

Weekly MRS review

11/09/2019

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From September 2nd to September 7th— Main events

- Within 1441 WO, we have experienced 211 main events which would have affected the service :
 - ✓ including 162 related to NVR, PEI and PIS.
 - ✓ remains 49 main events

Today's presentation covers the last week main events

From September 2nd to September 7th — Main events per function

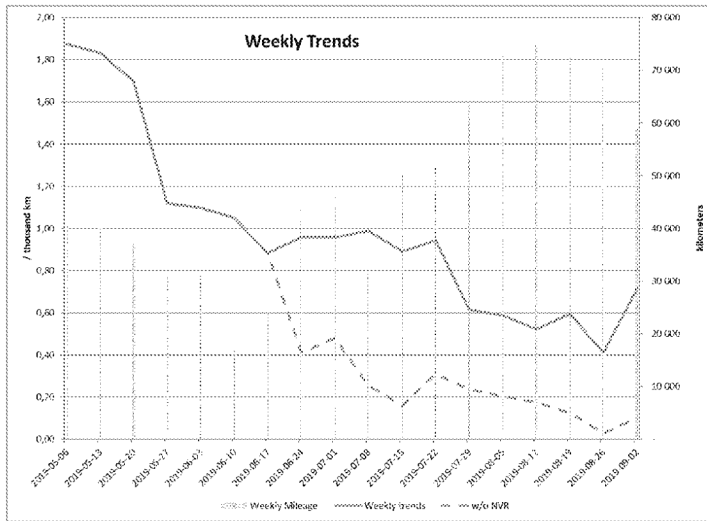
Date	Mileage (DOR)	Doors	CCTV IOS (55 -- >58)	PA IOS (60-- >65)	PIS IOS (66)	Mechanical brake	TCMS (DCU, MPU)	Low Voltage	Voltage & Traction	Flat wheel/vibration	Air Supply	Others	Total
August 2019	301,295		35	42	27	6	9		2		3	2	87
9/1/2019	7,560	0	0	2	0	0	0	0	0	0	0	0	2
9/2/2019	9,388	1	3	1	0	0	0	0	0	0	0	1	6
9/3/2019	10,628	0	6	3	0	0	0	0	0	0	0	0	9
9/4/2019	7,864	0	1	0	1	0	2	0	0	0	0	1	5
9/5/2019	11,047	0	3	2	1	1	0	0	0	0	0	0	7
9/6/2019	11,587	0	1	2	2	0	0	0	0	0	0	0	5
9/7/2019	8,330	0	6	4	0	0	0	0	0	0	0	0	10
Total	367,843	1	59	56	51	7	11		12		3	15	211

Fifth presentation = 42 events - PACIS = 6 events

- ✓ PACIS IOS : deeper analysis in following slides.
- ✓ Other than PACIS, 2 loss of VOBC (Others), one HPU (pump), one EDR (door) and 2 loss of MPU in Tunney's Pasture.



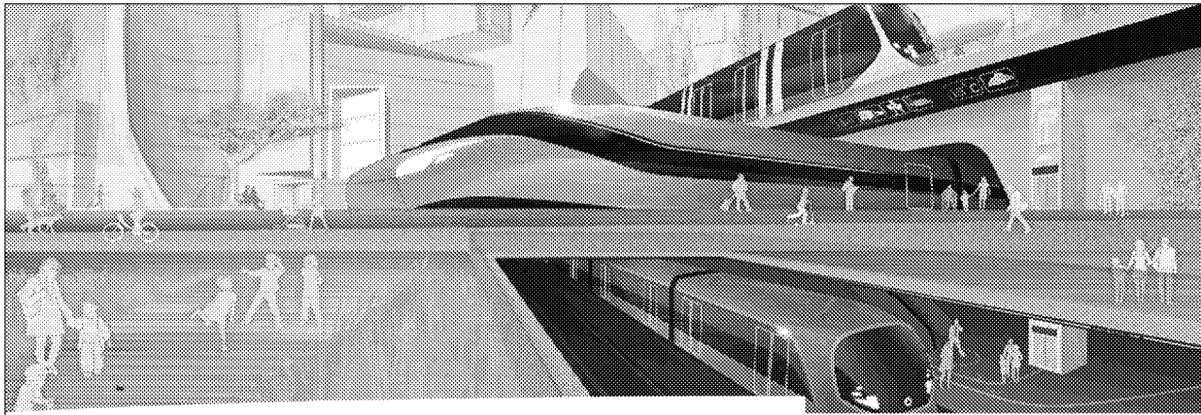
Reliability – weekly trends



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Technical topics

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HSDR/PACIS functions

- Whole fleet with 6.0.0 (Official release received) and database 3.38 from the City
- Restriction for "diversion + reverse" covered by Manual selection of the platform (FN-06).
- Events from September 8th and 9th :

Location	Job	Start	CCTV - Rear View
LRV-1107	LRV07, MC1, Camera #2 at TR-E did not show anything	2019-09-09 17:36	Most probably wayside issue
LRV-1107	LRV07, MC1, At TR-E, camera #2 was grey and had no display		
LRV-1121		2019-09-09 17:01	Most probably wayside issue
LRV-1108	LRV08, MC1, CCTV at BAY-E still showed TJN-E. Manually reset.	2019-09-09 16:59	CCTV stuck on Tunneys
LRV-1125	ERD on LRV29, MC2 reporting CCTV showing 1 station ahead while proceeding WB on track 1 at TR	2019-09-09 15:19	CCTV shows 1 station ahead after departure 7
LRV-1175	ERD on LRV09 MC1 at TR-9 cars #2 Did not load	2019-09-09 15:27	Camera 1 did not load. Lag issue in release
LRV-1122	ERD on LRV21-23 the camera does not load at TR-W Camera #3 and 4 at TR-E are obscured by dust or spiderswebs and require cleaning	2019-09-09 11:41	Camera 1 did not load. Lag issue in release 2
STN:RE-PLTFM	Camera is not aligned so properly see the required doors	2019-09-09 08:18	Platform issue
STN:RE-PLTFM	Camera is not aligned so properly see the required doors	2019-09-09 05:37	Platform issue
LRV-1134	ERD reporting MC2 LRV 34 did not load the mission automaticall	2019-09-08 22:09	Mission did not load
LRV-1179	ERD reporting from TR31 leaving TJN, missions did not select automatically and operator had to select mission manually	2019-09-08 22:41	Mission did not load
LRV-1102	LRV02, MC1, All CCTV not working.	2019-09-08 08:50	all cctv not working?

- The restriction as well as the 3 findings on Display will be corrected in next release (forecast mid-October)

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Software mapping on Sept 10th morning

Type	Train	Equipment	Version	Equipment	Version	Equipment	Version
Logiciel	train_001	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_002	MPU	1.2.5.0	DDU	1.5.1.0	PACS	6.0.0
Logiciel	train_003	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_004	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_005	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_006	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_007	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_008	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_009	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_010	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_011	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_012	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_013	MPU	1.2.5.2	DDU	1.5.1.0	PACS	6.0.0
Logiciel	train_014	MPU	1.2.5.0	DDU	1.5.1.0	PACS	6.0.0
Logiciel	train_015	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_016	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_017	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_018	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_019	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_020	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_021	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_022	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_023	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_024	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_025	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_026	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_027	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_028	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_029	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_030	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_031	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_032	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_033	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0
Logiciel	train_034	MPU	1.2.5.2	DDU	1.5.3.0	PACS	6.0.0

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Focus on IOS036

- IOS036 : Loss on heat floor = End of Day
- 18 occurrences of this IOS since last week
- Mapping of the fleet done :
 - Thermoswitch issue :
1, 2, 3, 4, 5, 8, 9, 10, 12, 14, 15, 16, 18, 19, 20, 21, 25, 27, 29, 30, 31, 33, 34
 - Temperature monitoring issue
1, 3, 5, 9, 12, 15, 16, 17, 18, 19, 20, 21, 22, 24, 25, 29, 30
- Potential root cause : CB(LV)HEATER tripping, several reasons possible
 - TEMPCON to be swapped
 - Short in CPB
- Fleet troubleshooting and correction on going with target to complete before end of October.
- If one of the heat floor of a train is not functional, the HVAC of the car impacted will be boosted by the TCMS, only if exterior temperature is below 5 degree C

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Video Recording - IOS 55 to 59 (page 1/2)

Below some detail mainly about IOS56:

5th Sept

- LRV07 - persistent IOS59 : Now solved : disk were not formatted after the installation of last SW. One NVR was not recording before fix on Sept 10th
- LRV12 - intermittent IOS56 : Video record checked (all cameras are in) @ 2:31pm Sept 5th when IOS reported
- LRV20 - persistent IOS56 : Not able to check, warranty to check tonight.

6th and 7th Sept

- LRV07 - persistent IOS56 : Now solved : disk were not formatted after the installation of last SW.
- LRV11 - intermittent IOS56 + IOS65 : Not able to check, warranty to check tonight. Most probably loss of comm as both IOS in the same time.
- LRV12 - persistent IOS56 + IOS65 : All ok on diag page now. Probably loss of comm because both IOS in the same time. Video record checked (all cameras are in) except from 8:55 pm to 1:49 pm on Sept 6th when LRV was in the yard for maintenance according to the footage.
- LRV14 - intermittent IOS56 : All ok on diag page now. Probably intermittent loss of comm. Video record checked (all cameras are in)
- LRV20 - persistent IOS56 + IOS65 : Not able to check, warranty to check tonight.
- LRV21 - intermittent IOS63 : Not able to check, warranty to check tonight.

8th and 9th Sept

- LRV07 - persistent IOS56 : Now solved : disk were not formatted after the installation of last SW.
- LRV08 - persistent IOS59 : Now solved : issue during the SW installation leading to SW defect even if NVR were recording.
- 9/7/2019 12:44:00 am. IOS56 reported. Video recordings are well there can be reviewed
- 9/7/2019, 6:57:00 am. IOS56 intermittent reported. Video recordings are well there can be reviewed
- 9/7/2019, 2:01:00 am. IOS56 reported. Video recordings are well there can be reviewed

AS 3204 - 5 - 02 - 11 - 13 10

10th Sept (not seen on DDR yet)

- LRV20 - persistent IOS56 - Now solved - NVR fixed - issue (firmware issue)

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Video Recording - IOS 55 to 59 (page 2/2)

Quick summary :

- persistent IOS59 : 3 occurrences, all solved.
- persistent IOS56 : 3 occurrences, 2 solved, 1 to check (LRV20).
- persistent IOS56 + IOS65: 2 occurrences, most probably loss of comm, 1 to check (LRV20). Video-recording healthy
- Intermittent IOS56 : 1 occurrences, most probably loss of comm. Video-recording healthy
- Intermittent IOS56 + IOS65: 1 occurrences, to check (LRV11), probably loss of comm. Video-recording healthy

Following change in software, full redundancy between both NVR for onboard cameras (since April 2019).

IOS 56 is an 'End of Line » and IOS 59 is an « End of Day »

Recommendations :

A persistent IOS059 means that only one NVR is recording and therefore maintenance task before relaunching the LRV is mandatory. No change from the Operation/Maintenance instructions.

For IOS056 experienced (except LRV7 with faulty NVR for days), the system is still recording (at least one NVR), from the checks made with video files from the server room. Both NVR real failure in the same time is very unlikely (statistically) and only seen once with LRV07 which remained with faulty NVR for days.

Until we stabilize the communication issue all over the fleet, specific attention to be made on IOS059 in the V-MOS to send LRV with the full redundancy.

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Public Announcement - IOS 63

Below some details :

6th and 7th Sept

- LRV11 - Intermittent IOS56 + IOS65 : Not able to check, warranty to check tonight. Most probably loss of comm as both IOS in the same time.
- LRV12 - persistent IOS56 + IOS65 : All ok on diag page now. Probably loss of comm because both IOS in the same time
- LRV13 - persistent IOS63 : All ok on diag page.
- LRV20 - persistent IOS56 + IOS65 : Not able to check, warranty to check tonight.
- LRV21 - Intermittent IOS63 : Not able to check, warranty to check tonight.

Quick summary :

IOS63 can be linked to either loss of comm between MPU/PIS or MPU or PIS loss at some point or PEI not being seen on the network for a very short period, which we need to understand and fix but which is not preventing it to function correctly.

Following remarks during the drills done by the City, we went to check the LRV11, 12, 15 and 17 and all was ok (except for LRV7 no cam appearing at the DDU at some point but the comm between PEI and driver was ok).

Recommendations :

PEI auto test from the DDU incorporated in the daily inspection (rather than weekly basis), to ensure system integrity when launching LRV. This measure until the fleet is stabilize (less than one fault found during daily inspections for 5 consecutive days)

Then the intermittent IOS063 and IOS065 codes should not prevent using the LRV.

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Other topics

MPU software :

All the fleet implemented but TS2, TS13 and TS14, in version 1.2.5.2

As per Monday Sept 9th, in case of both MPU crash (TCMS ERROR on DDU) on the mainline, as a temporary measure, OC-Transpo is allowed to cycle the MPU breaker (upon Alstom approval).

Please note that after MPU reset, doors shall also be cycled at the next station in order to relaunch the weighting algorithm

Segregation (24/96V) :

4 trains partially done since last week

12 trains remaining for segregation : TS3, TS4, TS5, TS6, TS7, TS9, TS10, TS11, TS12, TS15, TS19, TS24

Target to complete segregation by October 6th

Passenger's doors:

14 doors isolated since August, 24th (software regressed to 1.2) over the fleet confirming that regression leads to less than one occurrence per day.

Fleet monitoring (door isolated, sensitive edge, adjustment,...) done by VAPOR

Other topics

Traction faults :

- Analysis of the sequence leading to CPU watchdog (HSCB => Line Contactor => all 3 TCU)
- 24 line contactors Rev C installed on the fleet, completion of the fleet by December 2019.
- Impact from "Catch-up mode" still to be estimated. Date for getting the information ?

Tunney's Pasture vicinity :

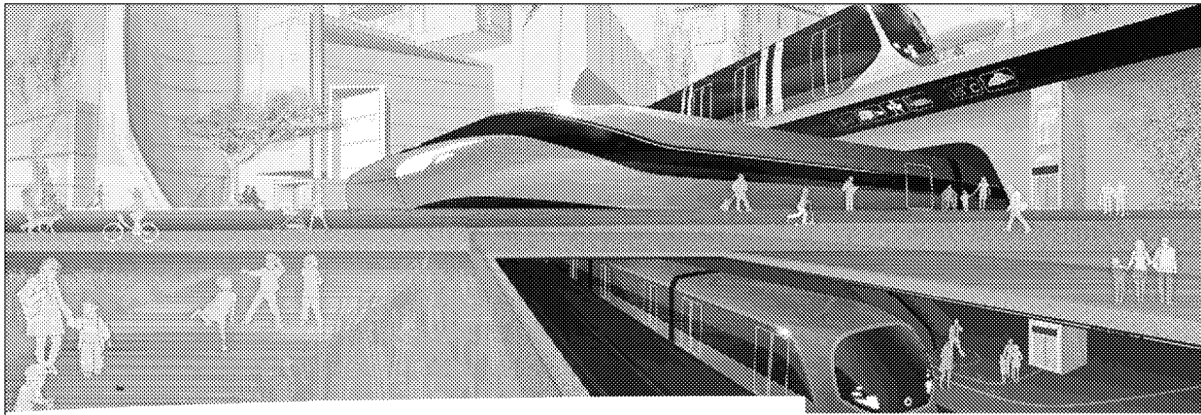
Workforce launched by OLRTC to review these events which includes loss of VOBC, some EB's and loss of both MPU.

Noisy Bearings :

8 occurrences last week of squeaking noise coming from inter-car area

1 bearing removed from TS27 for deep investigation, in progress

Other noisy bearing greased as per supplier's recommendations (no grease @ first assembly but use of grease in case of noise).



Main events analysis

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Events during Trial Run

From last week presentation

Open	Asset ID	Work Order	Description	Sub-system Reported	Operational context (from YCC)	Remark
2019-08-08 21:35:00	IRV10-12	9918	ERO 5 Hamilton reports KCS code 074 on IRV10	Traction	<p>ERO reporting of KCS code 074 on both trains.</p> <p>21:08 Reg disconnected and RS advised as well.</p> <p>21:09 ERO advised to switch ends and the train will be routed to the RMR</p> <p>21:09 Train EB at Tremblay due to obstructed motion</p> <p>21:09 ERO reporting no stop/stop after RM routing clearance was issued.</p> <p>21:50 Direction DW DS implemented.</p> <p>21:51 RB and PA announcement issue at tremblay.</p> <p>21:57 Train notified via phone.</p> <p>22:03 Alton tech manual contacted M1 on Radio and will be at tremblay in 20 minutes.</p> <p>22:21 - Alton tech on location.</p> <p>22:30 - No extra ERO was available for replacement train IRV10-IRV20</p> <p>22:40 - Alton techs fixed the issue and confirmed that they reset the PCE's and will investigate further from train logs. M1 decided to send the train back to RMR.</p> <p>22:58 - Removed from MR</p> <p>23:00 - Full line 1 service resumed.</p>	<p>Power tripping on IRV10 only, root cause under investigation by traction engineers, seems not to be only due to thermal protection (see other events).</p>
2019-08-07 13:47:00	IRV17	9971	At 1050 hrs, Train DA/17 lost 1 VCB at Blair track2 and then EB'd due to obstructed motion. ATS showing train 17 lost communication with TCMS.	Others	<p>Train DA/17 lost 1 VCB at Blair track2 and then EB'd due to obstructed motion. ATS showing train 17 lost communication with TCMS.</p> <p>11:05 AT troubleshooting with DA/17 - advised to go to the trailing train to reset necessary.</p> <p>the MPM breaker - walked two MPM - it did not work. AT advised it was because there was still an active EB in the other train - ERO switching train to reset the EB.</p> <p>11:06 - EB reset successful.</p> <p>11:06 - AT advised TCM will call us and advise if DA/17 is coming off or not.</p>	<p>First issue VCB lost for unknown reason, then the limit of MPM opening was reached due to EB, so the reset of MPM was necessary.</p>
2019-08-08 08:48:00	IRV12	10005	ERO reporting immediate stop and EB	Others	<p>EB 42</p> <p>ERO reported an immediate stop on his DMU - train stopped just outside HUR track 2 - then the train disappeared and movement resumed. His period again at the track 2 - then train EB'd between switch 317 and 320 due to obstructed motion.</p> <p>08:34 EB'd again - immobilized between switch 317-320</p> <p>IRV12 IRV14's dsk behind IRV12 IRV14 track protection in gravel</p> <p>08:35 IRV12 IRV14 moved out of the way and joining service</p> <p>08:35 MSA issued to Alton tech to reach the train</p> <p>08:47 TOP in effect for alton to get under the train - all train movement's halted</p> <p>08:56 - movement resumes, TOP cancelled</p> <p>10:05 - TOB to remove the train in out - out</p> <p>10:09 IRV12 IRV14 hook in connector - viewed on CCTV - permission to remove the train as per SUEP</p> <p>10:10 train removed from main</p> <p>10:10 MLC took TOP to clear NCD between SW 317-320 on track 2</p> <p>10:11 - NCD cleared</p>	<p>Towed - Connection issue on a current return found issue</p>

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Events during Trial Run

From last week presentation

2019-08-09 23:06:00	LRV09	J0101	<p>ERO 5 Kemp on LRV 03/09 reporting Brake fault: on LRV 09 on brake set #1 unable to reset or isolate.</p>	<p>Mechanical Brake</p> <p>Rail log ID 103 ERO reports an immediate stop. Kcon on her signal box. When Kcon went away, but brake fault #01 in LRV09. - RS 207 (At least one Brake is under major fault) 22:46 - Help Desk notified 22:47 - ERO Isolated Brake 22:48 - EB due to obstructed motion 22:50 - Help desk called back to say Alstom will call. 22:50 - ERO made on-board passenger announcements 22:51 - SUFT and Rail supervisors notified 22:51 - strategic holds put in place at HUR-W, TRE-W, RID-E 22:52 - Alstom called ERO on COMFED 2 to troubleshoot 22:53 - Tray notified 22:53 - DWS2 diversion implemented (single tracking between HUR-E and UOT-E) 22:56 - LRV had another EB after believed to be fixed. 22:57 - PDS updated and passenger announcements (AB) made by MLC and appropriate platforms closed. UOT-W / LEE-W / HUR-W 22:59 - Alstom advises they must come to the scene at LEE STN because radio troubleshooting is not working. 23:04 - Yard asked MLC if they want another train. MLC advised yes, and ERO Baldwin contacted, but only ETC available at YUN. SUFT Azer will transport. 23:10 - LRV09-LRV031 at handover platform 12 23:27 - Alstom arrived on scene. 23:36 - LRV29-LRV31 departed handover platform 23:42 - LRV29/LRV31 entered mainline and began service at TRE-E 23:47 - M-06-043 in effect for LRV troubleshooting 23:47 - TSR of 30 kph on track 02 between UOT-E to HUR-E for adjacent track protection because Alstom tech will be outside of the train. 23:55 - SCARD connected LRV03-LRV09 for an update/ETA. Still troubleshooting and will try to just get LRV off the mainline. 23:55 - PDS updated and passenger announcements (AB) made by MLC and appropriate platforms closed. UOT-W / LEE-W / HUR-W</p>	<p>Changed both main pressure hoses (leaking) MLC</p> <p>Alstom report : Was called about the issue around 11 o'clock, we tried to resolve it over the phone however could not. The driver did not mention at first that the train was unable to move at all so we wanted to confirm that an Alstom tech was actually needed on the mainline. Once we had a confirmation, moved to Lees Station. Found that the HPU had no pressure at this point and was unable to release brakes. Around midnight, obtained a TGP through the ERO to access the tracks and release the brakes manually. Try to get the train to move like this however the train was still seeing a major fault with brakes as being applied due to the lack of pressure. Decision to organise a rescue around 1am. Few more attempts with second technicians on site to release the brakes. Around 2:30, we were able to get the brakes to release this time and were able to drag the train back with LRV03.</p>
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Events during Trial Run

From last week presentation

2019-08-13 13:34:00	IRV15	10654	IRV15/30 reporting IOS74 at HUR, track 1. Help Desk notified. Will be removed from Mainline	<p>Traction</p> <p>ERG reporting IOS 074 (Traction major fault level 2) in IRV30. This is a withdrawal code and will be sent to the NSP.</p> <p>13:32 - Help Desk notified and IRV15/IRV30 will replace this train.</p> <p>13:37 - EB due to obstructed position trying to leave HUR-W</p> <p>13:37 - PDS updated and announcements made</p> <p>13:38 - IOS 374 (Traction major fault level 2) in IRV 15 also.</p> <p>13:38 - System Hold, ERS and SUPT</p> <p>13:40 - Diverter implemented. UCT-TUN and HUR-BLA</p> <p>13:41 - PDS updated and announcements made</p> <p>13:42 - notified for answer - 13:46 answered</p> <p>13:51 - Help Desk contacted to advise they are unable to contact Alstom Supervisor</p> <p>13:52 - Yard advises they have 2 trains for afternoon ramp up 07/33 and 12/26. No replacement train available for IRV15/30</p> <p>14:00 - EB reset by ERG. IOS codes still showing</p> <p>14:01 - Alstom Tech advises on route and ETA 15min</p> <p>14:04 - ERG advised successful PCE reset, no IOS codes now.</p> <p>14:15 - IRV15-IRV30 removed from mainline and full loop resumed.</p>	<p>No issues were found, logs were taken from TCMS and sent to traction engineers for further investigation.</p>
2019-08-14 06:40:00	IRV05-20	No Worker found	NA	<p>TCMS</p> <p>ERG at BLA-W reporting lost 1 VORC. TCMS</p> <p>Yard contacted at 06:41 and COMMS also advised ERS at location and Alstom Tech advised.</p> <p>6:52 AM Alstom Tech leaving TUN on a train to attend to IRV at Blair</p> <p>6:54 AM Called feet and no train replacement at this time</p> <p>07:08 ERG called informing he has 4 cars and 2 VORC. Clear for operation and for ER upon departure.</p> <p>07:08 Informing that a full train reset needs to be done.</p> <p>07:13 Full train reset done.</p> <p>07:55 Clearance issued to Train to regain communication/position</p> <p>08:03 Train communicating and will be returning to the MP</p> <p>ERG ER at St Laurent Track 2 obstructed position and immediate stop. IOS Code</p> <p>074 on IRV15. Yard contacted</p> <p>6:05 AM reset Propulsion</p> <p>6:11 AM Train EB again</p> <p>6:12 AM Verbal clearance to move to Cyrville</p> <p>06:20 PIR Fan boarding Train at Blair to get to train at St Laurent</p> <p>06:42 PIR Fan working at SL</p> <p>06:43 AM PIR Fan boarding Train at St Laurent</p> <p>06:54 Train exiting ML</p>	<p>First issue VORC loss for unknown reason, AT report AT tech was on the train as we had the TCMS error on IRV5. They tried to reset the MPU then the circuit breaker but as per AT tech it didn't come online. So he relocated the MPU. Train went to Cyrville St from Blair for parking position as per the ERG driving the train it didn't gain position, NVT AT said train gained position at Cyrville but still mainline sent the train back to yard. We uploaded the New MPU release on this MU 1.2.5.2</p>
2019-08-15 06:16:00	IRV15-30	10873	ERG K. Scantlebury reporting emergency brake and an immediate stop at St. Laurent track 2 and IOS 074, unable to move in ATPM and RM.	<p>Traction</p> <p>ERG at BLA-W reporting lost 1 VORC. TCMS</p> <p>Yard contacted at 06:41 and COMMS also advised ERS at location and Alstom Tech advised.</p> <p>6:52 AM Alstom Tech leaving TUN on a train to attend to IRV at Blair</p> <p>6:54 AM Called feet and no train replacement at this time</p> <p>07:08 ERG called informing he has 4 cars and 2 VORC. Clear for operation and for ER upon departure.</p> <p>07:08 Informing that a full train reset needs to be done.</p> <p>07:13 Full train reset done.</p> <p>07:55 Clearance issued to Train to regain communication/position</p> <p>08:03 Train communicating and will be returning to the MP</p> <p>ERG ER at St Laurent Track 2 obstructed position and immediate stop. IOS Code</p> <p>074 on IRV15. Yard contacted</p> <p>6:05 AM reset Propulsion</p> <p>6:11 AM Train EB again</p> <p>6:12 AM Verbal clearance to move to Cyrville</p> <p>06:20 PIR Fan boarding Train at Blair to get to train at St Laurent</p> <p>06:42 PIR Fan working at SL</p> <p>06:43 AM PIR Fan boarding Train at St Laurent</p> <p>06:54 Train exiting ML</p>	<p>1 TCMS/CPU replaced, root cause under investigation by traction engineers.</p>

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Events during Trial Run

From last week presentation

2019-08-15 06:51:00	LRV09 10876	TCMS on LRV 09	<p>TCMS Train EB TCMS 06:47 Train contacted and ERS also informed. 7:00 AM Train removed from MK</p> <p>Others ERO is reporting an immediate stop size in the MC1 cab of LRV01. TOD shows only 4 cars and 1 VOBC and DDU does not show the trailing LRV12. MLC ATS shows 8 cars, 2 VOBC. Attempts to move result in obstructed motion fault with EB activation Supervisor notified, platform closed. 15:30 MIM notified, Alstom will arrive 15:39 Alstom Tech called ERO on Confe 2 15:47 Alstom Tech received 20:27 Alstom Tech requests 5/8 shutdown and reset of LRV 20:51 - M-08-071 in effect to regale position of LRV 21:05 - Reopened open mainline. To be replaced by LRV17-LRV28 ERO reporting: Communication loss with TCMS with 1 lost VOBC 0802 - Yard and Sign has been notified for spare train and spare ERO. 0802 - PDS and PA announcements are done for Statute Closure at Tunney's Pasture 0802 - Alstom Tech was notified on Confe 1 to attend (Track is at Tunney's Pasture) 0821 - LRV 01/22 routed back to MSB via West Connection 0823 - LRV 04/13 is on standby in East Connection (waiting to join the loop) 0823 - Replacement LRV 04/13 launched on the Mainline. 0835 - Off Mainline and ERO will be in MSB as an Extra. Left on duty is aware.</p>
2019-08-16 19:43:00	LRV01-12 11046	01/12, ERO is reporting an immediate stop icon in the MC1 cab of LRV01. TOD shows only 4 cars and 1 VOBC and DDU does not show the trailing LRV12, LRV then suffered multiple Ebs	<p>Others ERO reporting: Communication loss with TCMS with 1 lost VOBC 0802 - Yard and Sign has been notified for spare train and spare ERO. 0802 - PDS and PA announcements are done for Statute Closure at Tunney's Pasture 0802 - Alstom Tech was notified on Confe 1 to attend (Track is at Tunney's Pasture) 0821 - LRV 01/22 routed back to MSB via West Connection 0823 - LRV 04/13 is on standby in East Connection (waiting to join the loop) 0823 - Replacement LRV 04/13 launched on the Mainline. 0835 - Off Mainline and ERO will be in MSB as an Extra. Left on duty is aware.</p>
2019-08-17 8:11:00	LRV01-12 11152	VOBC not available for LRV12 coupled with LRV01	<p>Others ERO reporting: Communication loss with TCMS with 1 lost VOBC 0802 - Yard and Sign has been notified for spare train and spare ERO. 0802 - PDS and PA announcements are done for Statute Closure at Tunney's Pasture 0802 - Alstom Tech was notified on Confe 1 to attend (Track is at Tunney's Pasture) 0821 - LRV 01/22 routed back to MSB via West Connection 0823 - LRV 04/13 is on standby in East Connection (waiting to join the loop) 0823 - Replacement LRV 04/13 launched on the Mainline. 0835 - Off Mainline and ERO will be in MSB as an Extra. Left on duty is aware.</p>
2019-08-18 17:48:00	LRV18-25 11276	ERO reports that the train suffered ATS COMMS LOST 10 times between 16:45 and 17:40.	<p>Others ERO reports that the train suffered ATS COMMS LOST 10 times between 16:45 and 17:40. 18:00 - Immediate Stop Icon: HSCB tripped, PCE fault. After 1 minute, all faults cleared. Help Desk notified. Alstom will meet train at BLS STN. MLC decided to replace this train with LRV19-LRV28 and remove LRV18-LRV25. 18:12 - Alstom Tech boarded train and asked if train could remain in service, but MLC wants LRV19-LRV28 to replace it because LRV18-LRV25 is showing multiple problems. 18:15 - LRV18-LRV28 launched from handover platform 11. 18:20 - LRV18-LRV28 entered mainline. 18:23 - Began service at STL W on Run 138 18:37 - LRV18-LRV28 exited mainline. Event Closed.</p>

ALSTOM - 5 - 2019-08-18

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Events during Trial Run

From last week presentation

2019-08-19 14:52:00	LRV18-4RV25 11344	LRV18/25 emergency braked BAY, Track 1. ERO did not get an alarm for the EB and neither did MLC. LRV18 VOBC is non-communicating at TUN, track 2.	Others	<p>LRV18/25 emergency braked BAY, Track 1. ERO did not get an alarm for the EB and neither did MLC. LRV only has 1 VOBC. Moved to TUN.</p> <p>LRV18 VOBC is non-communicating at TUN, track 2. 3 second reset authorized.</p> <p>-1443 hrs. Help Desk contacted for replacement. No replacement available</p> <p>-1445 hrs. Alstom Tech en route from BAY</p> <p>-1451 hrs. VOBC power was reset.</p> <p>-1500 hrs. Alstom unable to get VOBC back.</p> <p>-1502 hr. SUPT BOURGEOIS authorizes to remove train in ATPM.</p> <p>-1509 hrs. Alstom Changreer authorizes train removal in ATPM.</p> <p>-1519 hrs. VOBC came back.</p> <p>-1534 hrs. LRV removed from Mainline</p>	09/03/2019 - coupler train line issue found and fixed. To be monitored
8/20/2019 13:23:46		ERO reporting MCI cab of LRV10 losing HVAC when he keys out and the cab is getting too hot - Alstom to see the train at TUN	Others	<p>ERO reporting MCI cab of LRV10 losing HVAC when he keys out and the cab is getting too hot. Alstom to see the train at TUN</p> <p>12:08 ERO advised HVAC is now completely off in the train. Helpdesk contacted</p> <p>10:11 Alstom advised train should be removed from service due to HVAC</p> <p>10:12 Helpdesk contacted to have the spare train ready - ERS M Oakley contacted to have an ERO staff replacement train</p>	CVS team CAN issue. CVS was reset and fault was cleared. Under observation
8/20/2019 21:12:00	LRV10 LRV16-26 11445	NA	Others	<p>LRV16/26 emergency braked due to mode changed while the train is moving at SW 304 on track 1.</p> <p>-21:12 hrs. EB reset.</p> <p>-21:13 hrs. Help Desk contacted.</p> <p>-21:16 hrs. Alstom Tech Munir advised to troubleshoot on Control LND.</p> <p>-21:15 hrs. DR 2 Drivers/br implemented with shuntle between TUN-LND, track 2</p> <p>-21:17 hrs. FR and PDS announcements made.</p> <p>-21:21 hrs. Rail Sup K. BAKSH contacted to attend.</p> <p>-21:32 Vehicle was cleared by Alstom tech.</p>	CB tripped. K's fixed. Driver operating issue
	NA		Others		

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Events during Trial Run

From last week presentation

8/28/2019	LRV3-6 12099	Immediate stop on signal box that then disappeared - train is unable to move from the fouling point of switch 328	<p>Immediate stop on signal box that then disappeared - train is unable to move from the fouling point of switch 328 - On control line 2 with Alstom - Alstom advised to put maximum effort on his traction</p> <p>No diversion implemented as train is in ML TGP during switch testing</p> <p>16:59 ERM Allen went to the train under MEC TGP to assist - ERM switched to west cab to see if train could move west</p> <p>17:07 ERM in west cab attempting a traction test</p> <p>17:09 Train was able to move WB - Proceeding to CYR track 2 to be routed in</p> <p>17:10 YCC notified that train will go in the west connector</p> <p>17:15 train is off the mainline</p>	Event under investigation
8/28/2019	LRV4-23 12094	Immediate Stop light on signalbox, loss of traction, audible alarm, Currently perked at TUN Tr2	<p>EB - Immediate Stop Indicator just past SW1302, TOCC Alstom tech notified as well as HD. Train has no traction and is stuck there.</p> <p>Alstom tech talking and trying to get a resolution on line 2</p> <p>3:10 PM Train is moving to BAY-E</p> <p>3:18 PM Train is moving to TUN-E and will be parked there for the time being as per TOCC Superintendent</p> <p>3:20 PM YC confirms no spare train available</p> <p>21:21 - LRV 04-23 removed from mainline</p>	Train launched with 2 different segregation applied. Train brought back and separated, couple made with same configuration trains. Operational issue.

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Events during Trial Run

From last week presentation

8/30/2019 LRV10-15

ERG on LRB10/15 reporting LRV 10 EB'd due to an uncommanded motion and HS CB. Traction break handle breaker tripped. Train showing a black 'X' on ATS

21:37 - ERG T. Burke on LRV 10/15 reporting on LRV 10 MCI Cab. The LRV EB'd due to an uncommanded motion and the High Speed Circuit Breaker Tripped. Traction Break Handle Breaker tripped as well with an audible alarm. The Train EB'd just west of BAYVIEW Track 1 and is currently positioned on the crossover from track 1 to track 2 fouling SW 301, 302, 303 and 304. Train showing a black 'X' on ATS. Mode selector shows as "OFF".

21:38 - ERG T. Burke reporting EB Reset Successful, showing distance to get hot no depart, MLC asked ERG to verify if TBH breaker was tripped.

21:41 - Help Desk Notified. ERG also advised MLC that an Alstom tech was in fact on board the LRV. Also confirmed that F6 LRV was in fact fouling switches at the Torrey's Crossover. (301,302,303,304)

21:45 - SUP D. Balfour aware of situation

21:48 - ERG T. Burke reporting in the MCI cab of LRV 10 the TBH breaker has been tripped. SCADA control advised ERG that with the Alstom techs permission he may reset the TBH Breaker.

21:49 - ERG unable to reset TBH breaker

21:50 - Troy Chaves notified.

21:50 - MLC advised that TBH breaker is unable to be reset. (Unable to move LRV. LRV is fouling all switches at Torrey's. Train movement over 301, 302, 303 and 304 is impossible at this time.)

Customer Service notified, station announcements made.

21:51 - ERG switched to FM. Mode selector still shows as "OFF"

21:52 - ERG advised SCADA control that the Alstom Tech attempted to reset the TBH breaker himself but was unsuccessful as well.

21:53 - Mainline diversion implemented. (Blair to Lyon Overhead 1.5)

21:53 - ERG T. Burke reporting Alstom employee on board is not an actual Alstom Tech and actually a customer service employee from "Canton" and unable to assist further. (This employee gave ERG permission to reset TBH Breaker within Operator Cab as well as attempted to reset the breaker himself)

21:55 - MLC contacted Help desk and advised the Employee on board LRV10/15 is not an actual Alstom Tech and a qualified Alstom Tech is needed to assist with the situation.

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Events during Trial Run

9/2/2019	LRV21-31	12545	LRV21/31 lost the VBC for LRV21 at PEITE and MLC received multiple high priority alarms, "FWD/REV output failure detected"	LRV21/31 lost a VBC at TUN-W. LRV21 went passive. Alstom was on board. Tech wanted to do a train reset. It was denied. 1443 hrs, LRV21/31 removed from Motroline. LRV21/31 lost the VBC for LRV21 at PEITE and MLC received multiple high priority alarms, "FWD/REV output failure detected". MLC refused to launch it as the 13th train. ERO U Sharma reports an EDR activation from LRV22 door 10 at LYOSTN track 1. Had to switch to EM to close the doors. Then had an activation from LRV07 door 09, has to switch trains to check the door. Had Caution on board and was able to isolate the door (door 09 on train 07). Delay of 343 seconds on LRV07-LRV12 and delay of 136 seconds on LRV10-LRV15 at PMA track 1. ERO reports that the EDR was not pulled and didn't need to be reset (even though it was showing as activated).	Loss of communication under investigation. Cabling of VBC input from train to be done. F good, con/rev VBC failure.
9/2/2019	LRV7-12	12547	ERO reporting that the EDR for door #10 was activated and is trying to secure it	Microswitch in door mechanism to be readjusted, done	
9/3/2019	LRV30-31	12592	HSCB opened, train EB. This info did not come up on the ATS as an alarm. Train is currently immobilized at TUN-E.	90V power supply found faulty, has been replaced	
9/4/2019	LRV5-9	12637	LRV05/09 lost communication with TCMS and then emergency braked at TUN-E due to authorized crawlback. ERO unsure why the EB activated	7:15 AM Train is mobile, sending LRV30/31 back to the yard in ATC LRV05/09 lost communication with TCMS and then emergency braked at TUN-E. MPU logs under analysis due to unauthorized crawlback. ERO unsure why the EB activated. 1443 hrs, Alstom Tech George dispatched by Alstom Tech Paul crawled forward. PB and HBS 3A activated 1445 hrs, Help Desk advises no spare available. 1448 hrs, Sup MITCHELL organized turn and bars at TUN-W 1532 hrs, Alstom Tech Manir on scene. 1534 hrs, Alstom Tech Manir advising train requires hard reset. It is the only solution. 1535 hrs, Help Desk advises Spare train LRV02/31 ready. 1538 hrs, Alstom cycled the breaker and got the train back. 1539 hrs, spare had not disassembled yet but was approaching the Zone 3/5 border. It was sent back to the yard. 1528 hrs, LRV05/09 back to service. A full loop of service trips were missed.	

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ALSTOM, ERO, HSCB, MLC, PEITE, TUN-W, TUN-E, LYOSTN, PMA, ATC, MPU, TCMS, EB, EDR, FWD/REV, VBC, HBS, PB, MITCHELL, Manir, George, Paul, Manir, MITCHELL, Help Desk, Spare train, LRV02/31, Zone 3/5, hard reset, crawlback, authorized, emergency braked, immobilized, train, yard, ATC, MPU logs, analysis, disassembled, border, service trips, missed.



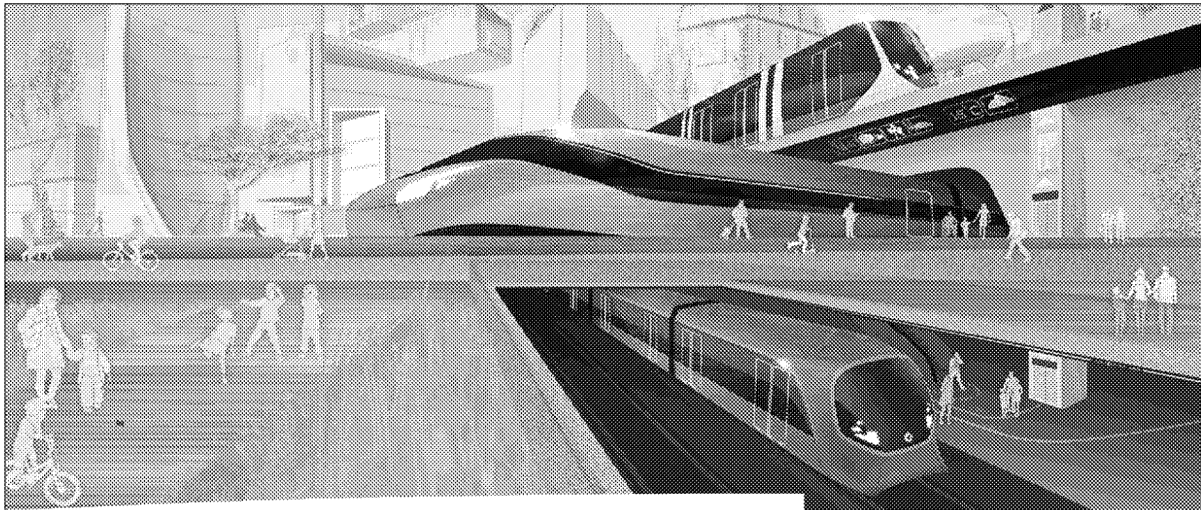
Events during Trial Run

<p>9/4/2019 URV6-19 12726</p>	<p>URV06-URV19 EB'd at TUN str and have lost communication with TCMS</p>	<p>Train EB on track 2 on track and alarm received from TCMS failure. 17:35 Train removed service at Turney PA announcement made and platform was cleared. Alstom tech Munk on location and is investigating. 17:40 PS R. Arora and Sup B. Blake advised. 17:50 Alstom tech advises MLC that the train is free but not for fit service and will be routed to the HRP. 17:53 Alstom tech advised to avoid TCMS failure to get the EROs to relay keying in the other cab by approximately 30 seconds. 17:55 MLC made an announcement to all ERO on the mainline to inform them. 19:02 MLC made announcement to all ERO on the mainline that the previous message has been rescinded in regards to keying too early.</p>	<p>MPU logs writer analysis</p>
<p>9/5/2019 URV25 12817</p>	<p>ERO reporting brake fault on URV25</p>	<p>Brake faults in trailing URV (URV25) just outside of str. Speed dropped to 40 kph and unable to move. First fault happened at IVO but was cleared and then happened again. 17:26 Fault came back between UCI and IEE. ERO was instructed ALSTOM tech is waiting at TRB str. 17:37 Fault came back on URV 25 between CYB and BLR and speed dropped to 40 again. Alstom tech was on board with ERO. 17:38 Speed kept dropping down to 22 and train stopped. ERO and tech going to trailing URV 25 to assess brake issue. 17:45 Line 2 clearance in place. 17:46 ERO reset the brakes and is trying to move to BLR str. 17:51 URV is at BLR str and is instructed by tech to park it for a while. 17:52 Line 2 clearance cleared. Customer service was notified about delays. 18:34 Brake fault back at STE str. Alstom tech in/on board and attending. 18:40 Diversion Line 2 (TUR - STL) in place. 18:44 Train was immobile but stopped again with immediate stop light. 18:47 Train stopped and not moving. 19:06 Diversion changed to Diversion 6.8 (TUN-TRB). Alstom tech Munk on the way. 19:17 Alstom tech Munk on board now. FI/FIS have been sent out on regular basis. Customer service was notified. Conventional signposts and cones/bells are aware. 15 runs have been identified for use for R1 service along with 5 extras R1 is from HUR - BLR. 19:30 Diversion is clear with Line 1 loop in place. Train is off the ML.</p>	<p>"It was not able to build the ACC pressure to 1700. Audible noise is coming from the MPU when the pump is engaged which shows the Pump On/CRF line is working the MPU. This is telling me that the MPU pump is dead." MPU charged by Walter, on occurrence since.</p>

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