Ottawa Light Rail Commission

Yves Declercq
on Monday, May 2, 2022

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OTTAWA LIGHT RAIL COMMISSION

ALSTROM TRANSPORT CANADA – YVES DECLERCQ

MAY 2, 2022

--- Held via Zoom Videoconferencing, with all participants attending remotely, on the 2nd day of May, 2022, 9:10 a.m. to 12:31 p.m.

COMMISSION COUNSEL:

Christine Mainville, Co-Lead Counsel Member

Fraser Harland, Litigation Counsel Member

PARTICIPANTS:

Yves Declercq, Alstom Transport Canada Inc.

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A L S O P R E S E N T:

Judith Caputo, Stenographer/Transcriptionist

Laila Butt, Virtual Technician

--- Upon commencing at 9:10 a.m.

YVES DECLERCQ: AFFIRMED.

CHRISTINE MAINVILLE: Mr. Declercq, the purpose of today's interview is to obtain your evidence under oath or solemn declaration for use at the Commission's Public Hearings.

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

The interview is being transcribed, and the Commission intends to enter the transcript into evidence at the Commission's Public Hearings, either at the hearings or by way of procedural order before the hearing is commenced.

The transcript will be posted to the Commission's public website, along with any corrections made to it after it is entered into evidence.

The transcript, along with any corrections will be shared with the Commission's participants and their counsel on a confidential basis before being entered into evidence.

You will be given the opportunity to

review your transcript and correct any typos or other errors before the transcript is shared with the participants or entered into evidence. Any non-typographical corrections made will be appended to the transcript.

Finally, pursuant to Section 33 (6) of the Public Inquiries Act 2009: A witness at an inquiry shall be deemed to have objected to answer any question asked of him upon the ground that his answer may tend to incriminate the witness, or may tend to establish his liability to civil proceedings at the instance of the Crown or of any person, and no answer given by a witness at an inquiry shall be used or be receivable in evidence against him in any trial or other proceedings against him thereafter taking place, other than a prosecution for perjury, in giving such evidence.

As required by Section 33 (7) of object to answer any question under Section 5 of the Canada Evidence Act.

On those terms, we can proceed.

Could you start by describing your involvement in Stage 1 of Ottawa's LRT project?

YVES DECLERCQ: Well, during Stage 1, for the LRT project, I was in charge of the bid, for

what was called suburban and doubledeck platform. So dealing with --

[Reporter intervened for clarification purposes].

YVES DECLERCQ: It was the platform name suburban doubledeck. So at that time was in charge, this platform was in charge of managing the tram product --

[Reporter intervened for clarification purposes].

YVES DECLERCQ: Tram train product, which is an LRT if you prefer. It's tram train, because in fact the Ottawa vehicle is a high speed tram. And "high speed" meaning able to run up to 100 kilometres per hour. So it's classified as in North America as LRV rather than the streetcar or tram. At that time we have a specific division. So I was bid director for the LRV solution.

-- OFF THE RECORD DISCUSSION --

CHRISTINE MAINVILLE: And you were working for which company?

YVES DECLERCQ: I was working for Alstom.

CHRISTINE MAINVILLE: And so you were bid director, I take it you had more than one project

on the go?

YVES DECLERCQ: Yes. I was dealing with supervising many bids ongoing. But as my initial expertise was about this kind of LRV, I was more involved in this one.

CHRISTINE MAINVILLE: Do you recall the timeframe of your involvement on the Ottawa bid?

YVES DECLERCQ: Yes, I started to work on the Ottawa bid in December 2011.

CHRISTINE MAINVILLE: And did your involvement include subsequent contract negotiations?

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: Okay. And were you involved in the industry consultations that would have taken place prior to the bid period?

YVES DECLERCQ: No. I really start in the process in December 2011.

CHRISTINE MAINVILLE: Okay. Could you tell us a bit about your prior experience and background?

YVES DECLERCQ: Okay. So it's ten years ago. So now I have more than 30 year of experience within Alstom, in rolling stock business, of all kinds. So ten years ago it was only 20 year. So I've been mainly working test department and

engineering. And then project management, to most of my career was in the project management.

CHRISTINE MAINVILLE: Are you an engineer?

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: And so you've been involved not just in procurement, but also managing rolling stock projects?

YVES DECLERCQ: My whole life, it's like it changed during the process because as we are developing a product for the North American market, I moved, so I was committing all of product director for this kind of North American LRV.

CHRISTINE MAINVILLE: Have you always worked for Alstom in terms of this industry?

YVES DECLERCQ: I've been working

CHRISTINE MAINVILLE: Okay. Could you tell us, or give us an overview, perhaps, to start, of how the procurement unfolded in this case?

YVES DECLERCQ: So we have developed a global plan of entering the North America light rail market. And therefore, so it was I think mid-2011 a decision was made to authorize this market and especially the turnkey market. So all the new system.

And for that, the turnkey department

was needing a light rail vehicle solution.

[Reporter intervened for clarification purposes]

YVES DECLERCQ: And so we have decided to develop a vehicle for North American market derived from out tram train Citadis Dualis, in service since a year in France.

[Reporter intervened for clarification purposes].

YVES DECLERCQ: We have decided to develop a new product derived from the product so-called "Citadis Dualis", which entered in service in 2010.

CHRISTINE MAINVILLE: And so what do you mean by "turnkey market"?

YVES DECLERCQ: By "turnkey" I mean the system market. So including infrastructure globally, what kind of -- the global, so infrastructure, rolling stocks, the global turnkey -- the sense of starting from the system market if you prefer.

[Reporter intervened for clarification purposes]

YVES DECLERCQ: By "turnkey" I mean system market.

Meaning, for a new system like Ottawa,

the infrastructure, the rolling stock, the signals.

CHRISTINE MAINVILLE: So you would bid on the infrastructure as well.

YVES DECLERCQ: Not myself. Me, I was in the rolling stock department. But there was a global strategy of the company to address this system market.

And, therefore, to address the system market, it was a need to have a new vehicle, which was not in our portfolio. And we have launched the our existing solution, like Citadis Dualis.

So this decision was made in the year 2011.

CHRISTINE MAINVILLE: And just so I'm clear. Why do you say you needed to develop a new vehicle? Was it to adapt to North American standards?

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: And so the Citadis Dualis had been used in France for a year prior to then?

YVES DECLERCQ: In service, yes. It was a contract signing in 2007.

CHRISTINE MAINVILLE: And was it used elsewhere in the world or just in France at that point in time?

YVES DECLERCQ: We have kind of version which was designed for the Turkish market in Istanbul, a shuttle one, but using the same component.

CHRISTINE MAINVILLE: And to what extent did you have to adapt the Citadis Dualis for North American standards? How different were the adaptations to it?

YVES DECLERCQ: So the adaptation was mainly to take into account specific North American standard, which covered many, many topics.

So we have the fire and safety standard; we have the cab or the shell design; we have height-leveling dynamics. There is some -- we have some change on the -- lots of, maybe sometime it's details, sometimes it's not details.

The standards were a way of considering things, some time for the making vehicle sizing, for instance, it's not exactly the same case, very similar, but not exactly the same case to consider. So we have to make some adaptation.

The fire and safety, because you have to change the type of wire. The fire and safety and flame requirement are different, we cannot choose exactly the same chemical mix for the cable insulation for the entire panel and so on so forth.

You have to consider different assumption, like the track conditions, so there was impact on most all systems.

[Reporter intervened for clarification purposes].

YVES DECLERCQ: On most all systems.

CHRISTINE MAINVILLE: There was an impact on most systems, right?

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: And what about winterization. Was that a component that needed to be addressed?

YVES DECLERCQ: Yes, sure. It was also specific to, for this -- for this market, which we had some experience, but not obviously on the LRV, but on some other kind of rolling stock we had the experience of winterization. And we applied the same kind of recipe to the LRV.

Globally, we knew the recipe, we had to put them together on the one new vehicle based on the same component of the existing one.

CHRISTINE MAINVILLE: Okay. And what experience did Alstom have on LRVs outside of North America?

YVES DECLERCQ: At that point, there

are some experience based more than -- I don't remember exactly the number, but more than 2,000 LRV sold all over the world.

I think, let me check what we -- I think we have shown that. When we did, it was already more than 1,500 LRV sold.

CHRISTINE MAINVILLE: So Alstom was very -- sorry.

YVES DECLERCQ: Back in -- yes.

CHRISTINE MAINVILLE: Back in 2011 you were going to say?

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: So Alstom had significant experience with LRV or LRTs, just not in North America?

YVES DECLERCQ: Yes, right.

CHRISTINE MAINVILLE: I take it Alstom had another presence in North America prior to developing this market?

YVES DECLERCQ: Yes, we were present already in North America. We were involved in an overhauling of light rail, we have been building METRO. I think, I don't remember in that time, we were involved in the, many contract from Canada or from U.S.A.

CHRISTINE MAINVILLE: And how different is an LRT system from these other types of vehicles that Alstom was producing already in Canada? If you're able to -- if you were to simplify it, how different is it?

YVES DECLERCQ: It's fine, it's the same gap of LRT versus -- we have many experience in METRO in North America. And not LRV, only by a swallowing of some contract, but no I can't tell like that.

It is specific to the -- as the name said, it's a light rail solution, with a low-floor design in many case, because it is the global trend of the market. Which use very specific skills and expertise, because in fact you have to develop a very compact system with a lot -- with a very high level of integration to keep, for instance, low-floor compatible with the bogie system, and the wheel arrangement and the equipment on the roof. The term of it, a quite light vehicle, we have to keep a can go up to about 25, 27-tonne per axel in North America. So it's another -- well, it's like precision mechanics compared to maybe some locomotive or very heavy rail -- it's very specific.

CHRISTINE MAINVILLE: And you

mentioned the bogies. Am I right that Alstom needed design a new bogie for this system?

YVES DECLERCQ: We had a bogie which is called lxége in operation on tram train. And we have develop a new version of this bogie adapted to the North American market.

So we devise a compatible with track condition in U.S.A. And I need to insist on U.S.A., because Ottawa vehicle as a contrary of -- now I'm still in the business and working on other contract in Canada. Ottawa vehicle is the sole one based on U.S. standard, in Canada.

CHRISTINE MAINVILLE: Ottawa is the only one based on U.S. standards?

YVES DECLERCQ: U.S. standard in North America.

CHRISTINE MAINVILLE: Do you know why that is?

YVES DECLERCQ: No. But all the other system in service that are from Alstom now, and from Bombardier are based on tram design with European standard. And then following European standards, closer to a usual solution on both Bombardier and Alstom. And here in Ottawa, it was specified like U.S. rails, based on the APTA procurement guideline,

so referring to all U.S. standards and not European standard. Which is a unique case in Canada.

CHRISTINE MAINVILLE: And you don't know where that originated from, or what would be the reason for that? Even if you were to speculate about why that would be.

YVES DECLERCQ: I think they were looking for the high speed 100-KPH tram. And they are completing the U.S. LRV standard solution described by APTA, as a reference; that could be one explanation. Another explanation is that --

CHRISTINE MAINVILLE: Sorry, you just described by who as --

YVES DECLERCQ: The APTA.

CHRISTINE MAINVILLE: The APTA?

YVES DECLERCQ: Yes.

MICHAEL VALO: A-P-T-A.

CHRISTINE MAINVILLE: Okay, yes, A-P-T-A, APTA.

YVES DECLERCQ: I don't remember, I missed the "P".

CHRISTINE MAINVILLE: And another possibility is...

YVES DECLERCQ: There is another possibility that this call for tender in Ottawa was a

second one.

So there was another -- we know that another one was launched, another system procurement was launched a few years before, and it was cancelled at the last minute.

So we knew that Siemens was awarded and make your claim against the City for that. And the specification was pretty, like -- was based clearly on the Siemens solution. Because the APTA Guideline, is more or less derived from the Siemens solution, which is very popular in the U.S.A.

CHRISTINE MAINVILLE: Got it. So Siemens -- would you say the specifications ultimately have favoured Siemens or not necessarily?

YVES DECLERCQ: At the beginning, yes. But globally, as the specification was for a very high-capacity system. In fact, Siemens was not able to propose an -- probably not able to propose an optimized solution as the RTG finally proposed.

CHRISTINE MAINVILLE: Were you going to add something?

YVES DECLERCQ: No. Because in fact, with us today in Ottawa, we're operating at two trainset, coupled together. If it is a standard Siemens solution, you would need four Siemens trainset

coupled together.

[Reporter intervened for clarification purposes].

YVES DECLERCQ: Where today in operation, we have two vehicle coupled together in operation to ensure the service. To do the same with the Siemens vehicle, you need four units coupled together and longer platform. Because you are losing a lot of space with intermediate cabs, so you use less, of course.

CHRISTINE MAINVILLE: And you said this second procurement was last minute. Can you explain that a bit more?

YVES DECLERCQ: Last minute, what do you mean?

CHRISTINE MAINVILLE: I think you said because they had had the other procurement a few years before that Siemens won, that got cancelled.

And then I thought I heard you say that -- so this one was last-minute, maybe I --

YVES DECLERCQ: No, no, I didn't say that sorry. I just say that it was maybe they have kept the rolling stock specification at that time was back in 2007 or 2008, I don't remember exactly.

FRASER HARLAND: Just to clarify, I

believe he said it was cancelled at the last minute, not that the --

CHRISTINE MAINVILLE: Yes, sorry. Thank you.

YVES DECLERCQ: Siemens was awarded, the contract was cancelled and Siemens made a claim against the City.

CHRISTINE MAINVILLE: Got it, yes. And in fact, how would you describe the specifications in terms of level of prescriptiveness for the rolling stock?

YVES DECLERCQ: I think it was a – it was a pretty operation-based specification. So less prescriptive than some can find on the U.S. market regarding the detail design of the vehicle. But very accurate regarding the transportation capability, ridership and so on so forth.

Plus, the reference to the APTA procurement guideline, which constitute a strict frame for all the standard to be applied, all the method to validate the design and similar.

CHRISTINE MAINVILLE: And so I take it Alstom was new to these American standards?

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: And would there

have been any ability to suggest that that be changed to the European standards?

YVES DECLERCQ: At the point we came in the procurement, no. It was not possible for us.

CHRISTINE MAINVILLE: So was it raised as -- first of all, was it a concern for Alstom or at least it was an added level of risk, I take it?

YVES DECLERCQ: Globally our plan was to address a U.S. market, mainly, and Ottawa was the first opportunity where we could propose this new generation of vehicle.

So we were not so much disturbed by that. It was part of plan to have this kind of vehicle in our portfolio.

CHRISTINE MAINVILLE: Right, okay. Would the City have been aware that this was -- let me start back.

Did Alstom have direct communications or meetings with the City about the rolling stock?

YVES DECLERCQ: So let me tell the story of the tender first.

CHRISTINE MAINVILLE: Okay.

YVES DECLERCQ: So in the first place, and before I start to work on this business, I seek Alstom to start to get qualified as a system supplier.

There was six system supplier trying to be qualified and for some reason --

-- Reporter's Note: (Experienced virtual connection difficulties).

CHRISTINE MAINVILLE: Let's pause. Let's see if it works again, but you'll have to repeat your answer because you were frozen.

YVES DECLERCQ: Okay. So the Alstom tried to get qualified as a member of the system consortium. I think it was later in the process in

CHRISTINE MAINVILLE: What was the number of system consortium?

YVES DECLERCQ: I don't know. I was not directly involved in that part.

CHRISTINE MAINVILLE: But do you mean by that, that it was to procure more than just the rolling stock?

YVES DECLERCQ: We were in competition as with RTG, for instance, to -- we tried to get qualified to be in competition with RTG, and the other groups that were finally qualified.

So I know that out of six groups, only three were qualified to prepare the bids. So it was RTG, one group; I don't remember the name of the group. One group was led by Bouygues, another group

with the competition was -- I don't know exactly the organization, but Bombardier was part of this.

So at this point, Alstom was out of game. But for the two -- so there was three group qualified preparing the system tender. And we knew that two of this group didn't have rolling stock supply. With RTG and the group led by Bouygues, I think it was Vinci.

[Reporter intervened for clarification purposes].

YVES DECLERCQ: Vinci.

CHRISTINE MAINVILLE: I think you're saying "tender", right? I was hearing, "thunder" but you're talking about "tender".

YVES DECLERCQ: Tender or bid.

CHRISTINE MAINVILLE: Yeah, okay.

YVES DECLERCQ: So at that point when I came into the game, it was to convince whether RTG or Bouygues to have Alstom on board as rolling stock supply.

[Reporter intervened for clarification purposes].

YVES DECLERCQ: Bouygues, B-O-U-Y-G-U-E-S.

CHRISTINE MAINVILLE: At that point,

are you hoping to provide both the rolling stock and the signalling system, or only the rolling stock?

YVES DECLERCQ: We came only to provide rolling stock and the maintenance of the rolling stock. At that point for RTG, was clear that Thales was already selected as a signalling supplier. And regarding Bouygues, I don't remember. I don't remember if a signalling supplier was already selected.

CHRISTINE MAINVILLE: Do you have any idea or any understanding of why RTG selected Thales as the signalling system supplier?

YVES DECLERCQ: I understand they select Thales maybe to get Canadian content.

CHRISTINE MAINVILLE: And is it fair to say that Alstom would have preferred to use its own signalling system?

YVES DECLERCQ: This was not our target. Our target was more to introduce the vehicle on the market.

CHRISTINE MAINVILLE: Okay.

YVES DECLERCQ: It was not strategic to have our signalling system on the train on that.

CHRISTINE MAINVILLE: So from a technical perspective, leaving aside any commercial or

financial considerations, does Alstom -- just from a technical perspective -- not prefer using its own signalling system to integrate into its rolling stock?

YVES DECLERCQ: It's always better to use your own signalling system, but we are used to work with partners signalling system all over the world.

CHRISTINE MAINVILLE: And at that point, had Alstom's rolling stock been integrated with Thales's system?

YVES DECLERCQ: So first of all, let me continue the story.

So we are back in -- we are in we try to meet the two group, accessible groups to promote our vehicle solution. So this section, and we have some discussion. We prepare a preliminary tenders, preliminary pricing for the two group, try to promote a solution, asking questions and so on.

It was all that in packet, we are not really on board the tender until March 2012, when both group has told us they didn't -- they had not retained the Alstom solution as a vehicle.

So Bouygues decided to go with Siemens as rolling stock supplier, and RTG decided to go with CAF, the Spanish buyer as rolling stock supplier.

And there was a milestone in April

2012 to have specific customer meeting with the City, I think it was called DPM7 to present the rolling stock to the City. So at that point, we were out of the race and disqualified.

During all that time, so from December to March '12, we never met Thales.

CHRISTINE MAINVILLE: Okay. And do you have any understanding of why Alstom was not selected by either of these bidders?

YVES DECLERCQ: I think they choose the Siemens, which has much more references in the North American market than us. And I think CAF was selected because probably good connection with Dragados, which was inside the consortium of RTG.

CHRISTINE MAINVILLE: And so what happens then after CAF is selected by RTG?

YVES DECLERCQ: So it happened that at the end of June, the management of RTG and SNC-Lavalin came to our office in New York, meeting Alstom Transport Vice-President and explaining that CAF has been finally disqualified by the City of Ottawa and that RTG was out of any rolling stock solution.

The submittal was scheduled in September of '12 around June, two months, roughly, to prepare a full bid. So RTG ask us to come back on

board and prepare a meeting. We had to meet with the City to present a alternative solution and try to get accepted and qualified by the City.

CHRISTINE MAINVILLE: Did you have any understanding of why CAF had been disqualified?

YVES DECLERCQ: No.

CHRISTINE MAINVILLE: When RTG approached Alstom after CAF had been disqualified, did you have any additional understanding of what the City was looking for that was not already reflected in the original requirements or specifications?

YVES DECLERCQ: Not from the City. But we understood what SNC and RTG was looking for. Because we start to reopen the file at beginning of July. In the meantime, we are not active, because as it was part of a plan to develop the solution for the U.S. market, our maturity of our solution was increasing, and we have form of better element to share with RTG and the City.

But the condition of the City was very clear. They wanted to have initially a 45 long vehicle. So it's very important to understand. They wanted a vehicle which was compatible with a platform of 90-metre, so that's why they were considering 45-metre for one vehicle.

And then coupled together able to handle the ridership required by the City.

So it seems that the strategy at that point was to propose a directive solution compared to what Siemens can do, of a long consist, which is not existing. Our layout is the first one of that kind in North America.

So a long consist, because the Siemens vehicle was talking about, is maximum 30-metre long.

So probably the whole model of the old user competitors with Siemens, and even with CAF at this point, CAF has a similar solution in service in Houston of 30-metre as well. So probably the whole model for all the other competitor was to operate for your needs of 30-metre, you need a platform of 120-metre, while the RTG idea was to have longer vehicle with more bogie, with more -- very specific solution, and able to handle a shorter platform.

Because when you have four-unit coupled together, in the middle you have empty cabin from the seam to its lengths over the platform with no added value.

CHRISTINE MAINVILLE: Right. So you're adding to the capacity by having fewer vehicles.

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: And CAF, did I understand, they didn't have a 45-metre vehicle at that point?

YVES DECLERCQ: We have no evidence of that. But probably at this stage, it could have been a blocking factor.

CHRISTINE MAINVILLE: Okay. And you said --

YVES DECLERCQ: But it is not a reason, because maybe it's going against the strategy of RTG, but going against the strategy of the City.

So I don't know what happens in that. The information we got is that the City decided to disqualify CAF.

CHRISTINE MAINVILLE: Okay. And when you said it was the first -- first of its kind, I think in North America, you mean a 45-metre long vehicle.

YVES DECLERCQ: Yes. Formal unified bogie like we have proposed since. It's the longest LRV vehicle in operation in North America.

CHRISTINE MAINVILLE: Was that new for Alstom as well, or only new in North America?

YVES DECLERCQ: No, it was very

similar. A little bit longer, than the Citadis Dualis I was talking earlier, but the same configuration, same number of bogie and same number of modules.

And globally, the configuration we have propose, we met the City mid-July and we propose vehicle architecture which is exactly they want, which in operation now. There is no difference.

CHRISTINE MAINVILLE: Do you recall who that meeting or those meetings were with, at the City?

YVES DECLERCQ: It was in a hotel in Ottawa with the City and consultants online.

CHRISTINE MAINVILLE: The City and the consultants were online?

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: They were not in person, even though you're in Ottawa?

YVES DECLERCQ: We were in Ottawa, with city member. And I think it was 18th of July, 2012.

CHRISTINE MAINVILLE: Do you recall who exactly from the City would have been in attendance; do you have any names?

YVES DECLERCQ: No. 18 of July, yes, I confirm.

CHRISTINE MAINVILLE: Do you know where the consultants were from? Which entities, what companies?

YVES DECLERCQ: I think it was STV.

CHRISTINE MAINVILLE: And can you tell us about that meeting and what was discussed there?

YVES DECLERCQ: By the way, it was the kind of recall of the famous DPM7. We have to go -- back in this process which would have been finalized of Alstom of capability of vehicle solution, the carrying over from existing solution, and where the architecture is coming from, and we were addressing -- yes, so it would have shown some capabilities, and we handle Canadian content, we handle the --

[Reporter intervened for clarification purposes].

YVES DECLERCQ: So the meeting agenda was an introduction of the team. And as second topic was about Alstom capabilities, the reference.

And the vehicle solution, and the service-proven reference of this vehicle. They zoom on the preliminary design of the vehicle; they zoom on the Canadian content; zoom on the disable accessibility and compatibility with APTA standard. Our experience with integration of CBTC from other

companies. And then some discussion.

CHRISTINE MAINVILLE: Okay. And what would the City have understood about -- based on your meeting there, or other information, convey about what was new for Alstom on this project?

In terms of the U.S. standards, in terms of the adaptations required to the Citadis Dualis and so forth.

YVES DECLERCQ: It's difficult to guess what they have understood.

CHRISTINE MAINVILLE: What was conveyed, maybe I should have said.

YVES DECLERCQ: We have related, for sure it was clear that this vehicle does not exist yet, but is made of service-proven components already in use in many other places.

And globally, we are gathering a lot data, gathering the ability to run the operation of profile, which is not usual for a light rail.

Winterize under the North American standard, because part of the part you are using are meeting the American standard already. And we have the capability and experience to put that altogether to meet the Canadian content, we have the reference. So it was a global overview.

But we have a clear drawing showing this product is derived from existing one. At no point we have said that the vehicle is already existing.

CHRISTINE MAINVILLE: And you said the speed is not usual for light rail, the maximum speed. What is more typical?

YVES DECLERCQ: 80-kilometre per hour or 70 or 80, which make a difference within the standard regarding crash energy management. A lot of sizing of the vehicle are different. All the other LRV in Canada are running at maximum 70-80 kilometre per hour. Only the Ottawa one is able to run up to 100-kilometre per hour.

CHRISTINE MAINVILLE: Based on the City's requirements, would some other type of train system have been more advisable for what the City was looking for? Did it make sense for them to go with light rail?

YVES DECLERCQ: If we consider the PPHPD so passenger per hour per direction, usually LRV is able to under maximum 10,000 passenger per hour per direction. It's usual maximum standard. PPHPD, so it's clearly the METRO operation profile. Which we reinforce by the fact they are using the CBTC in

automatic driving mode, which is really a METRO. And when you see the vehicle in operation, it's impressive, it's starting like a bullet, like a METRO.

CHRISTINE MAINVILLE: So should it not have been a METRO?

YVES DECLERCQ: It's a low-floor METRO. I think what we have understood is the intent of the City, with the extension of Phase 2 or Phase 3, needs to go to a more urban, or city or integration and only the automatic mode would be using the downtown and the centre of Phase 1. So they wanted to have these kinds of mix, and probably also the lower, low-floor LRV is bringing optimization for the tunnel, size of the tunnel compared to a METRO, high-floor METRO.

CHRISTINE MAINVILLE: Based on the later extension plans, am I understanding that a classic METRO would not necessarily have been suitable?

YVES DECLERCQ: What they say to us, in fact, we didn't question. We have a specification for low-floor vehicle. We address it with a low-floor vehicle. But, yes, from some discussion we have later on, they said they will use this low-floor capability later at the end of the line to do some mixed traffic

and all that kinds of things.

CHRISTINE MAINVILLE: But would it have been possible to meet their various requirements with a METRO?

YVES DECLERCQ: Probably not. No. A METRO is -- you are mandatory with a separated way, with high-floor platforms, were very specific.

So globally, the infrastructure need for METRO is much higher. Especially in this plan, which is more or less to follow the former of this operation.

CHRISTINE MAINVILLE: Right. So to meet all of their needs or requirements, it made sense to go with a low-floor LRV, but it required various adaptations that --

YVES DECLERCQ: We are using the LRV solution at the extreme. Probably, it's part of the reason why we are discussing today.

CHRISTINE MAINVILLE: Explain that to me.

YVES DECLERCQ: That we are at the edge of what LRV is able to do.

CHRISTINE MAINVILLE: It's very advanced technology?

YVES DECLERCQ: It's not advanced technology. Just we'll prevail on issue, we have

faced and we are still are facing today, and then find solution. Have no concern from that. We are really working to fix all the issue.

Just the time to set up, address and find the right solution, which is longer, because user failure rate, it is not a standard we use.

CHRISTINE MAINVILLE: It's not a standard use, yeah, LRV.

And what are the implications of here carrying more than double the number of passengers?

YVES DECLERCQ: I think the main impact is on the -- is linked to the need to have a CBTC to operate that vehicle, and to drive in automatic modes, which it's related to the headway you are facing. Because normally, at the end, the headway must be reduced to one-minute thirty seconds.

Now I think it's about three minutes, something like that. But you need driving a, operate automatic operations, where you need a CBTC from the desk of the supervisor to manage the traffic.

That's one part, that the speeds or the acceleration level is very high to handle, also this high capacity. And that's also why the vehicle are longer, probably. But it's not the longest LRV we have ever built, but at that, this kind of operation

it is.

CHRISTINE MAINVILLE: This kind of operation, what?

YVES DECLERCQ: It is the longest LRV we have in operation with such profile.

CHRISTINE MAINVILLE: And so did the City, was it made clear to the City that this was pushing the limits of what an LRV can do, that it was at the edge of...

YVES DECLERCQ: No, no. But once again, during all the bid process, and we met the City once, it was 18th of July, that's it. After that, all we -- the job was directed by RTG people, with RTG people.

CHRISTINE MAINVILLE: Normally would there have been more opportunity to exchange --

YVES DECLERCQ: I guess in normal process, I think there was several -- probably several rolling stock meeting which was organized. But as we came at the last minute, it didn't happen.

And the point is that we are not coming to infeasibility, all the issue we are facing today, is also a lack of system integration, preparation, like alignment with Thales for sure on the designs. There was many topics happening during

the project execution that explain why in fact, when we start the operation, we were not ready.

CHRISTINE MAINVILLE: And were you there during the -- were you involved in this, following the procurement period?

YVES DECLERCQ: I was involved at the beginning at various level and recently less involved -- I was involved at the beginning of the project execution, and my involvement has decrease into time.

CHRISTINE MAINVILLE: Involvement has decreased.

Okay, I'll go over some of the things you just mentioned, but I just want to be clear on a couple of things.

First of all, were there any discussions with Thales around that period of time? Or when would you first have exchanged...

YVES DECLERCQ: I think there was one meeting with Thales in August 2012, one technical meeting. And it was obvious that Thales was not ready with a solution to work with us.

CHRISTINE MAINVILLE: It didn't have its solution ready?

YVES DECLERCQ: No.

CHRISTINE MAINVILLE: In what way?

YVES DECLERCQ: It was not designed. It was brand new, not designed at all.

CHRISTINE MAINVILLE: So you didn't understand their system to be a standard one that it used?

YVES DECLERCQ: For me, it was not the standard one, it was a new design for the future market, but a new design. It's an optimization, I think there were -- the plan was to use only one main computer, per LRV, while usually you have one computer per cabin. But the design was not ready yet at all.

CHRISTINE MAINVILLE: Okay. What was said about how that was going to be developed?

YVES DECLERCQ: We didn't have detail all along, at least the part of the project have follow. It was clear that Thales was not tied to the same schedule than us. And probably almost no further or not on the main contract.

So that's why we have imposed to -- we are very -- the main risk of this project was about interfaces, and that's why we have introduce in the subcontract for the rolling stock, a lot of detail regarding interface. And we put preliminary document, or we set very strict dates regarding the interface.

It was I think we signed February '13 and there was many great milestone in April ’13 to freeze all the interface.

CHRISTINE MAINVILLE: So you made sure that in Alstom's subcontract, there were clear dates about when the interfaces would be completed --

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: -- including April 2013. Was that for a final integration --

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: -- or interface document, ICD from Thales?

YVES DECLERCQ: So in fact, Thales didn't produce anything. So we already in the subcontract, we introduce our own understanding of the interface document, based on their experience because we are used to, to work with other signalling supplier, like in Paris, with Siemens or other ones. So we are already prepare a very detailed document because we know more or less.

So this was already embedded in the specification, and this was, I think the same document was used in the April '13 and Thales didn't even try to meet this date.

CHRISTINE MAINVILLE: Was it realistic

to expect that that would be ready by April 2013 given that they didn't have a design when you met in August 2012?

YVES DECLERCQ: It was not clear. No one told us it was a new design, but we understand it with the time, in fact. We subcontract, as subcontract, we only supposed to use service-proven solutions.

CHRISTINE MAINVILLE: Okay. So it's not as though Alstom understood in the August 2012 meeting, that Thales's design was new. It was something you came to understand?

YVES DECLERCQ: Yes. It was probably the first claim topic between Alstom and RTG.

CHRISTINE MAINVILLE: The first what?

YVES DECLERCQ: Claim topic between Alstom and RTG or OLRT-C.

CHRISTINE MAINVILLE: And would you normally have had, or expected to have more meetings with Thales than you did early on in the process --

YVES DECLERCQ: In the preparation of the bid, yes. But clearly they were not ready to -- they have no solutions, or they have nothing to tell.

CHRISTINE MAINVILLE: You think that's why there were fewer meetings?

YVES DECLERCQ: Also, we didn't have so much time. You know, we were asked to come back end of June, so the time to build the whole file we were preparing a new vehicle solution, meeting more or less what RTG proposed to us. Because we have adapted the lay out to meet the expectation of RTG.

They ask for 45-metre, we come to the 48-metre solution that meet on their requirement. We did also requesting for that time to be, so RTG knows exactly what you have to do. Which is the price of the product we are proposing.

We prepare our meeting with the customer, or we certainly, it was already 18th of July. After that, we have just one month to refine and discuss some detail assumption.

And globally, we made a formal offer to RTG beginning of September, and the global system submittal was made end of September. So we have only the time to do one technical meeting with Thales in August.

CHRISTINE MAINVILLE: Was there less integration planning than you would normally have expected?

YVES DECLERCQ: That's why we have imposed in the contract negotiation, an earlier date

for the interface phase. Because it was clear that it would be a big race for all the project. We need all the Thales interface to freeze it for the technical scheme, and all the detail arrangement, even the physical location of the -- and size of the Thales cubicle were unknown at the signature of the contract.

CHRISTINE MAINVILLE: Was there not an opportunity to have more meetings with Thales?

YVES DECLERCQ: During the project execution, after February '13, yes, we have some meeting, of course, because we have to prepare a first interface design with Thales. But not to a point to say, okay, the interface are frozen.

CHRISTINE MAINVILLE: The interface are what?

YVES DECLERCQ: Are frozen.

CHRISTINE MAINVILLE: Are frozen.

So am I right that -- well, were there meetings during the contract negotiations?

YVES DECLERCQ: No, there was -- I must know a meeting with Thales. I think maybe at another meeting during the -- or just before the contract negotiations were late 2012 or beginning 2013. But it went very fast. We were surprised by the speed to get to a financial close and have the

contract start --

CHRISTINE MAINVILLE: And to have what?

YVES DECLERCQ: The contract started.

CHRISTINE MAINVILLE: Started. And so is that what prevented meetings with Thales during that contractual phase or --

YVES DECLERCQ: Once again, I think it was useless. Because even in April, when we have set clear date, Thales was not ready, did not answer, and we were obliged to propose our document as a reference.

CHRISTINE MAINVILLE: You say "useless". But for instance, was there an opportunity to discuss with Thales when they would be able to produce a frozen ICD?

YVES DECLERCQ: I don't remember all the detail of such discussion. But I think at that point, OLRT-C did not do a job of system integrator and try to mitigate the risk. They just put us together and we just see that Thales was not responsive.

CHRISTINE MAINVILLE: And so I guess what I'm asking is, what would you have -- if OLRT-C had properly performed the systems integration piece, how would that have been reflected in the contractual phase, the contractual negotiation phase?

YVES DECLERCQ: In contractual

negotiation phase -- I think it's not the contractual negotiation phase.

You should be sure that our statement was clear that we need to have a frozen interface by April '13. We signed the contract -- I mean, we did negotiate, we signed the contract. Anyway OLRT-C did nothing to get that milestone achieved.

CHRISTINE MAINVILLE: The first finalized ICD milestone?

Sorry. For the record you have to say, "yes".

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: Are you aware of -- let me rephrase.

Who were the contract negotiations with on OLRT-C's end?

YVES DECLERCQ: I don't remember all the name. I think people actually left -- it was many SNC-Lavalin on one side, but I don't recall all their names.

CHRISTINE MAINVILLE: What insight did Alstom have into Thales's negotiations?

YVES DECLERCQ: Nothing.

CHRISTINE MAINVILLE: Are you aware of whether the same people were involved in both

negotiations?

YVES DECLERCQ: My understanding is that there was no negotiation with Thales. Thales signed the contract, not far down from the main system contract with its own condition, and that nothing was negotiable with them.

It was done. It was a fact Thales would provide the CBTC, and that was it. There was no question and we didn't see any -- it was totally dissymmetrical, I would say, the condition made to Thales, compared to the one made to us.

CHRISTINE MAINVILLE: Yes, you mean there was no alignment between --

YVES DECLERCQ: No.

CHRISTINE MAINVILLE: -- Alstom's contract and what appeared --

YVES DECLERCQ: We tried to put that in the interface, but I don't know whether the Thales contract, but I'm pretty sure it was already signed, already committed. Even we understood that the payment was done, it was not aligned. It was signed before.

CHRISTINE MAINVILLE: Your understanding is Thales's contract was signed before?

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: And that their requirements were merely what flowed directly from the Project Agreement, is that what you're --

YVES DECLERCQ: For us, yes. For Thales, I'm not sure. Because it changed a lot. Also, you have to understand that the City has modified a lot the specification in the last phase. So maybe some condition was not dated to Thales, I don't know.

FRASER HARLAND: I just -- sorry, I just want to make sure I understand.

So to your understanding, are you saying that OLRT-C negotiated Thales's subcontract with its different schedule, and it was already signed. And then they came to you and you proposed a different schedule, and they just signed that contract as well, knowing that the two were not aligned; is that what you think happened?

YVES DECLERCQ: Yes, I think so. I have no evidence, because I don't know that Thales contract, but the way they act after that, for me, it's the only explanation.

CHRISTINE MAINVILLE: Did you understand at the time you were negotiating the contract with Alstom and OLRT-C?

YVES DECLERCQ: I understand that it was impossible to talk with Thales to have alignment with them, and they were not -- we spent a week in the building in Toronto to negotiate the contract, never seen Thales people.

It was not possible to get them, and that is why it is Alstom document which is used as a reference in the rolling stock subcontract for the ICD.

CHRISTINE MAINVILLE: When you say "Was not possible to get them"...

YVES DECLERCQ: I don't know. In the context, I understand the Thales contract was done and it was not possible to negotiate. The only way to have lever on them is to clarify, to propose on the ICD document, and to set a stronger milestone for the ICD freeze.

CHRISTINE MAINVILLE: I guess what I'm trying to understand is what your understanding was at the time that you're negotiating the subcontract of what Thales was being held to.

YVES DECLERCQ: No.

CHRISTINE MAINVILLE: You did not have that understanding then?

YVES DECLERCQ: No, we don't know. We

didn't know exactly what Thales was bound to, and we -- and we have no direct contact with them.

We were both subcontractor of OLRT-C. It's up to OLRT-C as system integrator to manage the interface.

CHRISTINE MAINVILLE: And so when you're negotiating for a finalized ICD, or frozen ICD deadline with OLRT-C, was it your expectation that that would be reflected on Thales's end?

YVES DECLERCQ: Yes, yes.

CHRISTINE MAINVILLE: And when did you become aware that there may not be alignment there?

YVES DECLERCQ: It was clear that in April, at the supposed freeze date, Thales was not ready.

In fact, we had the first completed interface, I think design, maybe two years after.

CHRISTINE MAINVILLE: What would you have expected to see in place at OLRT-C from a systems integration perspective?

YVES DECLERCQ: A clear interface document prepared and managed. We are used to, I've been working on French METRO contract with the CBTC, we have the clear interface design by our customer at the beginning of the -- or even during tender

negotiation.

Each time a change would come in either from us, or whether from the CBTC supplier, there was arbitration by the RATP as a system integrator.

CHRISTINE MAINVILLE: And you never saw that in that case?

YVES DECLERCQ: No.

CHRISTINE MAINVILLE: Would that be an interface agreement between Alstom and Thales?

YVES DECLERCQ: No, no. It was going through -- when we have experience of the Paris METRO with Siemens as a CBTC supplier, the interface document was managed by the Paris RATP and shared with the two suppliers. But there was a way of management of interface and when there was issue, there was a three-party meeting and arbitration. If the arbitration say we need to change, we change.

FRASER HARLAND: I'm sorry to interrupt. Yves, when you say "arbitration", here in Canada, that specifically means sort of a legal litigation-like process. Are you talking about --

YVES DECLERCQ: No, it was technical arbitration, I mean.

FRASER HARLAND: Right. Where the

interface manager is just deciding between competing --

YVES DECLERCQ: He's doing the modification, more or less.

CHRISTINE MAINVILLE: What if any discussions did you have, or did Alstom have with OLRT-C about this interface and what they were planning to do?

YVES DECLERCQ: No.

CHRISTINE MAINVILLE: There was none?

YVES DECLERCQ: No. Because during the -- I think during the negotiation phase, we didn't have in front of us a chief engineer, in fact. It was mainly commercial people.

We were explaining our needs regarding interface, interface phase, but there was no real technical challenge.

CHRISTINE MAINVILLE: Did Alstom raise this as a concern?

YVES DECLERCQ: I was part of the delegation, but not leading the negotiations, so I don't know. Something we see, but...

It was clear that the system integration was not properly handled.

CHRISTINE MAINVILLE: When did that

become clear to Alstom?

YVES DECLERCQ: Because of that, we did not have a system engineer coming and discussing us of all interface, what they will handle it, and so on. So we are most telling, we are this vehicle, we need to freeze this interface to the final vehicle here are the list of the interface we need to freeze here. And we have set quite aggressive date of April 2013, which is two months after the contract start.

There was no, really, a challenge on that, no discussion. With OLRT-C just took it and we didn't know which organization. It was a -- we put a date more in our advantage, but at the end, we didn't see sometime, depending of the people managing, we had some support, sometime not. It was a very -- but after that, more the time is -- I was quite active in 2013, but after that, I lost all the detail of the discussions.

You will probably interview people who are more aware of the day-to-day business status, the contract execution and so on.

CHRISTINE MAINVILLE: You're saying when Alstom put out an April 2013 date for the frozen ICD, there was no pushback or questioning of that by OLRT-C?

YVES DECLERCQ: As far as I remember, no.

CHRISTINE MAINVILLE: And is that because they -- as far as you could tell, they had no engineer or someone who would have understood the implications of that?

YVES DECLERCQ: Maybe.

CHRISTINE MAINVILLE: And did Alstom not understand -- you said it was an aggressive date, I think you said.

Did Alstom understand that that was possibly not realistic, as a timeline?

YVES DECLERCQ: We didn't know. We understood later the Thales design was brand new.

CHRISTINE MAINVILLE: So if it had a standard design or more advanced, it could have been done?

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: Okay. And could Alstom's signalling system have met the City's requirements? You talked about headway, the automatic train control, and how that was pretty --

YVES DECLERCQ: CBTC solution are quite standard, yes. We had CBTC solution able to do similar function for sure, yeah.

CHRISTINE MAINVILLE: But that ship had sailed by --

YVES DECLERCQ: But it was not made in Canada. I don't know the price of Thales, finally, so...

CHRISTINE MAINVILLE: And I just want to confirm that this was the first time that Alstom worked with Thales on integrating their two systems on a --

YVES DECLERCQ: I don't think so. I think we have some experience in the one, but I have no reference.

CHRISTINE MAINVILLE: Is that in respect of an LRT?

YVES DECLERCQ: On LRT, I think the only case with the CBTC was ATO. Which is a unique, probably unique in the world.

CHRISTINE MAINVILLE: Sorry, repeat that. Was this unique or another --

YVES DECLERCQ: The ATO integration on LRV is the first time. Normally it's -- I think it's the first. There is no mention in the reference in the world with automatic driving with an LRV.

CHRISTINE MAINVILLE: So it was the first not just for Thales and Alstom; you think it was

a first altogether?

YVES DECLERCQ: Yes. But globally, technically, it's not very different from a CBTC integration of the METRO. And I think all over the world on the METRO business, we have integrated all kind of CBTC from other competitors, and probably Thales is not the first time we are working with them.

The issue itself is not the integration. And in the presentation we met with the City, we explain that we have this experience integrating CBTC from other competitors and other companies. It's quite usual, and it's usual way to split the business between companies and share the risk, and so it's nothing abnormal. What was abnormal is that the Thales design was brand new, probably for cost reason.

CHRISTINE MAINVILLE: Probably from?

YVES DECLERCQ: For cost reason.

CHRISTINE MAINVILLE: For cost, okay.

YVES DECLERCQ: Competitiveness reason, they try to experiment in brand new system. And it was not ready at all to design a vehicle.

CHRISTINE MAINVILLE: So you think that was the real challenge in this case, in addition to insufficient integration on the part of OLRT-C?

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: As opposed to Alstom and Thales integrating their two systems?

YVES DECLERCQ: As opposed -- I think Thales decide to go with a very innovative solution, okay? But then they were unable to meet our needs regarding the solution freeze, because there is a lot of electric implication of the CBTC installation, and we had a quite aggressive production program. And it was -- we need to have this interface frozen at the beginning of our design. And by the way, we have seen the consequences of not having it with a huge retrofit, a lot of issue in this disturbance.

CHRISTINE MAINVILLE: A lot of issues and...

YVES DECLERCQ: Disturbance in our production flow.

CHRISTINE MAINVILLE: Right. You think this, the delay in getting unfrozen -- or a frozen ICD, not only caused retrofits, but did it ultimately lead into integration issues at the end of the day?

YVES DECLERCQ: It was, yes, all the time. There was many implication having a brand new system and discovering it, for sure it's creating it.

And once again, I have the reference of the METRO of Paris Line 1, when their RATP decided to fully automatize the line, it was a contract signed in 2005, and the Siemens system, signalling system was new as well, but the interface was frozen from the beginning of the contract. And globally, RATP achieved its goal to switch the line to a full automatic operation with new vehicle without stopping the traffic. So it was very complex project, but one of the condition was that all interface in the new system are frozen. It's very important.

CHRISTINE MAINVILLE: And why would Alstom not tell OLRT-C, you know, can we not talk to an engineer about this?

YVES DECLERCQ: But we had this discussion.

But as -- what can you say to an engineer, who has not worked in detail on the system, is not able to provide any detail of the system you will provide; what can we do?

So what we have done was the only solution that we have return a document which is you seen in the subcontract, it's an Alstom document, detailing the CBTC interface, it's not -- so it was prepare after the meeting of August, maybe another one

with Thales, their engineer, but we took the initiative to write this document and try to freeze the interface with Thales, despite Thales didn't -- normally it's a document that should be returned by Thales, but we did it for him in order to secure the project; and we cannot do more.

For sure the way -- and we have discussed this topic, and the way the subcontract is returned is the proof of that.

CHRISTINE MAINVILLE: Is the what?

YVES DECLERCQ: The proof of this discussion we have with OLRT-C. And we did the best and even more than the best, to freeze the interface and secure, globally, the project execution.

CHRISTINE MAINVILLE: And the interface that Alstom ultimately got from Thales, was it significantly different than what Alstom had been relying on?

YVES DECLERCQ: As far as I remember, we ask a claim of 2 million at one point to change and modify the doctrine, yes, it was significant.

CHRISTINE MAINVILLE: So that caused issues, I expect.

YVES DECLERCQ: Yes. Retrofit, delay in production and everything. And even I think, when

we accumulate -- because 2 million, I think it was a claim of 2014, or '15, but later on we had other issue, and we had still another issue now of that kind.

CHRISTINE MAINVILLE: Well, you said the City changed the specs later on?

YVES DECLERCQ: No, no, no. I said that we have, we have many, many change -- why you are talking of the City? I did not talk of the City.

CHRISTINE MAINVILLE: Earlier, I think you made some reference to the specifications changing.

YVES DECLERCQ: During, between I think December 2011 and more or less July 2013, I think we had many change in the specification, yes, five -- four or five version changing.

CHRISTINE MAINVILLE: Were those significant changes?

YVES DECLERCQ: Yes. Globally, to allow a different configuration of the whole system, a signal that -- so I think there was -- and I don't remember all the details, it was ten years ago, but...

CHRISTINE MAINVILLE: Do you know what drove those late changes or why they were late?

YVES DECLERCQ: Because they realized,

probably it was the result of question and answer.

But at that point, we were not -- the point is, we are subcontractor of the bidder. So we were not directly in line and tight with all the question and answer.

We didn't have access to all the normal file you have when you are doing a tender. We had only the information that RTG wanted to give us, and some official edits of the subcontract --

CHRISTINE MAINVILLE: Right.

YVES DECLERCQ: -- and the specification.

CHRISTINE MAINVILLE: So you had no direct access to the ultimate customer, the City?

YVES DECLERCQ: No.

CHRISTINE MAINVILLE: And was that something Alstom didn't have experience with in terms of P3 projects?

YVES DECLERCQ: It was not -- we were not in a P3 -- we were subcontractor of the main contractor, so it was -- we were not part of the P3. We were not -- and most of the time, we were not even as a partner of the RTG, because we -- it was an emergency plan to get us on board. And during the summer break...

CHRISTINE MAINVILLE: Right. We

should probably take a break, but I just want to ask you.

You insisted on how this was a fully automatized project. Did that add some level of risk?

YVES DECLERCQ: We didn't understood that immediately. I think we realize that later during some design, that the vehicle would be operating fully automated mode.

It was not clear to me, as far as I remember, it was not clear to us until we have the first discussion with the customer about the operation profile and so on and so forth.

CHRISTINE MAINVILLE: Is that something normally you would have expected to know from the get-go?

YVES DECLERCQ: I think it's, yes, better to know before. But sure, it would have change a lot of things.

CHRISTINE MAINVILLE: Okay.

YVES DECLERCQ: We were purchasing an opportunity to have a solution in the North American markets, so we did our best to get that done, with the right contractual protection. And immediately it was the interface, we have added an interface description, we have added in our subcontract.

CHRISTINE MAINVILLE: Sorry, you talked about service-proven components being brought together --

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: -- for the first time. Would Alstom have represented to the City that this was a service-proven vehicle?

YVES DECLERCQ: We did in our presentation, yes, a chapter called "service-proven vehicle" showing from which vehicle the design, the Ottawa design is derived from. And the list of the components we would use, and which product they are used.

CHRISTINE MAINVILLE: And how would you define "service-proven"?

YVES DECLERCQ: In this case, for the request of the OLRT-C, no one in the world, even Siemens, did not operate its vehicle in four units. So everybody would have design change. So I think for sure, it is not another available vehicle, available vehicle ready for use taken from another city that we bring to Ottawa.

So our understanding of service-proven, and we didn't like that, that we are reusing and composing specific architecture based on the

service component.

CHRISTINE MAINVILLE: And is there any standard definition of that in the industry, of what --

YVES DECLERCQ: No, I don't think so. It's...

CHRISTINE MAINVILLE: It's a bit subjective?

YVES DECLERCQ: It's subjective. But frankly, we -- it was not that -- it was not we didn't try to mistify the City, telling that we have a vehicle existing ready for use, no. We said, we have all the range of experience, we have all the component, the experience of integration and everything, and we can put together a vehicle that would meet the specification.

And globally, what we have proposed, and the architecture we have proposed, as I said, has not changed. So it mean that we have not make mistake, we have decided in our past follow it, for sure we have set of issues, adjustment, problem that we already know. Which more, kind of maturity in the specific Ottawa environment, and like I think was very disappointing, was the preliminary of passenger service, the planned service, which was not performed

properly. And for sure, the decision of starting the service was taken too early compared to the maturity of the system.

CHRISTINE MAINVILLE: Compared to the maturity of the system. What did you say was -- now I forget what you said not done properly. Not starting the system, but before that you mentioned --

YVES DECLERCQ: The planned service, there was a long period of service without passenger, with performance to achieve and obviously The contract was very clear on many topics. From what I've seen, I was not directly involved at this stage, but from what I've seen, I know the date, I know the time it was taken. And I also talked to my colleague, and know that globally we shouldn't have decide to start the system with the lack of preparation we had.

CHRISTINE MAINVILLE: You're saying you provided for that in the contract some --

YVES DECLERCQ: The contract itself, from the City was very clear. But I think we did not follow -- everybody forgot the contract when -- there was very clear from the original contract performance criteria to achieve, a lot of detail, and I'm pretty sure they were not achieved.

CHRISTINE MAINVILLE: Just so I'm

clear. In the Project Agreement between the City and RTG, the performance criteria to be achieved --

YVES DECLERCQ: It was very clear, yes, for me, time, duration, answering -- I'm pretty sure -- I would be surprised to see that all those stated detail were met.

CHRISTINE MAINVILLE: You would be surprised to see they're met. And you're referencing, for instance, a trial running period?

YVES DECLERCQ: Yes, talking of that, the result of the trial running period, yeah.

CHRISTINE MAINVILLE: And is any of that reflected in Alstom's subcontract where you would just --

YVES DECLERCQ: It was flowed down to us, yes.

CHRISTINE MAINVILLE: It was flowed down. And I take it then that Alstom has insight into the overarching Project Agreement?

YVES DECLERCQ: The structure of the contract during all of the tender phase, we had access to the full contracts for Project Agreement.

And in our subcontract, it is clearly we have appendix describing which part of the main contract are flowed down to us, or applied to us or

not. And another one which we have adapted, we rewrite, we made a very clear statement of how the flow down is made.

CHRISTINE MAINVILLE: Okay. So Alstom, am I right to take your answer to mean that Alstom would rely on those performance criteria being met --

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: -- that are provided for in the Project Agreement, as part of whether Alstom views the system to be ready for service?

YVES DECLERCQ: There was a, I think reliability and availability target to meet, and anything like that. I don't see how they could have been met. By the way, we have a lot of integration issue that we are not able to test, because the track was not ready, because many, many issues at the end.

CHRISTINE MAINVILLE: And we'll come back to that. But am I right that Alstom has no say under the contract, into whether those criteria are met?

YVES DECLERCQ: Yes, it was not -- no, it was not our decision.

CHRISTINE MAINVILLE: Okay. If we can

go off record.

-- RECESS TAKEN AT 11:00 A.M. --

-- UPON RESUMING AT 11:10 A.M. --

CHRISTINE MAINVILLE: Mr. Declercq, what would Alstom like to see in terms of -- we talked about the trial running criteria. What kind of burn-in period, or other such dry running periods does Alstom typically like to have on a new system like this?

YVES DECLERCQ: It's difficult to answer, but I think one of the many issue we face is that the full system was available only very late, I think it was maybe June or July.

The full system was only available at the last minute, so we didn't have time to make the trial run. But I think the initial plan it was supposed to -- not only the trial run, but I think the contract it was well described that you have to make integration of each subsystem together, pair by pair, and then you expand the system. And this was not done properly.

And globally, I think the subsystem integration time, plus the trial run, should have last six months at least.

CHRISTINE MAINVILLE: Is that

sometimes provided for specifically in the contract?

YVES DECLERCQ: I think there was some -- it was ten years from the contract.

But I think it was well described. And we had some issue until the last minute of the catenary that was set which would create some issue on the vehicle. We didn't run properly, we didn't have some trial run in winter, we never had the full line in winter, because also the snowing means we're not available.

So normally you have to set up, run every subsystem. But also the organization, also the OC Transpo was part of the trial run and globally it was -- it went too fast and, obviously, what was also critical in the press, that the Ottawa system had the day of the start, the back up bus service was removed.

So there was no transition, nothing, it was directly. And that was very -- and I was following, because it was a big project for me. We are not directly involved, but to see there are few days of pressure, many people on the platform showed that something went wrong in the organization of the operation and the transition from the bus to the LRV.

CHRISTINE MAINVILLE: You no longer had a formal role in this project, but you kept track

of the --

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: -- of it? And what was lacking, you say, in the integration testing phase?

YVES DECLERCQ: Time.

CHRISTINE MAINVILLE: So it just didn't have enough?

YVES DECLERCQ: The readiness of -- I know that the track was not available, it was very difficult to organize. We have done a lot of operation construction, test on site, and to do everything on Ottawa site, but Ottawa site was not ready to run that.

And we have a lot of issue to organize our test run, the vehicle acceptance and everything to meet the coordination. Of course there was suddenly an emergency to start the operation, and I think the trial run period was too short.

[Reporter intervened for clarification purposes].

YVES DECLERCQ: The trial run period was too short not conclusive as per the contract expectation.

CHRISTINE MAINVILLE: Not conclusive,

in what way?

YVES DECLERCQ: I've been told that the some days were decided as successful when the criteria weren't met.

CHRISTINE MAINVILLE: You're referencing the trial running period?

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: And you mentioned earlier, that there were integration issues Alstom wasn't able to test; what would those be?

YVES DECLERCQ: We need the full line to do performance test, I remember the dynamic behaviour of the vehicle, the tests were delayed a lot because the full line did not open -- did open only few months before the service start.

We had some Siemens substation adjustment issues, and once again, I was not really involved. I was still following the product as such and be aware. But not directly involved in the day-to-day operation in Ottawa with the contract.

CHRISTINE MAINVILLE: But your understanding is, effectively, there was just not enough integration time to fully debug the system?

YVES DECLERCQ: Yes, I think so, yeah.

CHRISTINE MAINVILLE: And could that

have had implications following revenue service availability in terms of how the system performed?

YVES DECLERCQ: Yes. At the point there was delay from all parties, I think. And, yes, maybe a few months of trial run would have been useful to avoid issues. And the Ottawa, since the service start, it was succession of crisis, you would have spare some of that.

CHRISTINE MAINVILLE: Are you aware of some of the issues encountered during service operations that you would connect to integration issues?

YVES DECLERCQ: Yes, I think so. The major issue we are facing with derailment, and with the right interface is probably linked to this kind of topics, yes.

Like we have no evidence that the track is laid as a schedule, and then we have some issue. We had also got damages on the track because the Thales system was not set properly. Normally, there is a setting for winter condition, in which the acceleration/deceleration to total adhesion [ph], and it was not applied properly.

CHRISTINE MAINVILLE: Which may have contributed to wheel flats; is that your...

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: And the doors, were the door issues potentially connected to integration issues?

YVES DECLERCQ: The door issues, I think we have door issues on all contracts execution. So there was always adaptation time, you need to find the right setting of the doors.

This was functionally for sure was seen too late. But it was due to a singular misunderstanding on the specifications. So I would not retain the door.

The rear vision with high speed radio issue was probably, yes, also. Something would have been managed properly, in fact it was discovered too late, for sure. And it was also, but clearly a system integration issue, where at the beginning -- now we have another kind of problem. But the first level of problem, which is the fact that rear vision has been in the platform, didn't display for sure the station where the train is stopped. Which has provoked, or caused the decision to have a watcher on the platform.

For the main causes, for me is an integration issue. Because it was very clear that our data radio system was not the safety system, it was not

designed with safety condition. So to ensure that we are in the right platform, we are displaying the right platform in the cab, we need a safety signal coming from the Thales system to secure that.

It was a solution finally decided, but this was not managed at all by OLRT-C. And when it happens, there was a lot of pushback because also -- but I didn't say that I know that each time there was interface issue with the Thales, each time OLRT-C tried to push on us. Because from Thales, it was pretty sure they would have pushback in the best case, and worst case it was a change order, a very expensive change order. So we were more gentle I would say, and each time we -- there's issue, they try to push issue on us.

In this case, I think the fail of the rear vision at the beginning was a clarity and an interface issue. Now we have other kind of issues, which is purely on our side of black screen, which is another one, but...

CHRISTINE MAINVILLE: And that's -- what is that issue that you're referencing?

YVES DECLERCQ: The issue we have is that we have bug in the software, and sometime the screen -- when they are display something, it's always

the right station, but sometime the screen turn to black, so this is a bug we are looking for.

What we have also is I know when OLRT- was not very constructive in helping us in trying new software include the solution and so on. So we have, most of case, solution that are ready for use. But as OLRT-C do not authorize us to do some trial tests, they have no real procedure to do some what we call a limited test on some fleet, we are stuck and not able to move and correct. We have the solution, but we are not able to deploy it.

There is no organization. In fact, as an operator, it's very usual to have a limited test on a dedicated fleet, when you are watching the next sort of intervention in a safe condition, of course. But I think all this kind of organization and the City is not talking right.

CHRISTINE MAINVILLE: And what's your understanding of why OLRT-C won't allow Alstom to do these kinds of tests?

YVES DECLERCQ: Because it, for sure, this is a change in software is impacting the safety file, and it could create a safety issue. So you cannot change a software like that, but you have to ask condition and so on and so forth.

But as METRO operator and METRO system operator, I worked with specific process to handle this kind of tests.

But here, also, I think that all the discussion -- my personal feeling is, we have no real system engineer managing and watching what's happening today.

CHRISTINE MAINVILLE: Even today?

YVES DECLERCQ: And all is turning into contractual discussion, claim and things like that. We have no fair engineering ground to see what are the issue, what we can set up for a solution, what is the best arbitration. It's slowed down a lot resolution of all the issue we have.

CHRISTINE MAINVILLE: And would that be an engineer you would expect to see working with OLRT-C or RTM?

YVES DECLERCQ: Oh, yes. It's depend -- I don't know, it's a share between the two. But for me, we are still in the construction, the system is not fully at the full operation level.

It can move from one side to user. But regarding us, what all this adjustment, software change as part of the rolling stock contract, not part of the maintenance contract.

CHRISTINE MAINVILLE: And you mentioned when you spoke about the derailments, some potential integration issue with the track.

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: What would that be?

YVES DECLERCQ: We have to report which will be published on that, but we have suspicion on the condition of the track for sure, but I will not --

CHRISTINE MAINVILLE: Okay. But your understanding is, there may have been some -- are you speaking about one of the two main derailments on the main line, as opposed to the yard?

YVES DECLERCQ: Yes. The first one, not the second one, the first one.

CHRISTINE MAINVILLE: The first one, okay.

We haven't spoken about the maintenance contract. Can you tell me about how the procurement of that contract, and whether it was directly...

YVES DECLERCQ: We were two teams working together. One rolling stock team and one maintenance team or service team, and we were

negotiating in parallel, but not -- I have no detail about the maintenance contract which was negotiated, what was agreed to. I cannot really help you on this topic.

CHRISTINE MAINVILLE: That's not something that would have factored into your own negotiations? What was being provided for on the maintenance front?

YVES DECLERCQ: We are providing the detail of the vehicle. And according to their -- they have some LRVs, so they know from the configuration what the typical utilization and consumption of spare parts they have, the man-hours they are assuming based on the LRT profile, and so globally it is built on that. They don't need to have all technical detail, because more or less it's...

CHRISTINE MAINVILLE: Would the maintenance want to know what's being provided for in terms of acceptance criteria and testing?

YVES DECLERCQ: No. Because the maintenance is supposed to start after the warranty period. So the basic performance is supposed to be achieved, which is the base of their costing assumption.

CHRISTINE MAINVILLE: So on that

point, are you aware of retrofits that were deferred in this case and a term sheet agreed upon to enter into revenue service?

YVES DECLERCQ: After that, there was. I don't know the -- I don't know what you mean by "Term sheet".

CHRISTINE MAINVILLE: Effectively, a list of items that RTG and the City agreed to defer. That were not complete under the Project Agreement, but that were deferred until after revenue service availability.

YVES DECLERCQ: Okay, but...

CHRISTINE MAINVILLE: You're not aware of that?

YVES DECLERCQ: Not going through the City, but we have probably -- you actually give a list of reserve, I guess, from the final acceptance of the LRV and the modification that need to -- yes, I know they need a list. And then globally this is organized in between our rolling stock and service team.

CHRISTINE MAINVILLE: I just wonder how that would inform the maintenance side. And if you're not a person to speak to that, that's fine.

But what --

YVES DECLERCQ: The configuration list,

and list of -- because we also have people, I think in the organization, manage it from service, and shown the warranty for us, or we are -- and I think we are readapting the local organization in Ottawa currently to handle -- what we have to do as part of warranty, retrofit and standard service. But I can not tell you, give you detail on that.

CHRISTINE MAINVILLE: Typically, if Alstom is providing the rolling stock, would it necessarily be in charge of maintaining the rolling stock?

YVES DECLERCQ: No, it's depend on the contract.

CHRISTINE MAINVILLE: Okay. And so what level of experience did Alstom have on the type of maintenance that is being done in Ottawa?

YVES DECLERCQ: We have many -- I don't have the reference here with me, but we have many reference of contract, of LRV contract where we are executing the maintenance as well.

CHRISTINE MAINVILLE: Including sometimes the infrastructure?

YVES DECLERCQ: The infrastructure, I think it's -- I don't know. I know more the scope of rolling stock, and that. But the contract for vehicle

maintenance and extended maintenance. But the infra was not awarded immediately, it was negotiated I think one or two year later.

CHRISTINE MAINVILLE: Originally the scope for Alstom's maintenance contract was just --

YVES DECLERCQ: Was the rolling stock, yes.

CHRISTINE MAINVILLE: Just the rolling stock, okay.

So what is the governance structure as between Alstom maintenance and the Alstom vehicle supply teams? How do they work together or what are the reporting lines? Can you talk about how that works?

YVES DECLERCQ: Like not currently, which the organization has changed, the rolling stock organization and service organization are part of our organization. Together, it is in the common -- we have, currently, we have a common point at the region VP level.

CHRISTINE MAINVILLE: The regional --

YVES DECLERCQ: President level, but I think the two organizations formally are totally independent. After that, it's up to people at -- at each level that they are walking together and

coordinating themselves.

What is important, as you know, we also have a separate commercial structure with a customer director and so on. So we are always ensuring that the response we are providing to our customer is consistent, and the best possible, whatever is the organization. So we find the resources to address the issues anyway.

And as today, we have clearly separate organization for what is warranty, retrofit and service. When it did, we are able to coordinate ourself, or to address any emergency we may have.

[Reporter intervened for clarification purposes].

CHRISTINE MAINVILLE: How would tensions between the two entities, if you want to use that term, be resolved?

So if the interests of Alstom maintenance differ, or are in tension with the interests of Alstom supply, how would that be managed internally?

YVES DECLERCQ: By the customer director would always ensure that commercially the customer has the best service. So there is no tension.

There is clear arbitration, okay? This cost me that if -- but we are not playing one contract against the other. We are playing the global customer service. It's the only way to use the best of resource. I will not say I make money, because it's not the case today but...

CHRISTINE MAINVILLE: Who is in that position, customer director?

YVES DECLERCQ: His name changed recently, so I don't know him. I have to check.

CHRISTINE MAINVILLE: Is this person located in France or is it North American?

YVES DECLERCQ: No, no it's as --

CHRISTINE MAINVILLE: On the project?

YVES DECLERCQ: No, it's not on the project. We have in the commercial organization, we have one person dealing with each customer and ensuring that each customer -- so it's a customer director, which is managing all the contracts with one dedicated customer.

I think there was a missing position, so for a long time, I think Souheil Abihanna, which is a Canadian President, I don't remember his last role, because the organization change with a Bombardier acquisition. So it was Souheil Abihanna, until the

replacement was found, so he took this position for a time, so a new people have been appointed. But there was a continuation in the organization of this kind of stuff, so there was -- we have a -- and by the way, all what is the arbitration is coming back to the region, the President, which is also in charge of the P&L of the Region, so he is able to see if there is an issue on one contract.

And globally, this contract currently is having a lot of attention, a lot of coordination between the service vice-president, and rolling stock vice-president, and we are really -- there is no conflict. Maybe we may have some coordination issue on the field in the organization and so on, which we are not perfect on. But this is handled properly, and there is not any conflict between the organization.

CHRISTINE MAINVILLE: So are you aware of the two being at odds to a certain extent on this Ottawa project?

YVES DECLERCQ: Currently, yes, we have as the situation is very serious, we have to be pull, I think many times, meeting together.

CHRISTINE MAINVILLE: So what's the issue, just in broad strokes?

YVES DECLERCQ: Globally, it's too --

we are, since the derailment, we are struggling to ensure the service and to secure the ramp up of the service with the end of the Covid crisis and having the right number of vehicle in operation every day. So it's still fine -- because we have to deal with, as you said, retrofit inspection, and lot of safety issues, so that it's not -- and we need to introduce more new vehicle on the line, for which the customer is reluctant accept and...

CHRISTINE MAINVILLE: There's a lot to be done at the maintenance facility and competing --

YVES DECLERCQ: As today, the situation is not yet stabilized. And, yes, it require a lot of attention to secure that. We meet the availability target, and currently it's done. And in fact since second derailment, and restart operation, still a struggle.

It's not, for us, we have some -- we are doing our best to do that. We have some definitive modification, we are still as I say, expecting authorization to test some improvement and we are in this process.

CHRISTINE MAINVILLE: In terms of revenue service availability, when the Stage 1 vehicles were to complete a trial running, and

ultimately were handed over to the City, did Alstom have any official position or formal position as to whether the trains were ready for RSA?

YVES DECLERCQ: The decision was at system level. We have the train accepted with some list of issue to be fixed. But, yes, as far as -- we see, and the number of quantity of mileage done, it was ready, yes, from what we know. Will not say, no, you cannot run them.

CHRISTINE MAINVILLE: Sorry, from Alstom's perspective, it had met the requirement?

YVES DECLERCQ: Yes. Somehow, yes.

CHRISTINE MAINVILLE: Right. So even though Alstom appeared to question how the trial running criteria were met, it was proceeding on the basis of the results given to them -- to it? Is that what I'm understanding?

YVES DECLERCQ: I was not really part of the decision, but I think it was difficult to say, no, we will not run. As long as the OLRT-C consider and the City was considering the target were met.

CHRISTINE MAINVILLE: And to what extent, if you know, would Alstom's input be obtained about the readiness of the systems?

YVES DECLERCQ: Would you repeat the

question, to what extent?

CHRISTINE MAINVILLE: To what extent would the City, or RTG, or OLRT-C obtain Alstom's input -- or maybe I should rephrase that.

Are you aware of what input was sought, if any, from Alstom on the readiness of this system?

YVES DECLERCQ: I think -- I don't know exactly, but I think it was delaying the report of the motor vehicle operation, the failure happening and something like that. So, no, I don't know how it was shared with Alstom team.

CHRISTINE MAINVILLE: But your understanding is, at least formally, Alstom would have taken the position that the system was ready?

YVES DECLERCQ: I think as it were, from what I've understood, yes, we were not involved. We have no specific objection made to the service start, as long as OLRT-C and the City was considering it was good enough.

CHRISTINE MAINVILLE: Okay.

YVES DECLERCQ: And I don't think we get the detail result of the operation and...

CHRISTINE MAINVILLE: You don't get the details of the --

YVES DECLERCQ: I'm not sure, no, no. But I've understood that.

CHRISTINE MAINVILLE: Do you know whether there was any tension there with Alstom maintenance, in terms of whether on the maintenance side, there was a view as to whether the system was ready for service?

YVES DECLERCQ: No, no.

CHRISTINE MAINVILLE: No, you're not aware?

YVES DECLERCQ: No, I don't understand your question.

CHRISTINE MAINVILLE: So let me give you, maybe frame it as a hypothetical for now.

If the system has met the tests and the contract requirements for being accepted, but it hasn't had a long -- a very long debugging phase, dry run period, this type of thing, am I right, first of all, that that would lead to additional pressure on maintenance after operations?

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: Is it fair to say that that was anticipated in this case? That there would be added pressure on maintenance with the system going into operations?

YVES DECLERCQ: I don't know.

CHRISTINE MAINVILLE: But certainly as you've explained, there wasn't the time Alstom would have liked to fully debug the system, right?

Ahead of revenue service.

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: So in light of that, would Alstom, on the maintenance side, not have concerns about accepting the trains for maintenance, given that they're subject to potential deductions, penalties, if things don't go very smoothly?

YVES DECLERCQ: I cannot talk for the maintenance team, no.

CHRISTINE MAINVILLE: I take it you're not familiar -- you're not familiar at all with the maintenance contract, you never saw the maintenance contract?

YVES DECLERCQ: Not really.

CHRISTINE MAINVILLE: Okay.

YVES DECLERCQ: Not in detail. But if I know the condition, but at first place, in such case the issue are -- when you have issue at the beginning of service, it's mainly fall down onto warranty team, which is under the rolling stock contract, not the service team.

CHRISTINE MAINVILLE: Right. So if there were issues during service, because trains weren't quite ready, Alstom would look to the warranty, and so it may not be.

YVES DECLERCQ: At the beginning if we have, yes. Because in the beginning we were on interface and warranty covering the corrective maintenance, not the service which is only preventive maintenance, the regular one -- I'm saying that during warranty phase, the corrective maintenance is the responsibility of the warranty team. So if you have an expecting issues, normally, it's fall down to the warranty team, not to the service team.

CHRISTINE MAINVILLE: You mean with OLRT-C, the warranty team?

YVES DECLERCQ: No, with Alstom. I'm talking of rolling stock issues.

CHRISTINE MAINVILLE: Okay. Perhaps this was outside of your scope, but would there have been any concerns given the structure of the consortium and RTM having some of the same partners as OLRT-C, would there be concern about RTM not always acting in the interest of the maintainer? Outside of your domain?

YVES DECLERCQ: No, but I don't see

why RTM would -- RTM is in charge of maintenance or what they would act against the maintainer.

Once again, I think we are missing a strong system engineering. I seen both in construction and maintenance contract to make the right arbitration, and not falling down to immediately to a claim management.

We are losing energy first to discuss claim, while simple technical solution can be set up. And with the right arbitration, we are really ready to do that, by the way, internally. And we are not -- when we have some issue, we are not looking if people are from Alstom on service or in warranty or whatever, they are ready and have the skill and can do what need to be done to have the vehicle running, we do it.

But I think really, yes. Not actual example, except I know all the software we tried to test, and we proved the behaviour of the vehicle to be very difficult to implement. And from what I see of my colleague telling what is happening on-site, they are burning time in contractual meetings with all parties and not working on fixing the issues.

CHRISTINE MAINVILLE: Not working on fixing the issues you say, uhm-hmm.

YVES DECLERCQ: The lack of global

engineering is what -- we had this feeling when we negotiated the contract. And by the way, the people leading the negotiation, which are not part of the company anymore, but we were convinced that at some point RTG would ask us, to help us to set up a system integration organization. And unfortunately, it did not happen. And I'm not sure they have realize this is what is missing in the global system organization.

CHRISTINE MAINVILLE: Right. You said unfortunately they never -- they could have asked Alstom to take that on, but --

YVES DECLERCQ: Yes. Or appoint people to do that with the right skill, but we didn't have that. We have some punctual counterpart on the engineering side, but obviously there was a budget issue, so people were not full-time at some point. I think our main counterpart within the OLRT-C organization, which was Jacques Berigeron, disappear in 2018. And just before the launch of the preparation for the system integration, we have no engineering counterpart. And I knew that Jacques was also involved in some arbitration with Thales and make sense of some decision, it was very difficult. But after Jacques disappear, because probably OLRT-C did not want to spend money on that, it was a mess.

CHRISTINE MAINVILLE: Okay. And just so we're clear. When you talk about Alstom taking on the integration piece, or could have, do you mean as it relates to the rolling stock and the signalling system, or the broader integration of --

YVES DECLERCQ: It was a dream of the management that we'd have to involve our system organization which are all our people, really expert in making all this kind of integration between system, finding the right balance and so on. And really understanding what is the system integration.

It was a dream to us, so it didn't happen. Even Jacques Berigeron was very good engineer, very skilled and very knowledgeable. But he was a rolling stock expert, not a system integrator. And he was globally comprehensive with us, when we had the interface issue with Thales and difficult to arbitrate. But globally, we have never seen a global system integrator. And each time we are talking relationship between rolling stock and maintenance.

And then many time I've seen, I remember OLRT-C trying to push us to discuss directly with the maintenance team. And instead of managing that properly, no, they are claiming together, sort of.

CHRISTINE MAINVILLE: Did Alstom ever make a pitch to OLRT-C that it could play that role?

YVES DECLERCQ: I don't know.

CHRISTINE MAINVILLE: Okay. But Alstom was never approached to do it?

YVES DECLERCQ: I know for the system, no. I think the idea didn't come through them. I think they didn't understand the issue, and yet -- they do not understand the issue.

CHRISTINE MAINVILLE: Okay.

YVES DECLERCQ: And the need for such a system integration.

CHRISTINE MAINVILLE: I do want to ask you about the sufficiency of the budget, the affordability in this case.

What is your view on that in terms of Alstom's work on the project?

YVES DECLERCQ: For our scope?

CHRISTINE MAINVILLE: Your scope, yes.

YVES DECLERCQ: What can I say? The way Alstom is managing contract is whatever the final situation we are doing the job.

We don't have some strategy to try to -- of course, we don't -- if it is not in past part of the contract, we're not to do our job for free, for

sure.

But when it is clearly on our side, and when we have issues to fix, we are working and we are -- we are fixing the issue, whatever is the cost.

At the least cost possible, but we are not in opposition, that's why our -- really are the mindset are really once again, the customer satisfaction. And the way we organize, customer director from the commercial team watching us, ensuring the satisfaction of the customer, we are always in the position to find the right solution.

I've never seen -- it's really not Alstom mindset. I've seen that from other competitors, working consortium with them. But from Alstom's side, we do whatever is needed.

After, we can blame ourself for how it was costed, and the issue, but this is another topic.

CHRISTINE MAINVILLE: I think Judith may need clarification.

YVES DECLERCQ: I'm just telling so that when we are running a contract, our main focus is customer satisfaction. So if we have issue that was not expecting, and not entering into our budget, our priority is to fix the issue and to satisfy the

customer.

We have no -- and I think the OLRT-C way of working, I think it was clear that they were hiring people at very limited number of roles. We didn't have people managing the acceptance of the trainer. So we have no -- very weak counterpart.

CHRISTINE MAINVILLE: So you have concerns about OLRT-C's resourcing of the project?

YVES DECLERCQ: Yeah, yeah.

CHRISTINE MAINVILLE: And so did you have a view on the budget for the broader project?

YVES DECLERCQ: No.

CHRISTINE MAINVILLE: Okay. Were there any concerns with sharing information with Thales on the basis of it being a competitor during the project?

YVES DECLERCQ: Not really. On our side, it's not an issue because Thales is not building vehicles. Building vehicles.

CHRISTINE MAINVILLE: I just want to ask you about the supply chain. I take it that there had to be quite a few changes to Alstom's usual supply chain for this project.

YVES DECLERCQ: Yes, because of the Canadian content, yes.

CHRISTINE MAINVILLE: And was it as a result of the Canadian content, or was it because the trains were going to be built in Ottawa?

YVES DECLERCQ: Yes. The decision to build the train in the maintenance facility in Ottawa was taken in August 2012.

CHRISTINE MAINVILLE: And that decision was because of the Canadian content requirement?

YVES DECLERCQ: Yes. Because the only way to achieve a -- and the skill base in Canada is quite poor, so it's not able to -- it's not possible to meet.

At the whole of that time, it was not possible to meet Canadian content without having a final assembly in Canada.

CHRISTINE MAINVILLE: So had there not been that requirement, where would assembly have taken place?

YVES DECLERCQ: In our initial plan, as the product was designed to meet American standard and to analyze American market, the plan was to have a serial production in our facility in U.S.A., in Hornell, New York.

CHRISTINE MAINVILLE: And that was as

a result of the U.S. standards requirements?

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: Had there not been that requirement, would you have built the vehicles in France, the series?

YVES DECLERCQ: Yes. Probably, yes.

CHRISTINE MAINVILLE: And so even if ultimately the vehicles have to be delivered in Ottawa, you might still build them quite far away? You wouldn't --

YVES DECLERCQ: We are talking -- it's a point of [indiscernible]. We had some more standard product built in France for the Australian market, but it's part of a standard range. Here we are talking about specific product meeting North American standard, it was unfortunately, we were not successful in the U.S. market, and the U.S. market was not the one we expected when we launch a product and it didn't happen.

But our plan was a new product to be assembled in North America. So we were in that vision, and of course for the purpose of the Canadian content, the final assembly was done in Ottawa.

Thanks also to our modular concept coming from the Citadis DNA, I would say like that, so

that the final assembly is only bolting the components, so there's no welding, no painting at the end, so it's easy to have a remote facility to make the final assembly -- the last part is that, our vehicle design, the Citadis vehicle design is such that you can set up remote factory outside of your usual base. Because the final assembly of the vehicle is only a bolting or riveting parts, and we have no complex process like welding and painting to put all the train together.

CHRISTINE MAINVILLE: So what's your view as to the suitability of the MSF, the maintenance facility in Ottawa for vehicle assembly?

YVES DECLERCQ: It was -- we find also it was part of the discussion, it was ready on time. What was missing for long time was the test bay.

Because we were able to start the assembly more or less as expected. And it run not too bad, because the initial production was done not quite in alignment with the schedule. But we have issue at the final test.

Also, we discover lately some quality issue, and that come to a point where in fact we have to have local employee and the local market in Ottawa is poor of rolling stock assembly expert, skilled

people.

So I think we all realize that production level was little bit behind our standard process, because of a lack of trained and skilled people.

CHRISTINE MAINVILLE: Trained, skilled people, yeah, okay.

So were there any -- was building the trains or assembling the trains at MSF in Ottawa seem to be a risk at the outset of the project?

YVES DECLERCQ: I think we -- I cannot say, "no". Yes, it's a risk, it was a risk because we are far from our usual base, yes, for sure. But I think the most critical issue we find is probably the level of quality and retrofit we are talking about, this coming also from -- I think it's a risk, but it was well handled. And the main consequence is the level of retrofit, we have to stick to handle on the existing fit.

CHRISTINE MAINVILLE: Right, okay. And is that because of the different uses to which the MSF is being put? So that --

YVES DECLERCQ: No, it's not linked to MSF, it's linked to the remote -- to the fact that we are in Ottawa area, and we have no people skilled in

industry business. So we use, I think, Randstad as agency to provide people, but they were not trained or prepared to do some manufacturing or vehicle assembly.

CHRISTINE MAINVILLE: Okay. So more about the labour issue.

What about the supply chain, did that end up being a problem?

YVES DECLERCQ: I don't think so. I think it -- well, not worse than can be sometime on some other project, no.

CHRISTINE MAINVILLE: There weren't quality concerns that resulted from that?

YVES DECLERCQ: We had some component, some critical component that we bought from Canada, like the auxiliary converter.

CHRISTINE MAINVILLE: The what, sorry.

YVES DECLERCQ: The auxiliary converter, which is one of the critical operation issue.

After that, we have some supplier, but I think the issue we have, we have issue -- we had a lot of choice, Wabtec for doors and brakes.

But, you know, when I compare what happened to my new colleague of former Bombardier with Toronto LRV, they face the same issues.

CHRISTINE MAINVILLE: But am I right that given that this was the first project, LRV project for Alstom in North America, there was -- Alstom had to build this new supply chain for this project?

YVES DECLERCQ: Yes. But for me, it was not really -- we use a well-known company to handle the supply chain, storage, and so on. So the supply chain itself didn't -- was not a problem. We have supplier issues, and similar to what happen in the market. And when I compare the number of issue we get from Ottawa, and the one Alstom done, Bombardier and Alstom get on the Toronto LRT project, it was similar.

CHRISTINE MAINVILLE: It didn't overly slow things down.

YVES DECLERCQ: After that, each time you have issue with risk of retrofit, risk of delays, so another cost, so...

And it's globally the management of it, but it's part of -- not business as usual, but, yes, it is business as usual. It's more the accumulation of -- in Ottawa, in particular, it's a new system. On top of that, poor management of the system.

And I think the main difference we are facing, when I compare with Eglinton project, which was very late, much late than this, that’s unacceptable, but it's still not in service because of a system error.

CHRISTINE MAINVILLE: Right.

YVES DECLERCQ: And maintenance the same. So it's complex.

CHRISTINE MAINVILLE: I just want to be clear. Was this new for Alstom to use a maintenance facility like the one in Ottawa to assemble trains, or had it been done previously?

YVES DECLERCQ: It was not new to have a remote facility. But, yes, formally, yes, it was new. But I think -- what can I say?

But for me, the installation of the production line and for the vehicle assembly, ran quite smoothly. Where we were really impacted, was the lack of availability of the test bay for the final set of tests. And then after, of the track for the final track test.

CHRISTINE MAINVILLE: Okay. The test bay being within the MSF?

YVES DECLERCQ: Yes. It's just a dedicated track, enclosed with, it is -- the same

means that are used to retest the vehicle after maintenance operation, it's just a track secured with fences, and with the overhead catenary, so you can test all the system, including high power.

So the high power was available very late, so we have accumulate a bunch of vehicle assembled, but we were not able to test them and to see we had issue. That also induce a problem, because in fact, we have hidden problems. And as we were not able to test them and to catch them by the test, we are continuing to bid wrong design in fact.

CHRISTINE MAINVILLE: Just to be sure I got the right word, you said the "high power"?

YVES DECLERCQ: Yes, high power tension.

CHRISTINE MAINVILLE: High power, okay. Can you just explain, there was a change to the assembly location for LRV 1 and 2.

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: Which were originally intended to be built in France, correct?

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: Can you explain why they were moved initially to the United States?

YVES DECLERCQ: It was a management

decision, top management decision.

CHRISTINE MAINVILLE: Do you know what informed it?

YVES DECLERCQ: What informed?

CHRISTINE MAINVILLE: The decision.

YVES DECLERCQ: We have some internal debate at the end, the manager -- in fact, it was a balance between -- the main concern was about the supply chain.

CHRISTINE MAINVILLE: The supply chain, okay.

YVES DECLERCQ: And the risk to build, again, a French vehicle with French part. And to have to redo everything with Canadian part or American part once serial production start.

CHRISTINE MAINVILLE: Right.

YVES DECLERCQ: So it was want one drawback to have the supply chain -- American supply chain organization involved at the beginning. And it was in our discussion about having the test vehicle close to the engineering centre.

And there was debate, and the top management decided to prefer them to manage first the supply chain risk.

CHRISTINE MAINVILLE: The supply chain

risk. And why was that assessment not done earlier?

YVES DECLERCQ: I cannot talk so.

CHRISTINE MAINVILLE: And there was validation testing that was planned for -- with those two vehicles initially, correct? Early validation testing in France.

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: And how important would that be from Alstom's perspective, to be able to perform that validation testing before building the rest of the fleet?

YVES DECLERCQ: The reason there was -- I was telling this, to anticipate issues, functional issue that can be corrected earlier.

So we did some test in Hornell with trainset one, so I think at this level -- because in France, we were not able to run at full speed. So the condition was similar for the initial test.

CHRISTINE MAINVILLE: In the United States, okay. But Thales was supposed to be involved, I understand, in the original plan.

YVES DECLERCQ: It was, yes, yes. The original plan was to go to Pueblo [sic].

CHRISTINE MAINVILLE: Colorado?

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: So Thales would have been involved there as well?

YVES DECLERCQ: Yes.

CHRISTINE MAINVILLE: But then that got moved to Ottawa?

YVES DECLERCQ: There was a discussion, and a strong push also from OLRT-C, and I understood from the City, to have the vehicle running in Ottawa rather than in Colorado.

CHRISTINE MAINVILLE: To do validation testing?

YVES DECLERCQ: The validation test and also to -- I remember that when we had the discussion, it was said by the OLRT-C representative, that the City wanted to have the vehicle visible in Ottawa, running in Ottawa. So to communicate about LRV system in construction activity and so on, so forth.

CHRISTINE MAINVILLE: So that's your understanding of why there was a push to move that --

YVES DECLERCQ: So we have discussion of the implementation, of course, from us and from Thales's perspective, it was less expensive to stay in Ottawa than going to Colorado. But we discuss anyway on the condition what we could do on the test track,

and so on before.

But I think it was a common interest to stay in Ottawa. But we were ensuring and discussing about the capability to perform tests on the main line and the interference from what we want to do and so on. And so that was issue, I think the OLRT-C commit on track condition, and in the end, it was not met. We have a lot of issue.

CHRISTINE MAINVILLE: When Alstom ended up agreeing to move that testing to Ottawa, what was its expectation as to when it would have the track it needed to run those tests?

YVES DECLERCQ: We wanted to have a certain length of track to be able to perform all our dynamic and traction braking tests. We wanted to be able to run a certain portion of length of track, but as a portion to be able to perform tests, the capability to go through a station without limitation -- at higher speed than normally, just because of the need of the test in safe condition.

This kind of thing.

So there was a lot of condition, OLRT-C agreed on that. At the end, we had a lot of issue. First of all, the track was not laid down correctly, so the gauge was not right. I found there was a lot of

our work safety condition. I think it was difficult to achieve what was reasonably expected and so on. So we -- from what I remember, but I remember well the negotiation, because I was back and I was following the project opposition. But I don't remember all the detail of the test, but it was longer than expected, and much more difficult than expected so...

CHRISTINE MAINVILLE: So when were these negotiations taking place, if you recall, approximately?

YVES DECLERCQ: It was around mid-2016.

CHRISTINE MAINVILLE: That the decision was made to move the testing to Ottawa?

YVES DECLERCQ: Yeah.

CHRISTINE MAINVILLE: And when did Alstom expect to have the track available to it?

YVES DECLERCQ: I don't remember. Quite, almost immediately.

CHRISTINE MAINVILLE: How delayed was it ultimately?

YVES DECLERCQ: I don't remember. I remember well the negotiation, but I think it took sometime.

CHRISTINE MAINVILLE: Who were the

negotiations with?

YVES DECLERCQ: On our side, it was with our Region President, Jerome Wallut at that time. I remember the customer -- I don't remember all the name. For sure, Nadia Zaari was also part of the...

CHRISTINE MAINVILLE: And was the City in the room for these negotiations?

YVES DECLERCQ: No, no. The City was not in the room. When I say -- I quote the City, so it's OLRT-C say it. And I have no evidence that the City really said that. It's true, but they were not part of the discussion.

CHRISTINE MAINVILLE: And are you able to say what impact that had, the inability to do those tests on --

YVES DECLERCQ: I don't remember. I don't remember exactly the time lost due to the lack of readiness of the track. But, no, I don't know, I cannot say. But I think it's an order of magnitude of six months to one year or something like that on the achievement of the test.

But after that, at some point all the issues are tried to be fixed. You have parallel delay, and you have -- it's difficult to -- I didn't have a detail schedule to ensure that.

CHRISTINE MAINVILLE: It would have resulted in retrofits done at least?

YVES DECLERCQ: Probably. The later you are doing the test, and integration tests, also, but as part of the -- the point you have to understand that once again, all the work could have been done in France, was done in U.S.A. We cannot do more.

The interest was to run at high speed, and so we need anyway a test facility. And a test facility with a track laid down as in Ottawa.

CHRISTINE MAINVILLE: Sorry, the test facility?

YVES DECLERCQ: The test facility should have track laid down like in Ottawa.

As far as I remember, it was part of the decision. I'm not sure if the Pueblo track was really laid down as Ottawa. Because it is very important about the type of rail, the cant of rail, and things like that, to have the right track, wheel and track interface condition.

That was also part of the decision to stay there. And those tests, you have to do it on the representative test facility with a similar condition.

So I think, I'm not sure Pueblo was able to provide all of this. So we find more or less

to this conversation, that the best place to achieve the final dynamic test and integration status was Ottawa site.

CHRISTINE MAINVILLE: Okay. We've gone over time. I just want to ask you if in hindsight there's anything else, other than what you've spoken to already, that you would have done differently, or that Alstom should have provided for to avoid the issues, in particular, the breakdowns and derailments that the system encountered?

YVES DECLERCQ: I think the proper preparation of the service start would have been useful. But because when you look at all the issues, also a lot of issue in the, what was not --there was not a proper hookup of the service as well, I think independently.

The switch from nothing to full service and no busses was very critical. Usually in such new system, after the trial test, you have integration period. Because globally, okay, the performance are not the best we achieve on a new system, but I'm not sure they are so bad.

What is critical is what has been introduced by the press and the integration of the system it was not smooth -- nothing was anticipated

also by the City on now to introduce and make the transition with the bus system.

So immediately, I think the first months of operation, we have crews on the platform, more than they are strike in Paris.

CHRISTINE MAINVILLE: You had what on the Paris?

YVES DECLERCQ: They are strike in Paris quite often.

So more people on the platform, and so there was something wrong in the flow of busses coming to tubes, which were saturated, and not able to handle the crowd. So this has created, start to create a bad press. And which of course I will not excuse the issue we had later on, and we have some very critical issues. But at the point we are today, I think the vehicle operating every day. We have the right number of vehicle, I've been several time on it. I think the service is quite smooth. And without say -- and so the way it has been still set up, and the way we have not been able to probably, collectively and probably Alstom has some responsibility on that. But I think that there was not a teamwork also at OLRT-C or RTM team.

Everything come too fast into claim,

and not just looking at the situation, finding the best technical solution, and then after we managing the responsibility claim and so on. But it was not like that, so much.

And for sure, we are committed, we want to have this project as a success, because we have sold the same vehicle in Toronto, and we want to have it successful for sure. It's very key for us.

CHRISTINE MAINVILLE: We've gone well over time, thank you. I wonder if anyone has a question that needs -- well, that needs to be asked?

MICHAEL VALO: No, that's fine.

CHRISTINE MAINVILLE: We can go off record.

-- Proceedings Concluded at 12:31 p.m.

COURT REPORTER CERTIFICATE

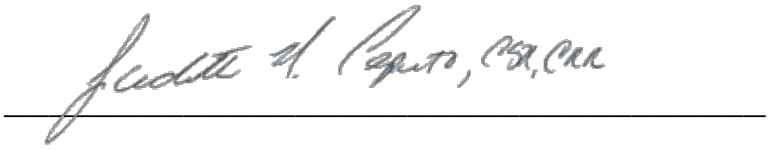
I, JUDITH M. CAPUTO, RPR, CSR, CRR, Certified Shorthand Reporter, certify:

That the foregoing proceedings were taken before me at the time and place therein set forth;

That the statements of the presenters and all comments made at the time of the meeting were recorded stenographically by me and transcribed at my direction;

That the foregoing is a Certified Transcript of my shorthand notes so taken.

Dated this 31st day of May, 2022.



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PER: JUDITH M. CAPUTO, RPR, CSR, CRR

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