONATHAN HULSE: I do recall them doing
8 that. Yes.

9 KATE MCGRANN: And were the results of
10 that work provided to you in any way?

11 JONATHAN HULSE: I don't recall seeing
12 it.

13 KATE MCGRANN: Did you interact with
14 them directly or indirectly in the course of the
15 work that you were doing?

16 JONATHAN HULSE: Yes, directly and
17 indirectly.

18 KATE MCGRANN: And what was the purpose
19 of those interactions?

20 JONATHAN HULSE: Well, SEMP were
21 developing a design safety case, so a safety case
22 that would demonstrate that the system was ready
23 for revenue service and safe to operate in revenue
24 service. So they developed a lot of analyses and
25 reports and documents based on -- on design

1 information.

2 They were working within RTG and
3 presented -- then presented those reports for our
4 review in common, and we worked with them in
5 team -- team meetings, meetings in -- in Ottawa and
6 RTG offices and City offices to resolve -- resolve
7 comments and -- and finalize reports.

8 KATE MCGRANN: I believe that you
9 worked on an Operator's Safety Plan and an
10 Operator's Safety Report. Is that right?

11 JONATHAN HULSE: Yeah, so there were
12 two sides of it. One, is the system ready for safe
13 operation, and that was RTG's responsible --
14 responsibility.

15 The second was, is the City of Ottawa
16 ready to operate the system safely? So does the
17 City of Ottawa have all the personnel in place with
18 the right skills, training, have all the processes
19 and procedures in place with the right experience
20 to operate the -- to safely operate the system in
21 revenue service?

22 KATE MCGRANN: And is the answer to
23 that --

24 JONATHAN HULSE: So --

25 KATE MCGRANN: -- question captured in

1 the Operator's Safety Report?

2 JONATHAN HULSE: In the Operator's
3 Safety Case, it is, yeah. So it's like, is your
4 car safe to operate or -- and are you safe to
5 operate it? So that's the -- the analogy.

6 KATE MCGRANN: You've described the --
7 is the system ready for safe operations? That's
8 with RTG as far as responsibility goes. Is the
9 City ready to operate? That lies with the City.

10 Where does the question of the
11 maintenance and the maintainer's ability to
12 maintain the system safely, where does that fall?

13 JONATHAN HULSE: That lay with RTG and
14 the Rideau Transit Maintenance.

15 KATE MCGRANN: So they would form part
16 of the Operator's Safety Case? Or sorry --

17 JONATHAN HULSE: No, it wouldn't. No
18 it wouldn't. It's separate.

19 KATE MCGRANN: It would form part of
20 this --

21 JONATHAN HULSE: Part of RTG's
22 substantial completion would -- and I guess I'm not
23 really -- I'm not really certain but -- exactly
24 where their -- they -- where they had to
25 demonstrate that they were -- they were ready to

1 safely maintain, but the -- the onus is definitely
2 on them to safely maintain the system.

3 KATE MCGRANN: Yeah, and I was
4 wondering -- and I think you don't know -- where
5 that would be demonstrated, whether it would be in
6 the safety case presented by RTG --

7 JONATHAN HULSE: I think you -- I
8 believe it was part of their substantial
9 completion, demonstration of substantial
10 completion. It's not in the Operator's Safety
11 Case, definitely not. It's from our maintenance,
12 not operations.

13 KATE MCGRANN: Who -- is there anybody
14 charged with reviewing the -- the safety case and
15 the Operator's Safety Case to certify that the
16 system can be safely run and operated?

17 JONATHAN HULSE: Well, the Chief Safety
18 Officer for OC Transpo who is also a safety auditor
19 which is TÜV--

20 KATE MCGRANN: Is that --

21 JONATHAN HULSE: -- T-Ü-V.

22 KATE MCGRANN: Yeah.

23 JONATHAN HULSE: And their
24 responsibility was to perform safety audits on
25 the -- on the -- on the System Safety Case and on

1 all the processes and analyses that were developed
2 by RTG to demonstrate that their system was safe to
3 operate.

4 KATE MCGRANN: And is it TÜV Rheinland?
5 Does that make sense?

6 JONATHAN HULSE: That's -- that's the
7 one. Yeah. Yeah.

8 KATE MCGRANN: So is it the case that
9 the Chief Safety Officer at OC Transpo audits or
10 certifies the Operator's Safety Case on the one
11 hand, and TÜV Rheinland is performing effectively
12 the same function for the safety case provided by
13 RTG?

14 JONATHAN HULSE: The Chief Safety
15 Officer, Jim Hopkins, at the time signed off on
16 both, but also the Operator's Safety Case was
17 signed off by Troy Charter, so it was signed off by
18 the -- purely signed off by the City.

19 The -- the safety auditor had no --
20 their -- their remit did not include the Operator's
21 Safety Case.

22 KATE MCGRANN: If aspects of RTG's
23 safety case relied on Operating Procedures that
24 engage the City, would the City's Operating
25 Procedures then also become part of that TÜV audit

1 work?

2 JONATHAN HULSE: It -- it was -- it was
3 the other way around, to be honest, because RTG had
4 to develop drafts of the Operating Procedures which
5 are then handed over to the City of Ottawa.

6 KATE MCGRANN: Okay.

7 JONATHAN HULSE: So the initial
8 obligation for training and procedures was with the
9 RTG. So RTG had to provide training to the City of
10 Ottawa so -- so City of Ottawa staff could safely
11 operate the trains and safely operate the systems
12 within the control room.

13 KATE MCGRANN: So with respect to
14 Parsons work on the Operating Procedures, is it the
15 case that you're not drafting them? You are
16 reviewing material that's been drafted by RTG and
17 commenting?

18 JONATHAN HULSE: Review, comment, and
19 then take ownership and update because, at some
20 point in time, the City of Ottawa has to take
21 ownership and be confident in the system that they
22 are going to operate.

23 KATE MCGRANN: And when does that
24 handover take place?

25 JONATHAN HULSE: Well, the handover

1 takes place -- the official handover takes place at
2 end of trial running and entry into revenue
3 service, but there was a handover prior to that
4 before for the start of -- commencement to trial
5 running.

6 But in terms of the City of Ottawa
7 taking ownership of -- of Standard Operating
8 Procedures, SOPs as they're called, that occurred
9 much earlier on.

10 KATE MCGRANN: When did that occur?

11 JONATHAN HULSE: I couldn't put a date
12 on it, but probably 18 months prior to revenue
13 service, maybe a little bit more.

14 KATE MCGRANN: Okay. So prior to
15 revenue service availability, prior to trial
16 running, prior to substantial completion?

17 JONATHAN HULSE: Yes, definitely.

18 KATE MCGRANN: And after that handover,
19 did your role with respect to the Operating
20 Procedures change?

21 JONATHAN HULSE: No. We continued to
22 be involved in making sure that the Operating
23 Procedures satisfied the -- the operational needs
24 whether it's in normal operations, failure modes,
25 or degraded operations.

1 KATE MCGRANN: Who from the City did
2 you work with on the Operating Procedures?

3 JONATHAN HULSE: Jim Hopkins a lot,
4 Troy -- sorry -- they're not -- Joe Lemieux, and
5 I'm trying to think of the name of another
6 gentleman I worked with. I'm sorry. I can't
7 remember his name. But it's OC Transpo staff.

8 KATE MCGRANN: Do you recall any
9 particular challenges in the work that you did on
10 the Operating Procedures?

11 JONATHAN HULSE: No, no challenges.

12 KATE MCGRANN: I have a couple more
13 questions for you about the Operating Procedures,
14 but I think they will make more sense if we first
15 talk about the work that was done with respect to
16 the safety of the system, so I will come back to
17 those.

18 You were engaged, as were some members
19 of your team, in safety oversight. Is that
20 correct?

21 JONATHAN HULSE: Yeah.

22 KATE MCGRANN: Could you describe to me
23 what that work entailed?

24 JONATHAN HULSE: Well, what that work
25 entailed is we used hazard logs, so Excel

1 spreadsheets identifying a hazardous scenario,
2 identifying the cause of the hazard, identifying
3 the possible outcomes including severity, and then
4 you know, looking at what the design mitigations
5 might be to reduce the hazard to the lowest
6 possible severity, and then which ended up with
7 some residual risk, which would be managed, then,
8 by -- by RTM the maintainer or by OC Transpo the --
9 the operator, and -- and then for our part making
10 sure that any Operating Procedures did
11 adequately -- and the Rule Book as well, adequately
12 address those risks to operations including
13 operating staff and the public.

14 KATE MCGRANN: What's the Rule Book?

15 JONATHAN HULSE: The Rule Book will --
16 is -- is a book that basically provides the rules
17 of operation: Thou shalt not speed in manual
18 operations more than, say, 20 -- driver -- operate
19 a train in manual operations more than 25 miles an
20 hour, for example; thou shalt obey the -- the red
21 signal. So it's the rules of the railway as they
22 apply to -- to rail operations and -- and
23 procedures to follow. And then you would -- you
24 would -- you would follow specific procedures or
25 SOPs based on -- on the guidance of the Rule Book.

1 KATE MCGRANN: So the Rule Book and the
2 SOPs are two separate concepts, but they interact
3 with each other?

4 JONATHAN HULSE: Interact. Yeah.

5 KATE MCGRANN: In terms of the work
6 that you were doing on the hazard logs and then
7 addressing the hazards identified therein, was it
8 just being done on the OC Transpo side, or is RTG
9 doing a parallel exercise --

10 JONATHAN HULSE: RTG was developing the
11 Hazard Log. We were reviewing it. RTG were also
12 developing -- and then later when SEMP came on
13 board, were developing documents that -- that --
14 specific analyses, interface hazard analyses,
15 other -- other analyses that would refer to the
16 Hazard Log that would -- that were meant to
17 demonstrate the safety of the system and the way
18 all the pieces worked together.

19 KATE MCGRANN: For any reason were
20 there any abnormal approaches taken to addressing
21 hazards identified in the Hazard Log?

22 JONATHAN HULSE: No. I don't think
23 there were abnormal approaches. I think the -- the
24 biggest problem was that we didn't have an
25 integrated hazard log. We had separate hazards

1 [sic] logs for different -- different parties, so a
2 separate Hazard Log for Thales, separate Hazard Log
3 for -- for Alstom, but not an integrated Hazard Log
4 which looks at the hazards from -- from a top level
5 and didn't really differentiate between team
6 members, and that's what we should have had.

7 KATE MCGRANN: And was an integrated
8 hazard log ever put in place?

9 JONATHAN HULSE: There were attempts at
10 it, but I don't think we really ever saw a
11 completely integrated hazard log.

12 KATE MCGRANN: And what possible
13 repercussions can flow from not having a fully
14 integrated hazard log?

15 JONATHAN HULSE: It's possible that you
16 can have --

17 R/F MITCHELL KITAGAWA: Hang on a second.
18 Hang on a second. Hang on a second.

19 Counsel, my concern here is that you're
20 asking him to take on a hypothetical here, and so
21 if it didn't happen, he may not know what could
22 happen. You understand what I'm saying?

23 You're asking him to kind of guess at
24 what might happen, and I'm not sure that he has --
25 you know, he has reliable knowledge that would be

1 of assistance to you in that regard.

2 KATE MCGRANN: Okay. Did you have any
3 concerns about the fact that there was not a fully
4 integrated hazard log on this project? Oh, you're
5 on mute.

6 JONATHAN HULSE: I did have concerns.

7 KATE MCGRANN: And what were you
8 concerned about?

9 JONATHAN HULSE: Mitch is going to cut
10 me off again.

11 COURT REPORTER: Pardon me, sir? You
12 cut out.

13 KATE MCGRANN: I think he's concerned
14 that his counsel is going to cut him off.

15 MITCHELL KITAGAWA: No. Jon, I think
16 that's a fair question. They want to know what
17 your concern was --

18 JONATHAN HULSE: Right.

19 MITCHELL KITAGAWA: -- at the time, and
20 I think that's a completely fair question for them
21 to ask.

22 JONATHAN HULSE: My concern at that
23 time. Okay. All right. My concern at that time
24 would be that hazards were not viewed identically
25 or consistently between different team members, and

1 my concern at that time was that hazards could
2 potentially be potentially missed, and my concern
3 was that hazards would not always be viewed the
4 same in terms of clarity or probability across the
5 board.

6 KATE MCGRANN: I'm going to stop you
7 for a second because that answer was quite patchy
8 at least as I could hear it.

9 JONATHAN HULSE: Yeah. Jon, you kind
10 of glitched in and out, and I'm not sure that we
11 all got a full understanding of what it was that
12 you were saying.

13 KATE MCGRANN: I wonder if we could
14 just go off the record for a second and try to do a
15 little tech troubleshooting here.

16 (DISCUSSION OFF THE RECORD)

17 (ADJOURNMENT)

18 JONATHAN HULSE: So before the break,
19 you also asked me a question regarding who I
20 engaged with at OC Transpo on the development of
21 the procedures. And it was a gentleman -- I
22 couldn't remember his name -- but during the break,
23 of course, I remembered his name. It was Derek,
24 Derek Moran, M-O-R-A-N.

25 KATE MCGRANN: Okay. Thank you, and

1 before the break, we had been talking about your
2 concerns about the lack of a fully-integrated
3 hazard log --

4 JONATHAN HULSE: Right.

5 KATE MCGRANN: -- that identified your
6 concerns, but I don't think we caught them all due
7 to the audio issues. So do you mind repeating your
8 answer.

9 JONATHAN HULSE: No. So my -- my
10 concern with the lack of an integrated hazard log
11 would be that the various parties do not all
12 address the same hazard in the same manner, do not
13 all see the same for a given hazard, maybe have
14 identified different, sometimes overlapping design
15 mitigations, and perhaps in some occasions, there
16 may be gaps so that a hazard is not properly
17 identified or -- or properly addressed.

18 KATE MCGRANN: And over the course of
19 your work on Stage 1, did you see any of those
20 concerns realized?

21 JONATHAN HULSE: No, because we took --
22 we spent a lot of effort, and you were asking
23 earlier about how does this impact your work, our
24 work, my work. We spent a lot of effort to make
25 sure that we fully understood the -- the hazards

1 and how they would be mitigated and to the extent
2 they could be mitigated, to what extent any
3 residual risk would be addressed by an SOP.

4 So we spent a lot of time, and it could
5 have been simplified if it had an integrated
6 approach to hazard management and hazard
7 identification.

8 KATE MCGRANN: You had mentioned a Rule
9 Book earlier. Who authors the Rule Book?

10 JONATHAN HULSE: The Rule Book comes
11 down from -- is signed off by the Chief Safety
12 Officer. So there may be multiple authors, but
13 there was a Rule Book already in place when -- when
14 I arrived.

15 The Rule Book was developed initially
16 for Capital Line, which is now known as the
17 Trillium Line, and I think was modified to -- to, I
18 think, address also the operation of an LRT. So
19 the Rule Book belongs and is responsibility of
20 OC Transpo.

21 KATE MCGRANN: Is there a difference
22 between the Operator's Safety Plan and the
23 Operator's Safety Report?

24 JONATHAN HULSE: The plan was how we
25 were going to arrive -- how we were going to

1 demonstrate safety. The reports was how we had
2 demonstrated safety. So the plan is the roadmap,
3 checklists to get there, and then the reports
4 identified the evidence necessary to -- to show
5 that we could safely operate the system.

6 KATE MCGRANN: And so as part of this
7 review, does the safety plan and the safety report,
8 is it measured against the requirements and the
9 project agreement and otherwise to ensure that it
10 complies with requirements? Is that what happens
11 with it?

12 JONATHAN HULSE: No. It had nothing to
13 do with the PSOS on the project agreement. But we
14 recognize that it was important for OC Transpo in
15 their first time operating an LRT that we ought to
16 have a plan in place to demonstrate that we were
17 ready to operate the system safely and could
18 operate the system safely.

19 KATE MCGRANN: So is there an
20 evaluation of the effectiveness of the safety plan
21 that's put in place?

22 JONATHAN HULSE: An evaluation of the
23 effectiveness of the safety plan. I'm not sure I
24 understand the question. May be you could rephrase
25 it?

1 KATE MCGRANN: Is there an evaluation
2 of whether the safety plan will actually --
3 purports to do in establishing a safe operation
4 environment?

5 JONATHAN HULSE: Well, it was reviewed
6 by multiple parties internally to OC Transpo
7 including the Chief Safety Officer.

8 KATE MCGRANN: And did you understand
9 that question to be part of their evaluation?

10 JONATHAN HULSE: Did the -- I'm -- I'm
11 sorry. I said that the -- the safety -- Operator's
12 Safety Plan was reviewed internally by OC Transpo
13 including the Chief Safety Officer. Perhaps I
14 don't understand your follow-up question to that.

15 KATE MCGRANN: I'm sure that the
16 problem was with my question. I'm trying to
17 understand what kinds of assessments were done of
18 the safety plan.

19 JONATHAN HULSE: Okay.

20 KATE MCGRANN: So expecting, for
21 example, for somebody would have looked at the
22 safety plan and say, does this safety plan address
23 all relevant hazards that are on the hazards list.

24 JONATHAN HULSE: Okay. So the safety
25 plan didn't do that. The -- that was the -- that

1 was the Systems Safety Plan, should have been the
2 Systems Safety Plan from the -- from RTG because
3 they would have had to initially develop these
4 standard Operating Procedures.

5 What we did as part of the Operator's
6 Safety Plan and then the safety case was make sure
7 that we ticked off the box that all the open
8 hazards have been closed, all the residual risks
9 have been transferred into SOPs, and that there
10 was -- the hazard transfer had been accepted and
11 signed off by -- by OC Transpo which included, I
12 think, Troy Charter and included Jim Hopkins, the
13 Chief Safety Officer.

14 So there was a specific form that was
15 developed called, I think, the Hazard Transfer
16 Form, if I -- or HRF, Hazard Resolution Form, I
17 can't remember precisely -- but that identified the
18 residual hazard and how it was addressed in a
19 particular SOP.

20 KATE MCGRANN: Okay. And was the
21 review of that hazard handoff, did that review
22 include whether the hazard had been effectively
23 dealt the proper --

24 JONATHAN HULSE: Yes, to the
25 satisfaction of OC Transpo.

1 KATE MCGRANN: Now, this is a brand-new
2 system. The drivers will be new to the system and
3 to LRT driving in general. The controllers are
4 going to be new. The maintainers are going to be
5 new. Are any of those elements accounted for in
6 any of the safety work that you described?

7 JONATHAN HULSE: Yes, the -- not the
8 maintainers but the operators, so the operators
9 were trained on a train simulator. The train
10 simulator had to match and did match, and I
11 observed it. It matched the alignment, so using
12 video, for example, so the drivers are in a
13 simulated -- train operators were in a simulator,
14 and they are using the same controls in the
15 simulator that they would use on board a train.

16 So they had to have a number of hours
17 in the simulator. They had to have a
18 significant -- significantly more hours, actually,
19 on the guideway driving the trains, not -- of
20 course, not in passenger service, but nevertheless,
21 they had to accumulate so many hours of driving or
22 train operation prior to revenue service which they
23 get through testing, commissioning, and other
24 activities.

25 And then, of course, there were

1 trial -- trial running where we operate the system
2 in -- in a simulated revenue service trying to
3 operate the normal service patterns.

4 There were other simulations performed
5 with train operators to stimulate incidents or
6 emergencies so that the train operators would be
7 well versed in -- in how to respond to certain
8 incidents and also allowed us to test the
9 procedures to make sure that procedures were --
10 were adequate for those particular situations.

11 KATE MCGRANN: And when did the testing
12 of the procedures that you just described come to a
13 conclusion?

14 JONATHAN HULSE: This all occurred
15 prior to trial running, and then once we get into
16 trial running, we have another opportunity -- to
17 test the procedures in -- in a -- you know, a
18 service environment again without passengers, make
19 any corrective actions necessary, and identify the
20 issues, resolve them before we go into full revenue
21 service.

22 KATE MCGRANN: With respect to the
23 training of the operators and the controllers, do
24 you know if any changes were made to the training
25 plan for those people as a result of changes to the

1 construction schedule or otherwise?

2 JONATHAN HULSE: I don't think to the
3 construction schedule. I think there might have
4 been changes to the -- other than -- other than
5 days, of course, but we had to get enough operators
6 trained to satisfy service requirements including
7 our backup -- backup operators in case somebody was
8 off sick, for example.

9 So they -- there may well have been
10 adjustments to procedures which would then need to
11 be communicated to the train operator.

12 KATE MCGRANN: Can you give me an
13 example of a change to a procedure?

14 JONATHAN HULSE: I couldn't find one
15 off -- but I would imagine that -- and this is not
16 imaginary. This is something that would really
17 happen, that if we had to change a procedure so
18 that an operator may have to take a different or
19 modified course of action, then in -- in the --
20 some -- some events, then the -- the train
21 operators would need to be brought up to speed on
22 what those changes to the procedures were, and that
23 was all managed by OC Transpo.

24 KATE MCGRANN: Who was training the
25 operators?

1 JONATHAN HULSE: There was a training
2 manager who led the training department, and that
3 lady's name -- I think she's retired -- was
4 Greg Davies (phonetic), and there were also
5 dedicated trainers. So there was a
6 train-the-trainer approach whereby RTG would train
7 OC Transpo trainers and make sure they're
8 qualified, and then those trainers would train
9 OC Transpo staff.

10 KATE MCGRANN: And is that --

11 JONATHAN HULSE: It's because you
12 need --

13 KATE MCGRANN: Sorry. Go ahead.

14 JONATHAN HULSE: I was going to say
15 because you need the training capacity and
16 capability throughout the life of the system long
17 after RTG ever walked off the job because you're --
18 you're always going to get new train operators;
19 people retire, and you need to -- people move jobs,
20 so you need to hire new staff and get them trained.

21 So it's just a fairly typical -- you
22 use a train-a-trainer approach whereby the
23 contractor train the trainers. The trainers stay
24 with OC Transpo and train and recertify staff
25 throughout the life of the system.

1 KATE MCGRANN: And I'm just thinking,
2 for example, I believe that access for drivers to
3 the full line from end to end came from late in the
4 process. Did that have any impact on the
5 train-the-trainers program, to your knowledge?

6 JONATHAN HULSE: No, I don't think it
7 did because, of course, the system was delayed so
8 it provided opportunities to make sure that the
9 necessary numbers of staff were trained with the
10 right number of hours and under the right
11 conditions to make sure they're all certified.

12 KATE MCGRANN: Was there a requirement
13 that the operators drive a specific number of hours
14 over the entirety of the system, so from end to end
15 back and forth?

16 JONATHAN HULSE: I don't recall
17 specifically whether they had to do end to end,
18 backwards and forwards, but they certainly had to
19 have a specific number of hours.

20 KATE MCGRANN: Any requirement that
21 they navigate the tunnel, for example, a certain
22 number of times before heading into revenue --
23 like, before being certified as drivers? Sorry.

24 JONATHAN HULSE: They would have to
25 navigate the tunnel because of the tunnel location,

1 but, again, I don't recall that there's a specific
2 number of times they had to go through the tunnel.
3 I think it was more -- more hours of operation.

4 KATE MCGRANN: To your knowledge, had
5 all the drivers driven the entire system end to end
6 prior to the launch of public revenue service?

7 JONATHAN HULSE: I couldn't say. The
8 certification I saw was that they completed the
9 numbers of hours.

10 KATE MCGRANN: Was there an Operations
11 Restrictions Document on Stage 1 of Ottawa's LRT?

12 JONATHAN HULSE: There was an operating
13 restrictions document developed by SEMP.

14 KATE MCGRANN: Developed by SEMP?

15 JONATHAN HULSE: M-hm.

16 KATE MCGRANN: Did you have any
17 involvement in drafting or reviewing or commenting
18 on that document?

19 JONATHAN HULSE: I did review and
20 comment on it. Yes.

21 KATE MCGRANN: And did that document
22 inform any of the Operating Procedures for the
23 system?

24 JONATHAN HULSE: I think there were
25 some restrictions related to tunnel operations that

1 it did inform. To my recollection, it did.

2 KATE MCGRANN: Did the Operations
3 Restrictions Document account for any hazards on
4 the hazard list that hadn't been addressed through
5 either design or operating procedure approaches?

6 JONATHAN HULSE: No. I think the
7 operating restrictions document resulted from
8 hazards identified.

9 KATE MCGRANN: Any --

10 JONATHAN HULSE: You're putting an
11 operational -- an operational restriction to
12 mitigate the potential hazards.

13 KATE MCGRANN: Any unusual operating
14 restrictions that you recall from this project?

15 JONATHAN HULSE: I recall that I think
16 it was an integration problem -- was that the
17 tunnel ventilation design provided -- posed some
18 hazards with relation to train movement which then
19 meant that we had to have operating restrictions in
20 place to make -- to make sure that, in the event of
21 an incident, we didn't, for example, have too many
22 trains in the tunnel.

23 So I think the tunnel ventilation
24 design did lead to operating restrictions which may
25 have had an impact on -- on train operations being

1 able to meet their specific service demands in all
2 circumstances.

3 KATE MCGRANN: And when you talk about
4 them not being able to meet specific service
5 demands, are you referring to achieving the
6 required time to move between stations, for
7 example?

8 JONATHAN HULSE: Or -- or headway, the
9 separation between trains.

10 KATE MCGRANN: So two possible issues
11 there: One, travel time between stations; two,
12 maintaining the required distance between trains?

13 JONATHAN HULSE: That could affect
14 travel -- that could affect travel time if the
15 following train was delayed by a train in front.

16 KATE MCGRANN: Ms. Peddle, do you have
17 any follow-up questions based on anything that
18 we've discussed so far?

19 CARLY PEDDLE: No, I don't. Thank you.

20 KATE MCGRANN: Now, we've discussed the
21 concept of operations, the Operator's Safety Plan,
22 the Operator's Safety Report and Operating
23 Procedures. Any other major areas of focus for you
24 that we haven't discussed yet?

25 JONATHAN HULSE: No. We've discussed

1 integration, and I think that last example is an
2 example of more integration that had we known --
3 understood the design and all parties understood
4 the design requirements early on, we may not have
5 had those operating restrictions, so I think we
6 have covered them.

7 KATE MCGRANN: Did you have any
8 involvement in setting parameters of the
9 Independent Safety Auditor's Review?

10 JONATHAN HULSE: No.

11 KATE MCGRANN: Were you involved at all
12 in creating a list of safety critical items for
13 their assessment?

14 JONATHAN HULSE: No.

15 KATE MCGRANN: Do you know who did that
16 work?

17 JONATHAN HULSE: Generally, the
18 identification of safety critical items should be
19 the contractor's responsibility. They're
20 responsible for the -- for the safety of the system
21 so should normally, if you know the practice, that
22 the contractor will identify the safety critical
23 items.

24 COURT REPORTER: The safety what, sir?

25 JONATHAN HULSE: I'm sorry?

1 COURT REPORTER: I have, the contractor
2 will identify the safety...

3 JONATHAN HULSE: Critical items.

4 COURT REPORTER: Okay. Thank you.

5 KATE MCGRANN: Did you have any
6 involvement in the testing and commissioning of the
7 system that occurred prior to substantial
8 completion?

9 JONATHAN HULSE: Minimal. It was
10 mainly one of -- one of my team members,
11 Glen McCurdy, who was involved in that.

12 KATE MCGRANN: And did he report back
13 to you on the progress of that portion of the
14 project?

15 JONATHAN HULSE: Yes, he reported back
16 to me, both to himself and the City on the
17 progress, on the quality of the testing
18 commissioning that was being done.

19 KATE MCGRANN: Do you recall whether
20 there were any concerns that he voiced about the
21 adequacy of the testing and commissioning done?

22 JONATHAN HULSE: Yes, definitely. He
23 reported back on the lack of quality of the test
24 procedures and lack of quality of test reports
25 which -- which didn't fully identify the -- if, for

1 example, a part of the test had failed --

2 COURT REPORTER: Sorry, sir. You're
3 cutting out completely on me. I can't follow you.
4 You're cutting out.

5 JONATHAN HULSE: Yes, it is breaking
6 up, and you're breaking up as well. I said that he
7 reported on -- on the lack of quality of the test
8 procedures and the lack of quality of the test
9 reports.

10 So, for example, does the test
11 procedure sufficiently address all the functional
12 requirements necessary to be tested in the field?
13 And then if the test -- if in the execution of the
14 test, there are any failures, does the test report
15 sufficiently detail the areas in which the test
16 failed?

17 KATE MCGRANN: Okay. I got that, but
18 I'm going to suggest that we stop here for a
19 second.

20 (DISCUSSION OFF THE RECORD)

21 KATE MCGRANN: Okay. So before that
22 little break, I had asked you if you were receiving
23 reports back on testing and commissioning, and I
24 believe your answer was that Mr. McCurdy was
25 reporting back to you around the lack of quality of

1 testing procedures and results.

2 JONATHAN HULSE: Yeah.

3 KATE MCGRANN: And that included
4 whether the tests sufficiently addressed all of the
5 functions and whether failures seen on the tests
6 were reported in the reports. Have I got that
7 right?

8 JONATHAN HULSE: That's right.

9 KATE MCGRANN: And any other concerning
10 reports back from Mr. McCurdy on the testing and
11 commissioning?

12 JONATHAN HULSE: I think the -- the
13 aspects was that he was not actually invited to all
14 of the necessary tests and --

15 COURT REPORTER: I'm having trouble
16 hearing you, sir. Could you speak up a bit?

17 JONATHAN HULSE: I'm sorry.

18 The other -- the other aspect was that
19 Glen was concerned that he was not necessarily
20 invited to all of the -- all the tests and was,
21 therefore, unable to witness, so I think that was a
22 concern as well --

23 COURT REPORTER: Sir, could you please
24 move your phone closer to you.

25 (DISCUSSION OFF THE RECORD)

1 KATE MCGRANN: Were the concerns that
2 you just described that Mr. McCurdy raised
3 addressed before the conclusion of the testing and
4 commissioning on this project?

5 JONATHAN HULSE: No.

6 KATE MCGRANN: Did you say no?

7 JONATHAN HULSE: That's right. No,
8 they were not addressed.

9 KATE MCGRANN: And was the City
10 apprised of the concerns that Mr. McCurdy raised
11 about the testing and commissioning?

12 JONATHAN HULSE: Yes.

13 KATE MCGRANN: So was it the case that,
14 at the end of the testing-and-commissioning
15 process, I mean, what flowed from that? What was
16 your view of the testing-and-commissioning process
17 overall?

18 JONATHAN HULSE: That it was not -- not
19 comprehensive.

20 KATE MCGRANN: Not comprehensive.

21 JONATHAN HULSE: That's right.

22 KATE MCGRANN: Were there any
23 particular areas that you and your team were
24 concerned had not been adequately tested?

25 JONATHAN HULSE: I'd say generally

1 across the board, not a specific, but some -- some
2 would be more concerning than others, and that
3 would -- that would be safety functions.

4 KATE MCGRANN: Were these concerns
5 incorporated at all, do you know, in the City's
6 review of RTG's application for substantial
7 completion?

8 JONATHAN HULSE: RTG's application for
9 substantial completion was on the basis of a safety
10 case submitted and developed by SEMP which -- which
11 I understand included all the evidence necessary
12 that was reviewed by the independent certifier and
13 the safety auditor who assessed the -- it confirmed
14 substantial completion.

15 KATE MCGRANN: Okay. So it sounds like
16 the results of testing and commissioning weren't
17 really evaluated as part of substantial completion.
18 Is that correct?

19 JONATHAN HULSE: I expect so.

20 KATE MCGRANN: Do you know what steps,
21 if any, the City took to address Mr. McCurdy's
22 concerns about the adequacy of the testing and
23 commissioning performed?

24 JONATHAN HULSE: I don't know.

25 KATE MCGRANN: And do you know if any

1 of Mr. McCurdy's concerns were realized once the
2 system was put into trial running or once it went
3 into revenue service?

4 JONATHAN HULSE: I don't think so.

5 KATE MCGRANN: And why do you say that?

6 JONATHAN HULSE: Because of the
7 failures we had once we went into revenue service.

8 KATE MCGRANN: Can you elaborate on
9 that a little bit more for me?

10 JONATHAN HULSE: There were system
11 failures once the system went into revenue service
12 which would -- would be -- would be accounted by --
13 from a lack of test and commissioning and
14 rectification that would normally be performed
15 prior to revenue service.

16 KATE MCGRANN: So was it your view that
17 it could be that some of the issues that were seen
18 in revenue service existed but simply were not
19 caught by the testing and commissioning that was
20 conducted?

21 JONATHAN HULSE: Correct.

22 KATE MCGRANN: Do you know how
23 Mr. McCurdy's concerns about the testing and
24 commissioning were communicated to the City?

25 JONATHAN HULSE: I think you'll be

1 talking to Mr. McCurdy on Wednesday anyway, but
2 verbally and probably emails because we were on
3 site because we were -- we were there in meetings.

4 But, you know, it wasn't always the
5 case we'd need to write a letter. We were in -- we
6 were working side by side with -- with City staff.

7 KATE MCGRANN: Do you remember
8 specifically who was alerted to these concerns on
9 City staff?

10 JONATHAN HULSE: Yes, I do. It would
11 have been the staff that I -- I mentioned before
12 including Eric Dubé, Richard Holder, and
13 Michael Morgan.

14 KATE MCGRANN: What was the response to
15 the City to the concerns about the testing and
16 commissioning?

17 JONATHAN HULSE: Well, I think they
18 were -- they were equally concerned, but I don't
19 know what action they may have taken with RTG.

20 KATE MCGRANN: And is there anything
21 else that you know about the testing and
22 commissioning concerns and what may have been done
23 to address them other than what you've have already
24 shared with us?

25 JONATHAN HULSE: No, not -- not

1 specifically. No.

2 KATE MCGRANN: Did you say not
3 specifically?

4 JONATHAN HULSE: No, I don't know any
5 specific actions that were taken to address these
6 concerns.

7 KATE MCGRANN: Were you at all involved
8 in the review of either of RTG's applications for
9 substantial completion?

10 JONATHAN HULSE: No. I was -- I was
11 not party to review. I was party to review of
12 specific documents which may have been supporting
13 documents to the application for substantial
14 completion.

15 KATE MCGRANN: And which documents were
16 those?

17 JONATHAN HULSE: A lot of the analyses
18 and reports were developed by SEMP, the Engineering
19 Safety Assurance Case, SEMP, ESAC, and the many
20 components to -- to reach that Report.

21 KATE MCGRANN: And I understand that
22 RTG made an initial application for substantial
23 completion that was denied and then made a
24 subsequent application. Did you have any concerns
25 arising from any of the supporting material

1 provided in the subsequent application?

2 JONATHAN HULSE: I don't recall. My
3 focus on that time -- that time was the Operator's
4 Safety Case, and I was satisfied that OC Transpo
5 could operate the system safely.

6 KATE MCGRANN: Did you have any
7 involvement in the trial running of the system?

8 JONATHAN HULSE: No.

9 KATE MCGRANN: Did any members of your
10 team have any involvement in the trial running of
11 the system?

12 JONATHAN HULSE: No.

13 KATE MCGRANN: Did you have a sense of
14 the reliability of the vehicles in the system as it
15 was heading into trial running?

16 JONATHAN HULSE: I did have concern
17 about the reliability and the ability to sustain a
18 continued operation over the period of trial
19 running. I was concerned that it would not be able
20 to sustain operation.

21 KATE MCGRANN: And why was that?

22 JONATHAN HULSE: Because of the
23 completion of the rolling stock, I recall there
24 was -- delivery of rolling stock was late, and
25 rolling stock has to go through reliability growth.

1 You have complex equipment, and you
2 need a period of time to -- to keep -- you know,
3 vehicle mileage, for example, repeated running
4 of -- of a train will shake out bugs, analyse to
5 fix them, and I don't think we had enough time to
6 get fully mature vehicles prior to entering revenue
7 service.

8 KATE MCGRANN: Did you have a view on
9 how much time would be required to perform that
10 shakeout?

11 JONATHAN HULSE: From my experience
12 working for Bombardier, we would typically expect
13 every vehicle to complete maybe I think
14 approximately 200 kilometers of operation prior to
15 delivery to a customer.

16 KATE MCGRANN: Okay. And did you have
17 a sense of what the level of kilometres was on the
18 vehicles for Stage 1 of the Ottawa LRT?

19 JONATHAN HULSE: No.

20 KATE MCGRANN: Without that
21 information --

22 JONATHAN HULSE: My sense --

23 KATE MCGRANN: Go ahead.

24 JONATHAN HULSE: My sense was that
25 they -- they didn't have enough time to fully take

1 out the bugs in the -- in the -- the vehicles.

2 KATE MCGRANN: Were you or anybody on
3 your team involved in advising the City on the
4 readiness of the system for the public launch of
5 revenue service?

6 JONATHAN HULSE: Our -- our involvement
7 was to review and comment on reports from -- from
8 the RTG. And other than that, in -- inn our
9 ability to make verbally, to verbally make known
10 our concerns, and -- and I think that the City
11 staff that we were talking to understood and agreed
12 with the concerns.

13 KATE MCGRANN: And just to be clear,
14 what concerns were those?

15 JONATHAN HULSE: The lack of readiness
16 to enter revenue service.

17 KATE MCGRANN: And did those concerns
18 persist up and to the public launch of the system?

19 JONATHAN HULSE: Yes.

20 KATE MCGRANN: And was the City aware
21 of that?

22 JONATHAN HULSE: The people that we
23 were working with were aware of that.

24 KATE MCGRANN: And that's Mr. Dubé,
25 Mr. Holder, and Mr. Morgan?

1 JONATHAN HULSE: Yeah. So the main --
2 the main people we spoke to on a day-to-day basis
3 were Mr. Dubé and Mr. Holder. Mr. Morgan, we
4 didn't see too often, but when we did, we -- we
5 were able to voice our concerns.

6 KATE MCGRANN: Were there any issues
7 identified during trial running or prior to revenue
8 service that needed to be accounted for in updates
9 to the Operating Procedures?

10 JONATHAN HULSE: No. I think the
11 operating procedures not -- not that I'm aware of.
12 Nobody consulted with me after revenue service on
13 changes to the procedures, but I -- I don't believe
14 there were.

15 KATE MCGRANN: Did you have any
16 involvement or did anybody on your team have any
17 involvement in reviewing the contents of the Minor
18 Deficiencies List?

19 JONATHAN HULSE: I believe we reviewed
20 the Minor Deficiency List. Yeah.

21 KATE MCGRANN: And do you recall --

22 JONATHAN HULSE: I recollect -- I
23 recall that. Yeah.

24 KATE MCGRANN: And what was the purpose
25 of your review of the Minor Deficiencies List?

1 JONATHAN HULSE: Well, what we did --
2 what we didn't do or what we were not able to do or
3 tasked with doing was fully verify the closure of
4 the deficiencies. I remember -- I remember seeing
5 the deficiency list and understanding the -- the
6 progress to close out deficiencies.

7 But I -- I wasn't personally -- I don't
8 think our team were personally involved in -- in
9 checking the closeout of deficiencies.

10 KATE MCGRANN: Okay. So nobody on your
11 team was involved in --

12 JONATHAN HULSE: There may -- there may
13 have been for -- for information only --

14 KATE MCGRANN: Or you may have reviewed
15 the list for information only?

16 JONATHAN HULSE: Our review was
17 probably for -- more for information rather than
18 action.

19 KATE MCGRANN: Can you recall if the
20 contents of the Minor Deficiencies List either
21 individually or together contributed to your
22 concern about the lack of readiness of the system
23 for public service?

24 JONATHAN HULSE: They did contribute to
25 our concerns. Yeah.

1 KATE MCGRANN: And could you explain
2 how?

3 JONATHAN HULSE: The numbers of minor
4 deficiencies.

5 KATE MCGRANN: Anything else?

6 JONATHAN HULSE: I can't remember
7 specifically. There may well have been specific
8 details, but I can't recall now that -- that may
9 have flagged a concern. But without looking at the
10 deficiency list in front -- you know, in front of
11 me now, I -- I can't remember specifics.

12 KATE MCGRANN: Okay. Do you recall if
13 you or anyone on your team had concerns about the
14 readiness of RTM to maintain the system once it
15 went into revenue service?

16 JONATHAN HULSE: No, I do not recall if
17 any of our team had concerns.

18 KATE MCGRANN: Okay.

19 JONATHAN HULSE: Actually -- well, I'm
20 going to requalify myself. Perhaps the biggest
21 concern was the -- the Belfast yard, the MSF was
22 designed for automatic operation.

23 So I think the concern now is that
24 you're trying to operate something manually which
25 is designed for automatic operation.

1 I recall now as well thinking about it,
2 there were a couple of -- maybe a couple of minor
3 derailments within the yard related to operator
4 error. I am going to say operator error. That's
5 operations by RTM in the yard, so I think I'm --
6 I'll correct my statement. Yes, I do remember now,
7 as a result of that, concerns about a yard
8 operations by RTM.

9 KATE MCGRANN: And were those concerns
10 communicated to the City prior to revenue service?

11 JONATHAN HULSE: Yes, and the City was
12 well aware of them because it was public knowledge.
13 It was in the news that a train had derailed in the
14 yard, so it was self-evident, really.

15 KATE MCGRANN: And leaving aside the
16 public nature of the fact that the public knew of
17 the derailment and -- and, therefore, self-evident,
18 did you have any conversations or did anybody from
19 your team to your knowledge have any conversations
20 with the City about concerns about maintenance
21 readiness?

22 JONATHAN HULSE: Probably general --
23 general conversations. There may well -- well have
24 been some arms thrown up in the air as to -- and
25 some language used that you can only imagine.

1 But I don't think it was necessary for
2 us to put anything in writing to the City because
3 of the -- how -- you know, it was clearly a --
4 clearly an issue that had to be resolved in the
5 highest levels.

6 KATE MCGRANN: When you reference arms
7 being thrown in the air and language that I should
8 imagine but that you won't say on the record, I
9 take it that there was some frustration involved in
10 these conversations?

11 JONATHAN HULSE: Of course.

12 KATE MCGRANN: And who was frustrated?

13 JONATHAN HULSE: We all were. I mean,
14 we all want -- I mean, the full team, and I'm
15 talking right across and probably within RTG as
16 well that we're getting close to the line, and yet
17 these things keep -- keep happening and, you know,
18 we don't seem to be -- seem to be getting there.

19 KATE MCGRANN: Okay. So it's not the
20 case that the City was frustrated with anybody on
21 your team for raising these issues?

22 JONATHAN HULSE: No, not at all. No.

23 KATE MCGRANN: It's frustration that
24 the issues continue to occur?

25 JONATHAN HULSE: That's right. Yeah.

1 KATE MCGRANN: With respect to the
2 closeout work that Parsons did, could you just
3 describe that to me.

4 JONATHAN HULSE: Closeout work, now
5 there -- probably there were some probably issues
6 or incidents or tracking reliability of specific
7 elements, subsystems. So I'd have to go back to
8 look through correspondence, but it was probably --
9 probably related to reliability or issues that
10 occurred post-revenue service that -- that
11 warranted a discussion or investigation.

12 KATE MCGRANN: Were you directly
13 involved in doing that work?

14 JONATHAN HULSE: Not directly, so it
15 was team members.

16 KATE MCGRANN: Do you remember who was
17 most involved in doing that work from your team?

18 JONATHAN HULSE: Probably Glen McCurdy.

19 KATE MCGRANN: Ms. Peddle, do you have
20 any follow-up questions based on anything that
21 we've discussed?

22 CARLY PEDDLE: No, I don't.

23 KATE MCGRANN: Mr. Hulse, you mentioned
24 that you were also working on Stage 2. Is that
25 right?

1 JONATHAN HULSE: Yeah.

2 KATE MCGRANN: To your knowledge, was
3 there any sort of review of lessons learned from
4 Stage 1 that was done in respect to the work that
5 was going to be done on Stage 2?

6 JONATHAN HULSE: There were certainly
7 lessons learned that we applied, but I don't recall
8 being invited to a lesson-learned review held by --
9 whether it was the Infrastructure Ontario or the
10 City of Ottawa or anybody else.

11 There was certainly lessons that we
12 applied in the development of specifications for
13 Stage 2.

14 KATE MCGRANN: And can you speak
15 generally to what those lessons were?

16 JONATHAN HULSE: The adherence to
17 manage the systems engineering, RAM, and safety,
18 RAM being Reliability, Availability,
19 Maintainability --

20 KATE MCGRANN: Okay.

21 JONATHAN HULSE: -- and safety. So
22 the -- to ensure that the contractors for Stage 2
23 followed best engineering practice and standards
24 for -- to RAM safety and system engineering to make
25 sure that there was efficient transparency in any

1 design builder whether it's a DBFM or a DB -- a
2 DBFOM or whatever the case may be, so sufficient
3 transparency in the P3 contractor so that you have
4 assurance from the outset that the system is being
5 designed and integrated correctly and that we're
6 not waiting 'til we get to the -- to the end before
7 we find defects or deficiencies.

8 KATE MCGRANN: And could you speak a
9 little more specifically to how that transparency
10 was required through the project agreement for the
11 second stage?

12 JONATHAN HULSE: For Stage 2?

13 KATE MCGRANN: Yes.

14 JONATHAN HULSE: Stage 2, so system
15 deliverables and more -- more rigorous independent
16 safety assessment, not just safety auditing, and
17 for -- but actually ensuring that the contractors
18 deliver design and system engineering documents
19 that demonstrate that they are following the best
20 practices throughout the -- throughout the project
21 lifecycle --

22 KATE MCGRANN: Are there any --

23 JONATHAN HULSE: -- and making sure
24 that milestones are adhered to.

25 KATE MCGRANN: Are there any best

1 practices from a systems-integration perspective
2 other than what you've already described that you
3 don't think were followed on Stage 1?

4 JONATHAN HULSE: Well, I don't think
5 there was --

6 MITCHELL KITAGAWA: Hang on. Hang on.

7 KATE MCGRANN: Hang on a second. Your
8 counsel is --

9 JONATHAN HULSE: All right. Sorry.
10 Sorry, Mitch.

11 R/F MITCHELL KITAGAWA: Yeah, I just have
12 some concerns about looking back and providing you
13 with an opinion. I think it's fair for you to ask
14 him if at that time he had any concerns. Is that
15 fair, counsel, if we rephrase it that way?

16 KATE MCGRANN: I understand.

17 Did you have any concerns during the
18 time that you were working on the project from when
19 you joined through to the end that any best
20 practices with respect to systems integration were
21 not being followed?

22 JONATHAN HULSE: Yes, I did, and I did
23 not believe that RTG understood their role as
24 systems integrator, and I -- I don't -- do not
25 think that RTG, until they engaged SEMP at the end,

1 really took a serious -- took seriously the
2 systems -- systems engineering and integration
3 responsibilities that they had.

4 KATE MCGRANN: The Commission has been
5 asked to look into the commercial and technical
6 circumstances that led to the breakdowns and
7 derailments on Stage 1.

8 Are there any topics or areas that we
9 haven't discussed today that you think the
10 Commission should be considering in its work?

11 JONATHAN HULSE: The -- that derailment
12 was investigated by another party, so we didn't
13 have -- we weren't involved in the -- in the
14 investigation. So all that we have access to or
15 have had access to was what was in the public
16 realm, so I really can't comment on it.

17 KATE MCGRANN: Okay. And the
18 Commissioner has also been asked to make
19 recommendations so that similar issues don't occur
20 going forward. Are there any specific
21 recommendations or areas for recommendation that
22 you suggest be considered in that work?

23 JONATHAN HULSE: I think that the
24 recommendation -- recommendations I would make
25 would be create the transparency in the design

1 build contractor's processes and designs. I would
2 recommend that we don't just go with it with the
3 lowest cost and proponent that achieves a technical
4 score.

5 I'd recommend that part of the
6 qualification for a consortium bidding for such
7 complex projects should have demonstrated their
8 capabilities of working together without silos in
9 similar projects or demonstrate how they will work
10 together without silos to -- to deliver the
11 intended project.

12 KATE MCGRANN: Anything else?

13 JONATHAN HULSE: I think that was
14 three -- three main ones.

15 KATE MCGRANN: Ms. Peddle, any
16 follow-up questions from you? I think that's a no.

17 And I had promised your counsel that he
18 would have the opportunity to ask some follow-up
19 questions.

20 Are there any follow-up questions you
21 would like to ask?

22 MITCHELL KITAGAWA: No, thank you.

23 JONATHAN HULSE: No, thank you.

24 KATE MCGRANN: Okay. Well, those are
25 the end of my questions for today. Thank you very

1 much for your time.

2 And we can go off the record now.

3 -- Whereupon the Examination concluded

4 at 4:06 p.m.

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1 REPORTER'S CERTIFICATE

2
3 I, JANET BELMA, CSR, Certified
4 Shorthand Reporter, certify;

5 That the foregoing proceedings were
6 taken before me at the time and place therein set
7 forth, at which time the witness was put under
8 oath;

9 That the testimony of the witness
10 and all objections made at the time of the
11 examination were recorded stenographically by me
12 and were thereafter transcribed;

13 That the foregoing is a true and
14 correct transcript of my shorthand notes so taken.

15
16 Dated this 3rd day of May, 2022.

17
18 

19
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23
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25

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