CHICAGO TRANSIT AUTHORITY

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MEMO:

DATE: December 14, 2023

TO: Nancy-Ellen Zusman, CTA Chief Safety and Security Officer

FROM: James Harper, Chief Engineer Infrastructure

RE: November 16, 2023 – Collision on Yellow Line Between Revenue Train and Snow Fighter
CTA Infrastructure Division Report on Early Post-Accident Investigation Tasks and Data Gathering

Event Synopsis and Corresponding Infrastructure

On Thursday, November 16, 2023, at approximately 10:30 hours in the morning, Chicago Transit Authority (CTA) Yellow Line Run #593 was operating as a two-car consist (lead car 5600) on a normal round trip towards Howard Terminal. As the train approached Howard Terminal in the southbound direction, it struck maintenance vehicle S500, a non-revenue, diesel powered locomotive used to remove snow from the tracks (also known as a Snow Fighter). There were six CTA employees onboard the Snow Fighter and 31 passengers and crew onboard the revenue train.

This memo provides a summary of the efforts by CTA Infrastructure Division to collect data around the time of the incident, and the results of early post-accident testing and analysis of the various infrastructure systems that were potentially involved in the accident. This report will be supplemented with additional reports that provide details on accident re-enactment efforts and a system-wide assessment of CTA's signal system design.

Accident Scene

Figure 1 shows an aerial view of the accident scene east of where southbound Yellow Line trains approaching Howard Terminal Facility pass under a CTA bridge supporting a turnback "loop" track. The Yellow Line passenger train collided with the southbound Snow Fighter as it was stopped and waiting for signal clearance into the terminal facility. Following the collision, the two vehicles "rebounded" away from each other and came to a stop approximately 20 feet apart. The passenger train sustained extensive damage to the front of the train, indicating a relatively high speed event had occurred. The Snow Fighter had less damage due to the presence of the broom attachment that absorbed much of the collision energy.

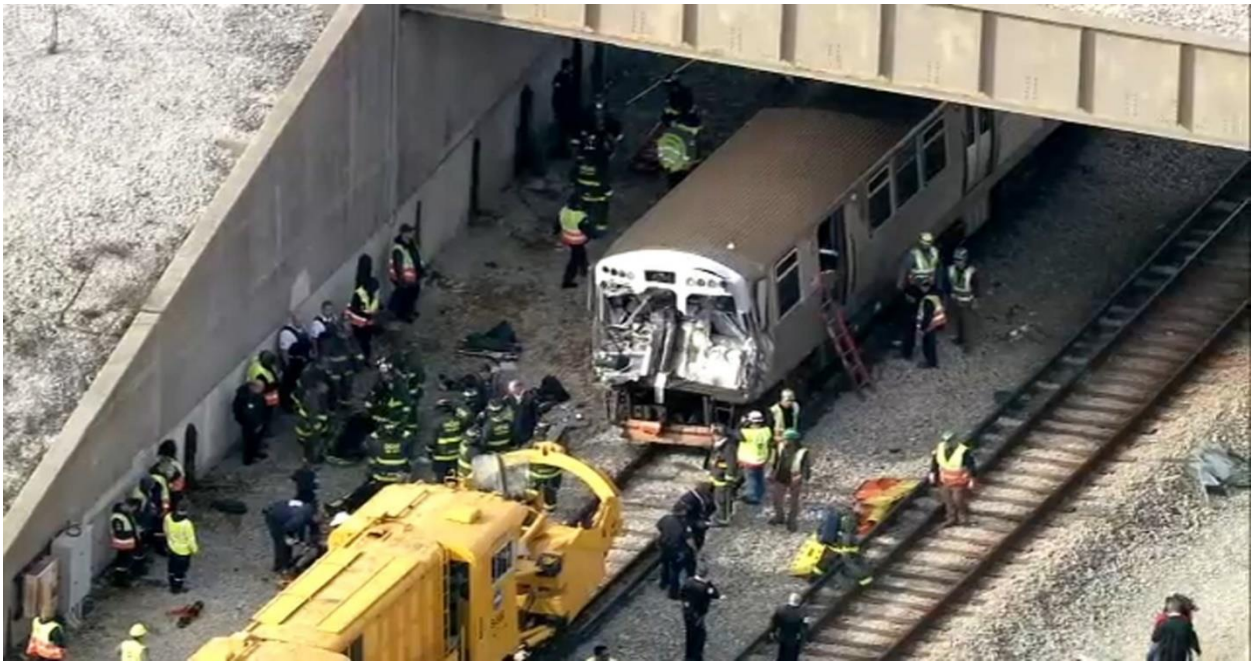
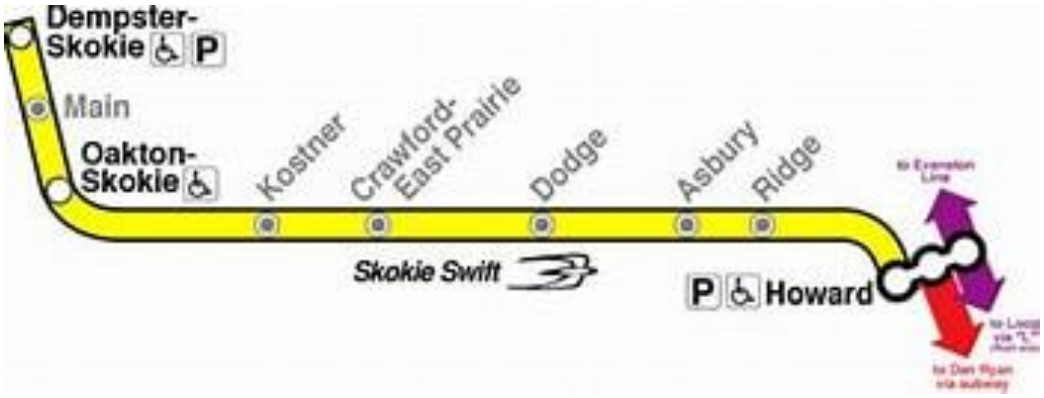


***Figure #1**: Photo of Accident Scene*

Yellow Line Route

Figure 2 below shows a map of the Yellow Line route. The Yellow Line provides a connection between the Howard Intermodal Terminal and two stops in the Village of Skokie (Oakton and Dempster). Under typical operations, two two-car trains operate on the Yellow Line with headways of around 10-12 minutes. Trains operate on a dedicated, two-track right-of-way leaving/approaching Howard Terminal in a depression, then rising to run on an elevated embankment structure, and finally running at-grade through a number of grade crossings while serving two stations. The trains reach speeds of 55 mph on a significant portion of the route. Note that CTA's heavy overhaul facility (Skokie Shops) is located approximately at the East Prairie crossing shown in the map in Figure 2 on the next page. Trains entering and leaving the Skokie Shops use the Yellow Line to connect to the rest of the CTA rail network at the Hamlin Crossover.



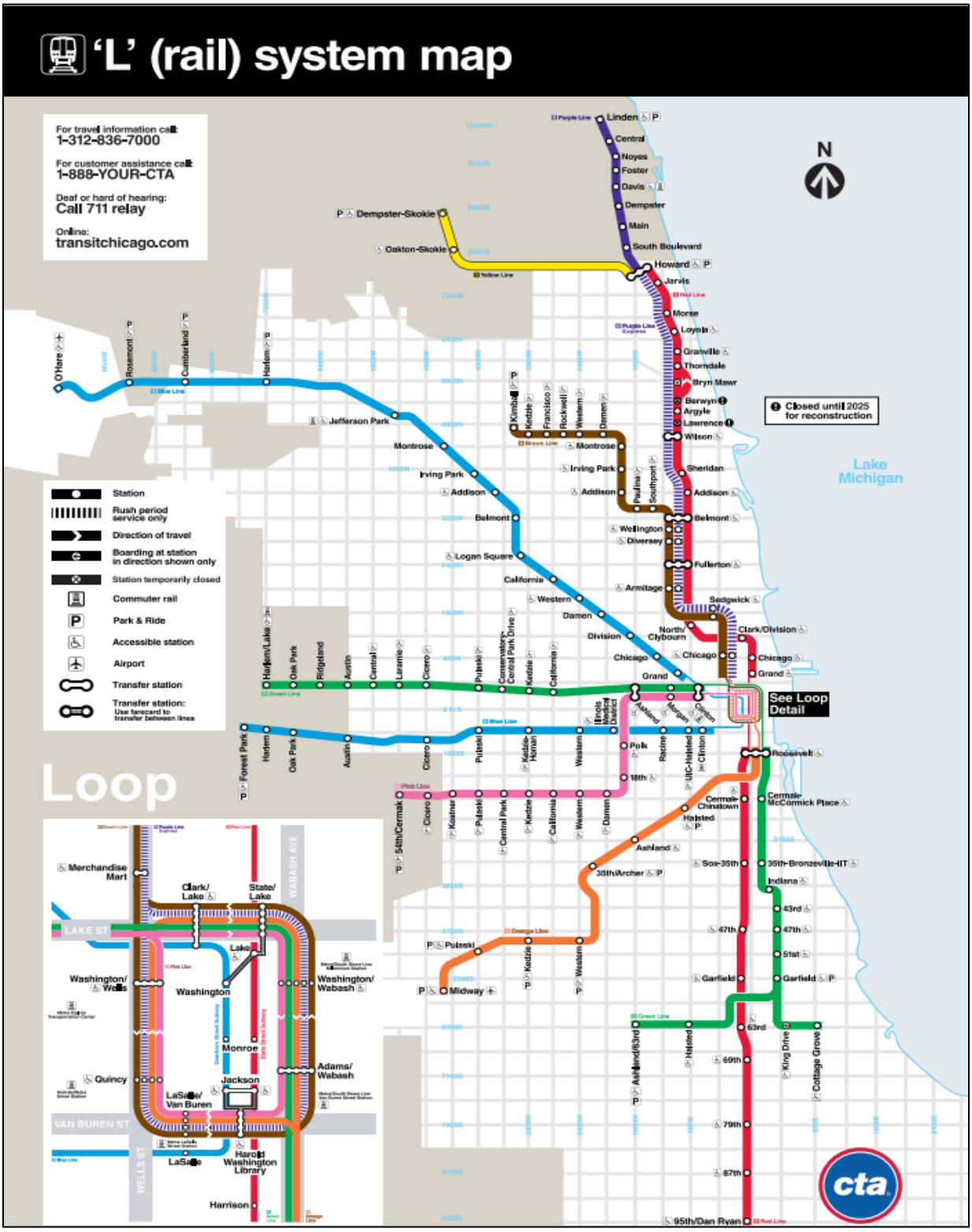


***Figure #2**: Route and System Map of CTA Yellow Line*

Figure 3 provides an aerial view of the Yellow Line tracks in the vicinity of the accident scene. Southbound trains returning to Howard Terminal (from left to right) operate on a downhill grade in a cut that runs under a number of bridges, including the Custer Avenue Bridge, a commuter rail (Metra) bridge, the Chicago Avenue Bridge, and finally a CTA bridge that allows a turnback loop track to pass over the Yellow Line tracks.

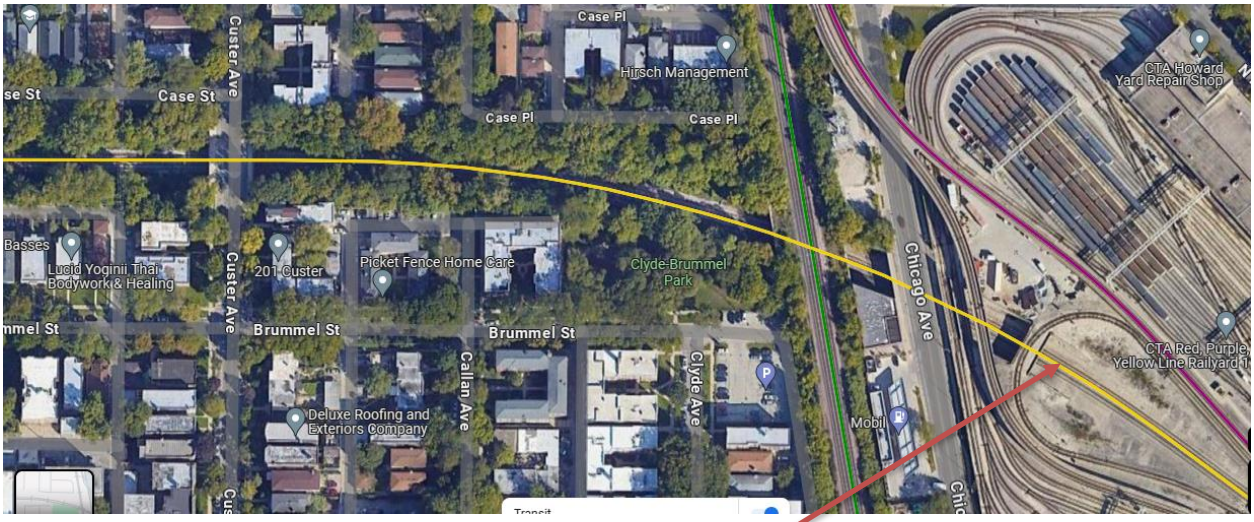


Figure #3: *Aerial View of Howard Yard and Yellow Line Track*

Track

Figures 4, 5, and 6 on the following pages provide track plans for the Yellow Line tracks approaching Howard Terminal, and the tracks associated with the Howard Terminal and Yard. Note that southbound Yellow Line trains approaching Howard encounter an approximately 1400 foot radius curve that limits the line-of-sight for train operators (see Figure 7A for a photo showing the perspective of a train operator when approaching the curve). Figure 7 provides the track profile for the Yellow Line tracks approaching Howard Terminal. Note that southbound Yellow Line trains operate on a negative grade of -1.9% as they approach Howard, providing for a more challenging braking environment, coupled with the horizontal curve at the bottom of the grade.

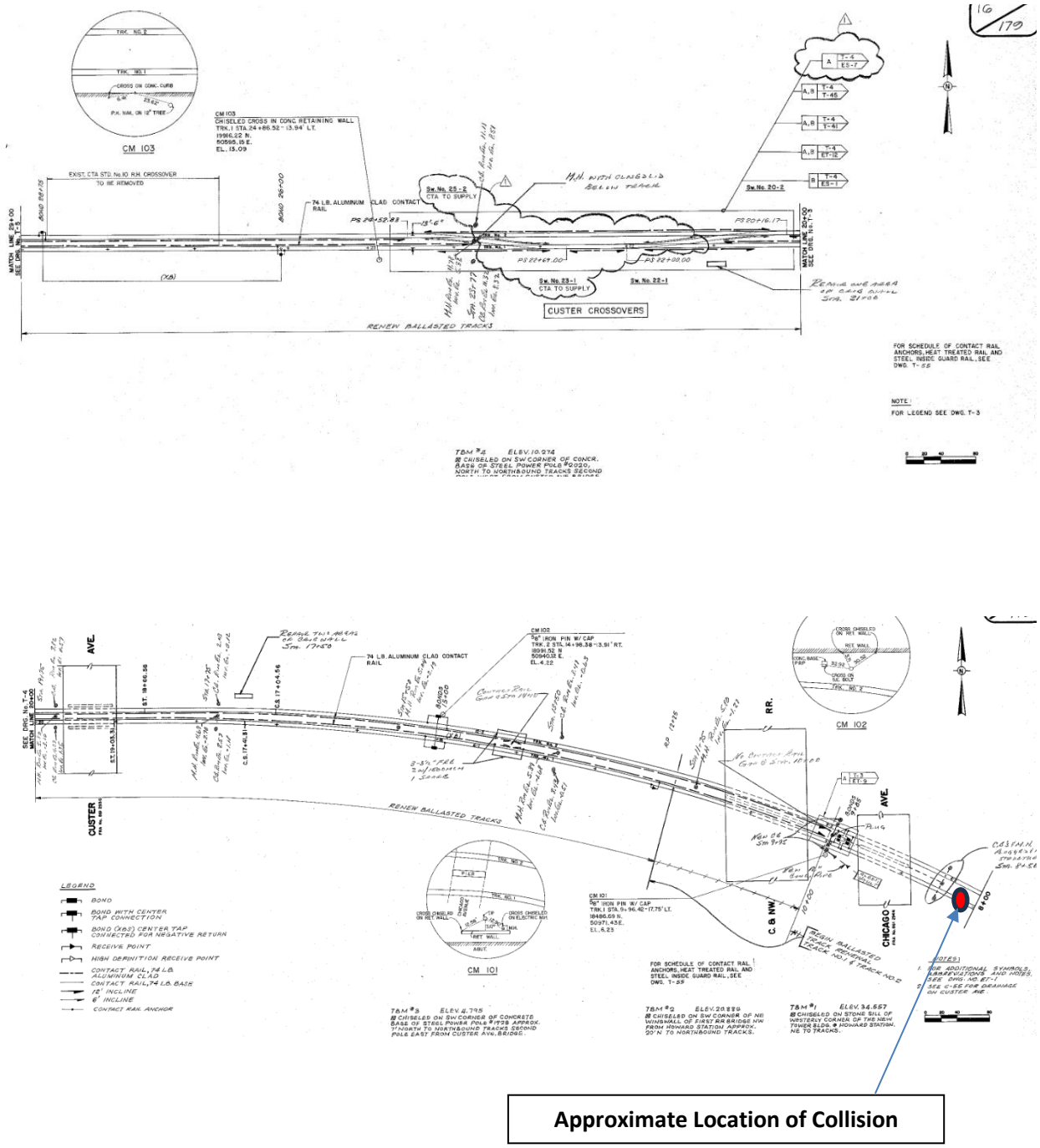


Figure #4: *Track Plan of Yellow Line Approaching Howard Terminal*

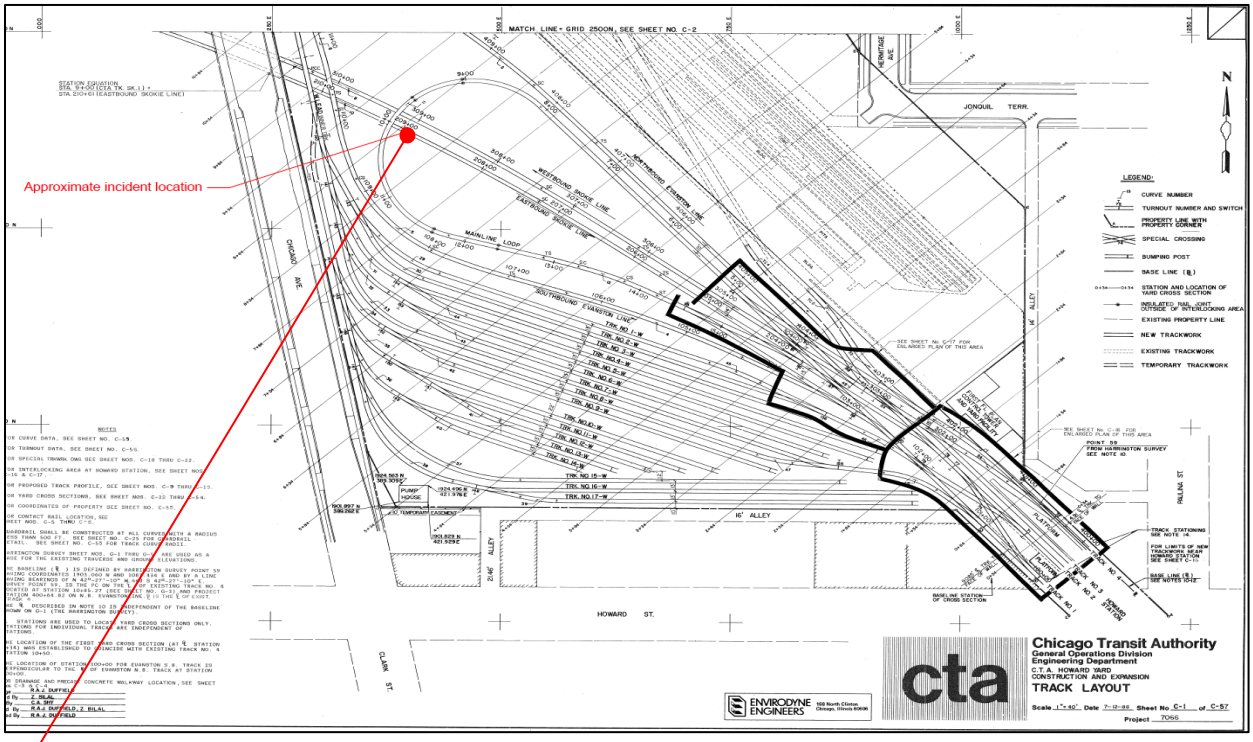


Figure #5: *Track Plan of Howard Yard*

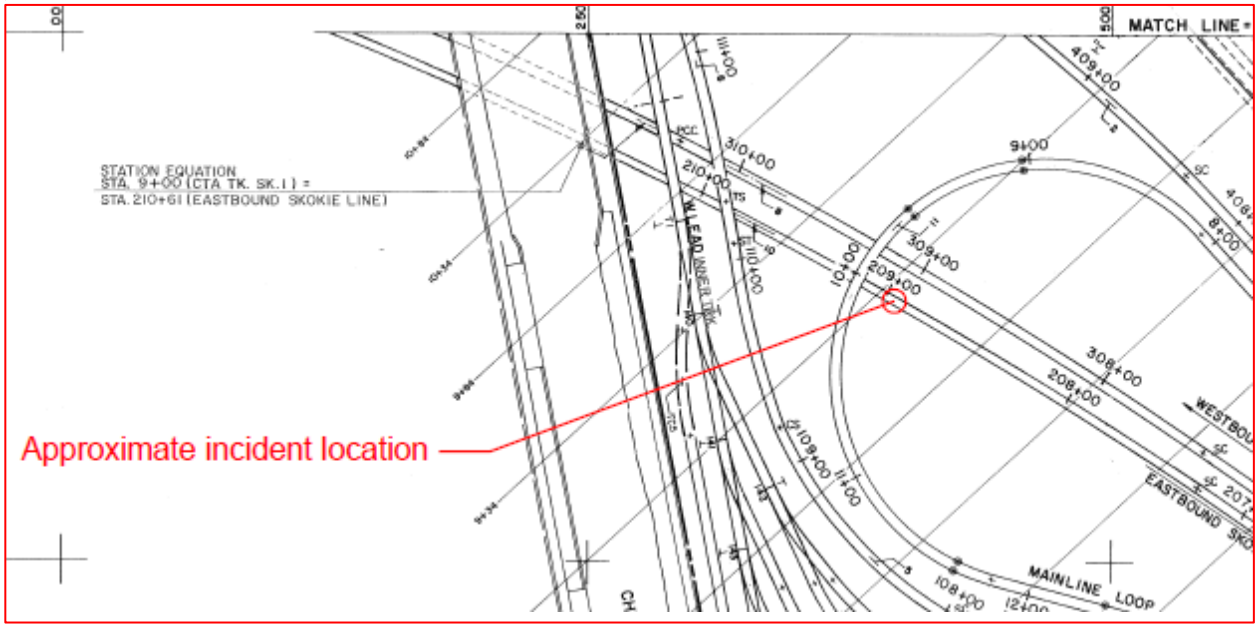


Figure #6: *Expanded Track Plan of Howard Yard and Accident Site*

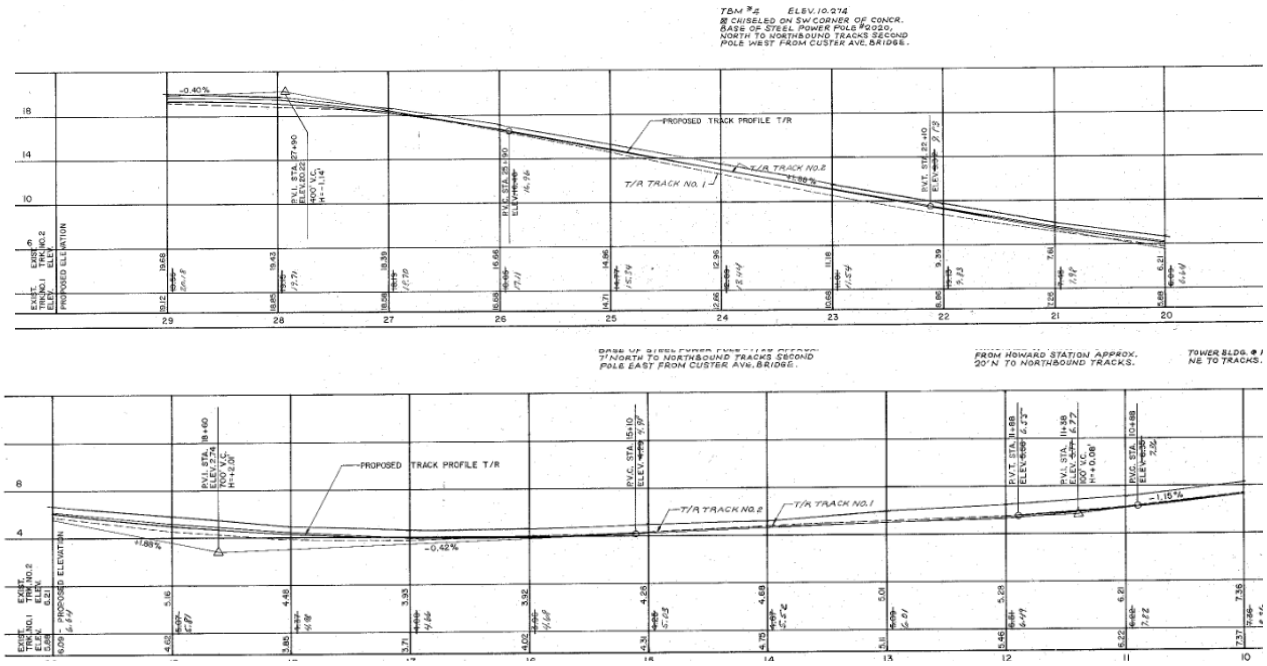


Figure #7: *Profile of Track Approaching Accident Site*

Figure #7A: *Operator View of Downhill Grade Approaching Custer Avenue Bridge*

Note horizontal curve at bottom of grade

Signal System

Figure 8 provides a single line description of the Yellow Line train control system approaching Howard Terminal. The Yellow Line Train Control system was installed in the 1970's and provides for train detection and cab signaling using a series of sequential audio frequency track circuits varying in length from 300 feet to 2,000 feet. The cab signaling system controls the speed of trains to ensure that they maintain safe spacing with trains ahead, and when approaching civil constraints such as horizontal curves and interlockings. All wayside train control electronics and relays for this section of track are located in the Asbury Signal House located directly under the Asbury Street Bridge.

Onboard the trains, a carborne automatic train control (ATC) package deciphers the speed commands transmitted through the rails and interfaces with train propulsion and braking systems, as well as with a display unit in the cab that provides the operator with information on allowable speed and actual speed. Audible and visual alerts are also present in the cab that indicate to the operator that the train speed must be adjusted. Failure to adhere to these alerts in a timely fashion results in an automatic command to brake the train to a full stop through the application of a maximum service brake (full dynamic braking with the addition of intermittent friction braking).

In the conditions leading up to the accident, the Snow Fighter was stopped in the SK1-9T track circuit waiting for a permissive signal to enter the Howard Interlocking complex. The Incident train was travelling southbound and was approaching the Howard Terminal at a speed of 55 mph. When the SK1-9T track circuit is occupied, the signal system is designed to support an approaching train travelling at 55 mph through the SK1-44T track circuit. Upon reaching the SK1-26T track circuit, the cab signal system removes a permissive cab signal speed, thus telling the train to begin braking to zero speed in order to stop before reaching the western limits of the SKI-9T track circuit (note that at the time of the accident, the Snow Fighter was located 250 feet beyond the western limit of the SK1-9T track circuit).

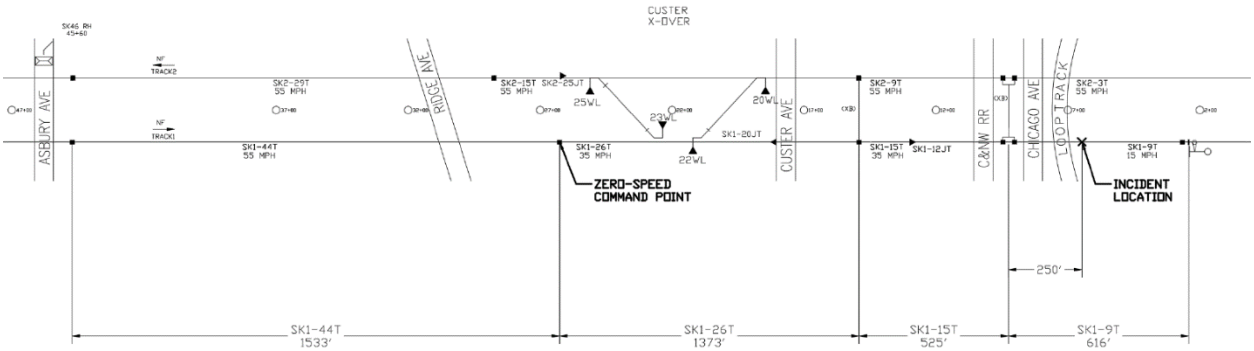


Figure #8: *Train Control Blocks in Approach to Accident Location*

Engineering Analysis

Post Accident Investigation of the Signal System

One of the early tasks that was undertaken following the accident was to determine if the signal system had detected the presence of the Snow Fighter as it moved from its location at the Skokie Shops Heavy Overhaul Facility to the Howard Terminal. The CTA has a software system called QuicTrac that is housed at its Control Center to monitor the movement of all trains on the system. This system uses the train control track circuit occupancy information housed at over 100 wayside signal houses, and sends the occupancy information to the Control Center where it is assembled into a train tracking display tool that includes information on train headways.

The QuicTrac information is also shared with another tool called Track Circuit Monitoring (TCM) that presents train movements in a "string line" format and automatically analyzes the movements to detect failures in the signal system (e.g. failure to detect train occupancy).

Figure 9 provides a copy of the TCM tool display for the southbound Yellow Line tracks at the time of the incident. Trains movements are tracked for the southbound direction of travel from right to left in the Figure 9 diagram (e.g., trains leaving the Dempster Terminal Station are shown on the right side of the diagram, and trains approaching Howard Terminal are shown on the left side of the diagram). As the train progresses southbound, it enters and leaves successive track circuits that are labeled at the top of the display. Time is shown on the vertical ("Y") axis and progresses from top to bottom.

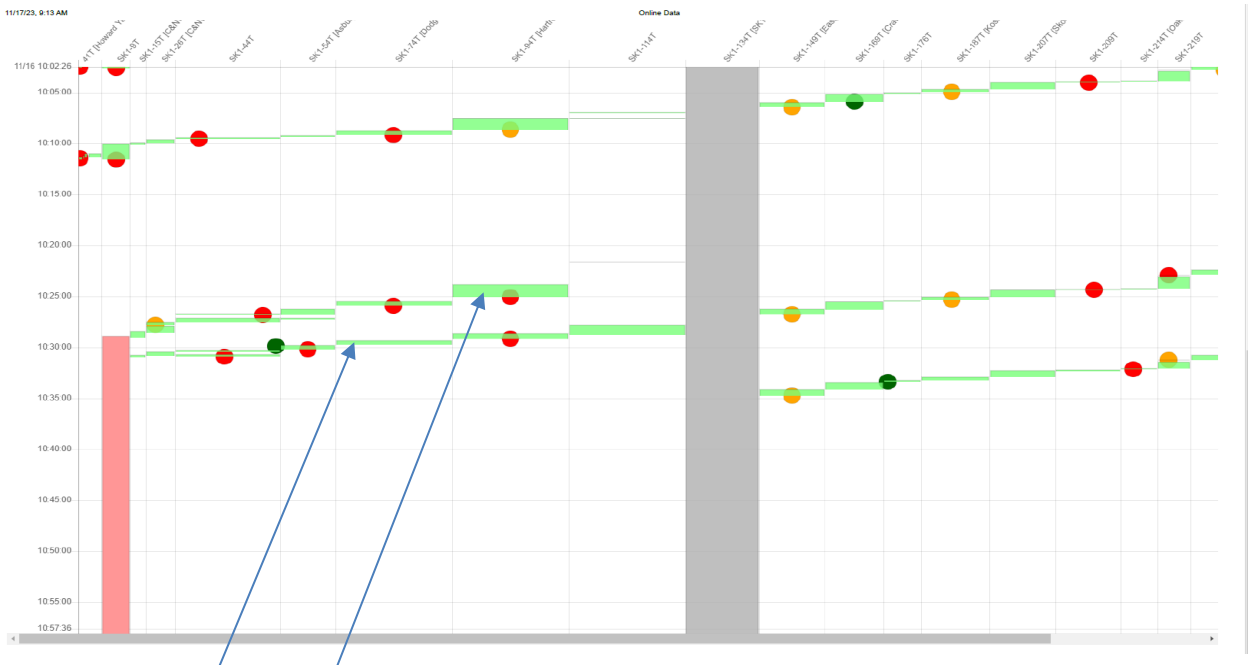


Figure #9: *String Line of Track Occupancies Showing Movement of Snow Fighter and Incident Train*

Figure 9 confirms that the signal system detected the presence of the Snow Fighter train as it departed the Skokie Shops Heavy Overhaul Facility and began travelling east (southbound) towards Howard Terminal. Note that when the Snow Fighter arrived in the SK1-9T track circuit it stopped and waited for a permissive signal to enter the terminal facility. While it waited in this track circuit, it resulted in the display of a red vertical bar which is a feature of the TCM tool that highlights a track circuit occupancy that does not get released (due to the accident in this case). The red vertical bar in this case confirms that the Snow Fighter's presence in the SK1-9T track circuit was constantly detected by the train control system from the time it entered this track circuit.

Figure 9 also confirms that the incident train was properly detected by the signal system through its entire southbound trip from Dempster Terminal to the SK1-9T track circuit. Note that the incident train was following the Snow Fighter as it left the Skokie Shop facility, and over time, the headway appears to have shortened as the incident train was able to move faster than the Snow Fighter.

Figure 10 provides an expanded view of the TCM tool in the section of track involved in the collision. Note that the Snow Fighter train was occupying the SK1-9T track circuit for approximately two minutes prior to the arrival of the incident train into the same track circuit.

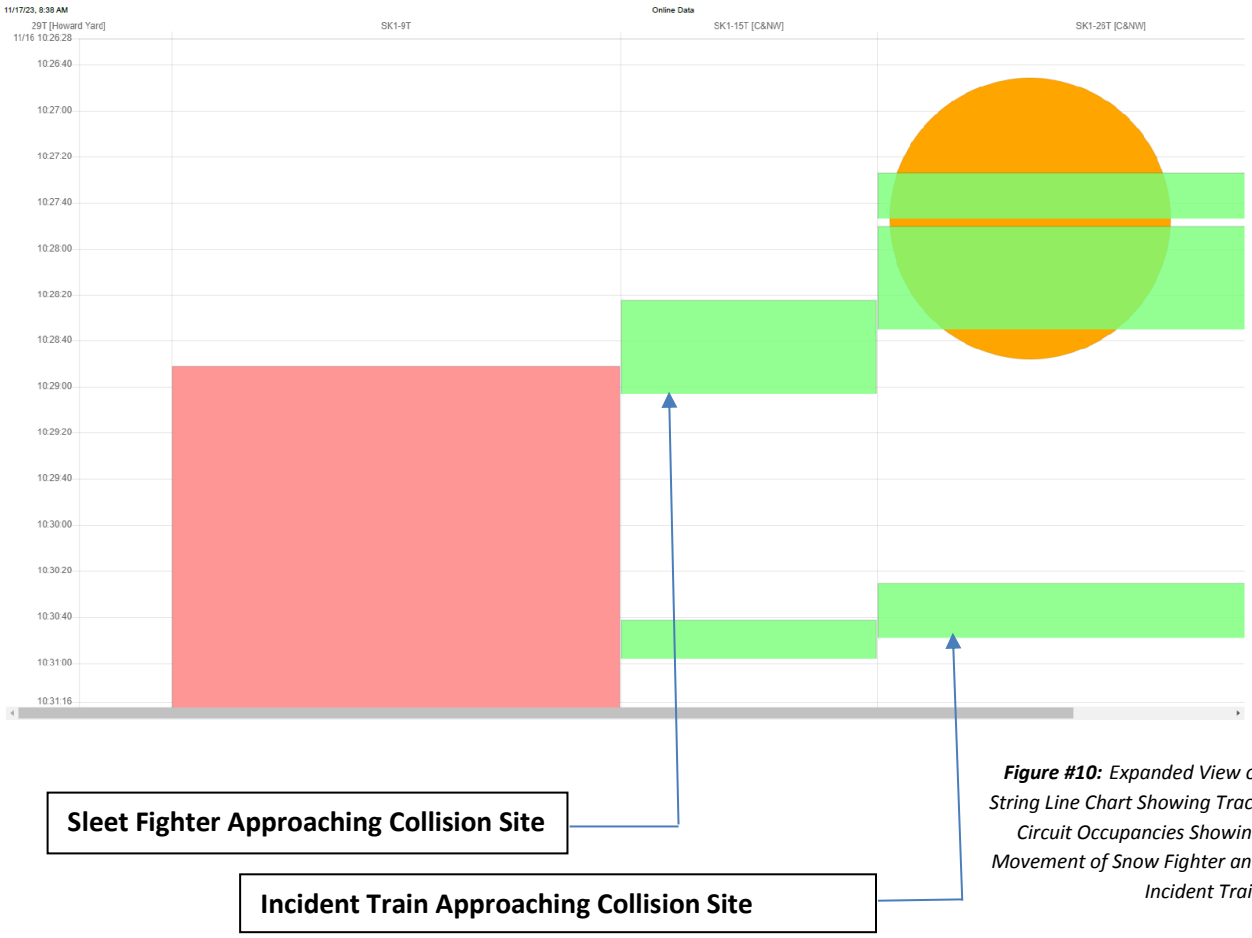


Figure #10: *Expanded View of String Line Chart Showing Track Circuit Occupancies Showing Movement of Snow Fighter and Incident Train*

Data from the Incident Train

Figure 11 below provides a display of the incident train's Event Recorder Unit (ERU). Each of the 5000 Series cars has an onboard ERU that collects and stores data on a wide range of vehicle parameters. A laptop is used to download the data and software is used to present the data in a manner that summarizes the data critical to the event. Figure 11 has been annotated to provide additional information (shown in red text) that further explains the data presented and critical changes in the data. Time is shown progressing from left to right on the bottom ("X") axis of the display. Some key data to observe in Figure 11 is the ATC allowable speed, the actual speed of both cars (i.e., the "A" and the "B" car), the position of the Master Controller, and the presence of the various types of braking available (e.g., dynamic braking, friction braking and track brake).

Analysis of the data confirms that the train received an "ATC Allowable Speed" of 0 (zero) mph as it entered the SK1-26T track circuit travelling at 55 mph (as expected per the Signal System design). Within 1-2 seconds, the train operator responded to the zero speed command by transitioning the Master Controller from propulsion to the "Full-Service Brake" position (as noted in the top line of Figure 11). Almost immediately, the train began to experience slip slide conditions (as shown in the solid bars at the bottom of Figure 11) and the dynamic braking began to "oscillate" as required by the "slip/slide" feature equipped on the 5000 Series cars.

At this point, the train was travelling on the downhill grade and the train operator realized that the train was not slowing down fast enough. This understanding by the train operator was complicated by the fact that the train speed sensors were transitioning quickly to zero speed (due to the wheels locking up) while the train was moving much faster. At this point, the train operator moved the Master Controller to the "Emergency Brake" position (as shown in the top line of Figure 11) which resulted in the train applying both its friction brakes and its track brakes.

Note that at the same time the train operator applies the "Emergency Brakes", the dynamic braking system appears to "shut off" as speed sensors indicate a zero speed. After all axles came to low speeds, dynamic braking effort fades due to slow motor rotational speeds. The AC propulsion system has no means to regain the rotational electric fields needed for dynamic braking without previous motoring effort. As the dynamic braking system shuts down, the wheels on the "B" car begin to release, and the associated speed sensor on the "B" car begins to indicate speed again, up to approximately 38 mph. Note that the friction brake on the "A" car remained applied throughout the time the train was in "Emergency Brake" mode, however, the "B" car released some of the friction brake pressure for a period and then re-applied full pressure again. Also note that at some point, the train operator applied the "Emergency Brake Mushroom" button as evidenced by the solid bar in the second line of Figure 11 (this use of the mushroom was redundant with the use of the Emergency Brake position on the Master Controller, therefore had no additional effect on the train's braking at this point as the track brake was already applied).

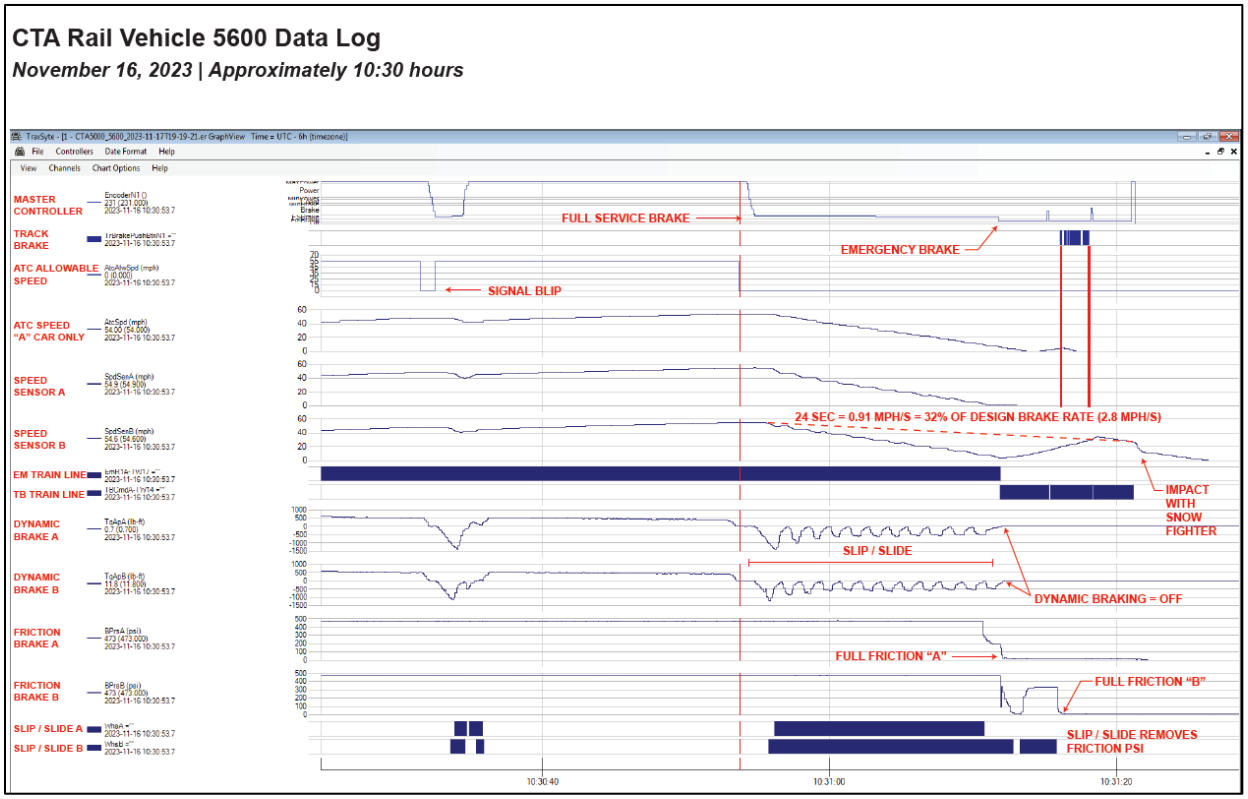
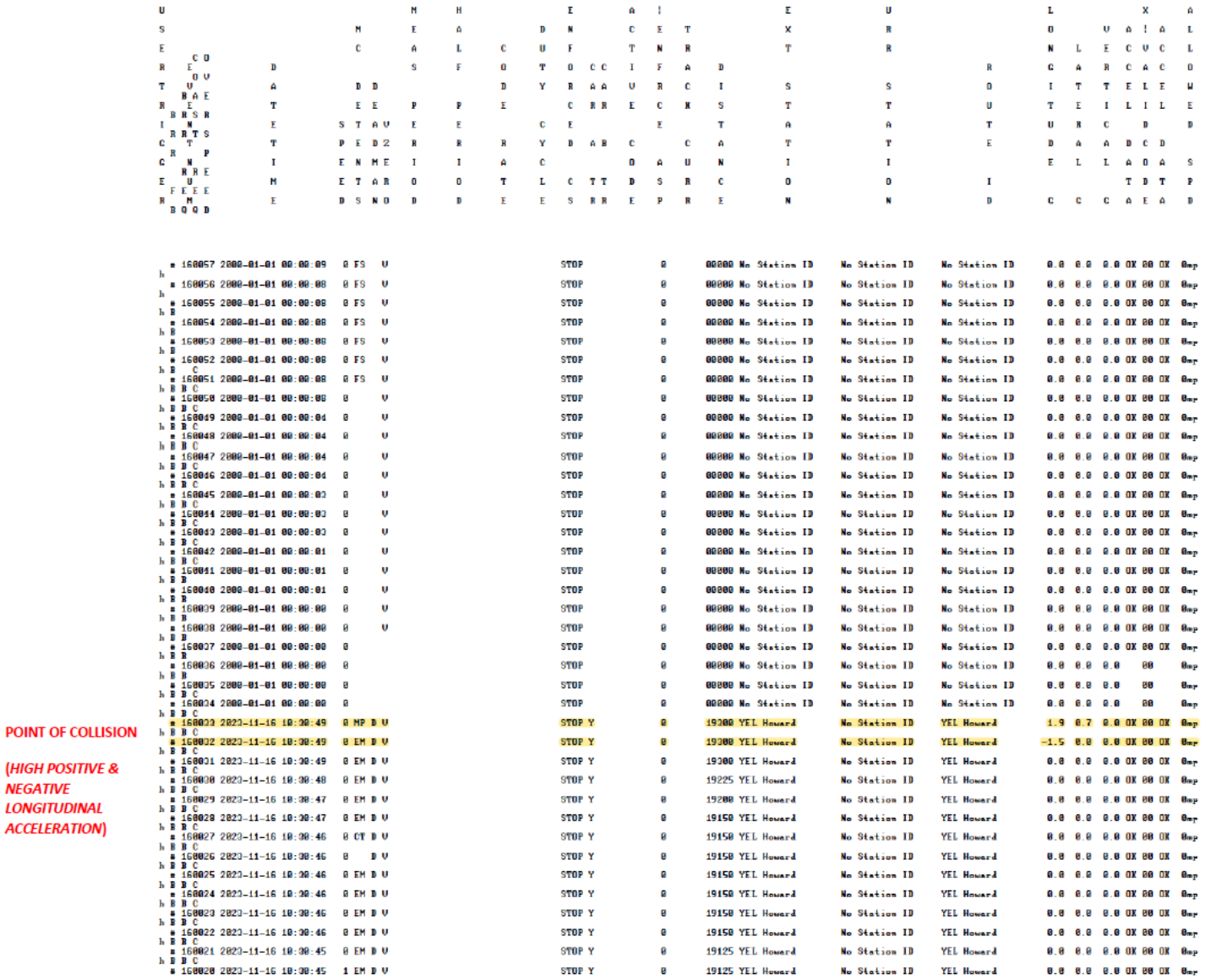


Figure #11: *Event Recorder Data from Incident Train (see Appendix I for Larger Scale Version)*

Figures 12a-12e provide data from the incident train's onboard ATC data logger. Similar to the ERU, the data logger monitors and stores critical data associated with onboard ATC functions. For this data, functions are described along the top ("X") axis and time progresses from bottom to top of each page along the bottom ("Y") axis (note that the time of the ATC data logger may not precisely coincide with the time of the ERU). Critical points in the incident train's movements are highlighted in red in the left margin, including "Loss of Cab", "Stop Code" and application of "Full Service Brake", all of which were recorded early in the train's recognition that the wayside cab signaling system had directed a "zero speed command".

Figure 12a highlights when CTA Infrastructure Division believes a "true" zero speed was reached, upon the point of collision at time 10:30:45. One column to focus on is the "DETENTS" column which is associated with the position of the Master Controller, with positions including FS = Full Service Braking and EM = Emergency Braking. One additional note is that the ATC data logger speed is associated with the "B" car only, and as shown on the ERU data, this speed sensor appears to somewhat comply with the ERU data that indicates the "B" car wheels began to rotate again shortly before impact. The last data point to note is the "Longitude g" (acceleration) data point at 10:30:49, when an aggressive -1.5 g followed by a +1.9 g force were measured, which is believed to be the time of impact.



POINT OF COLLISION

(*HIGH POSITIVE & NEGATIVE LONGITUDINAL ACCELERATION*)

Figure #12a: *Vehicle Onboard ATC Event Log (Page 1 of 5)*

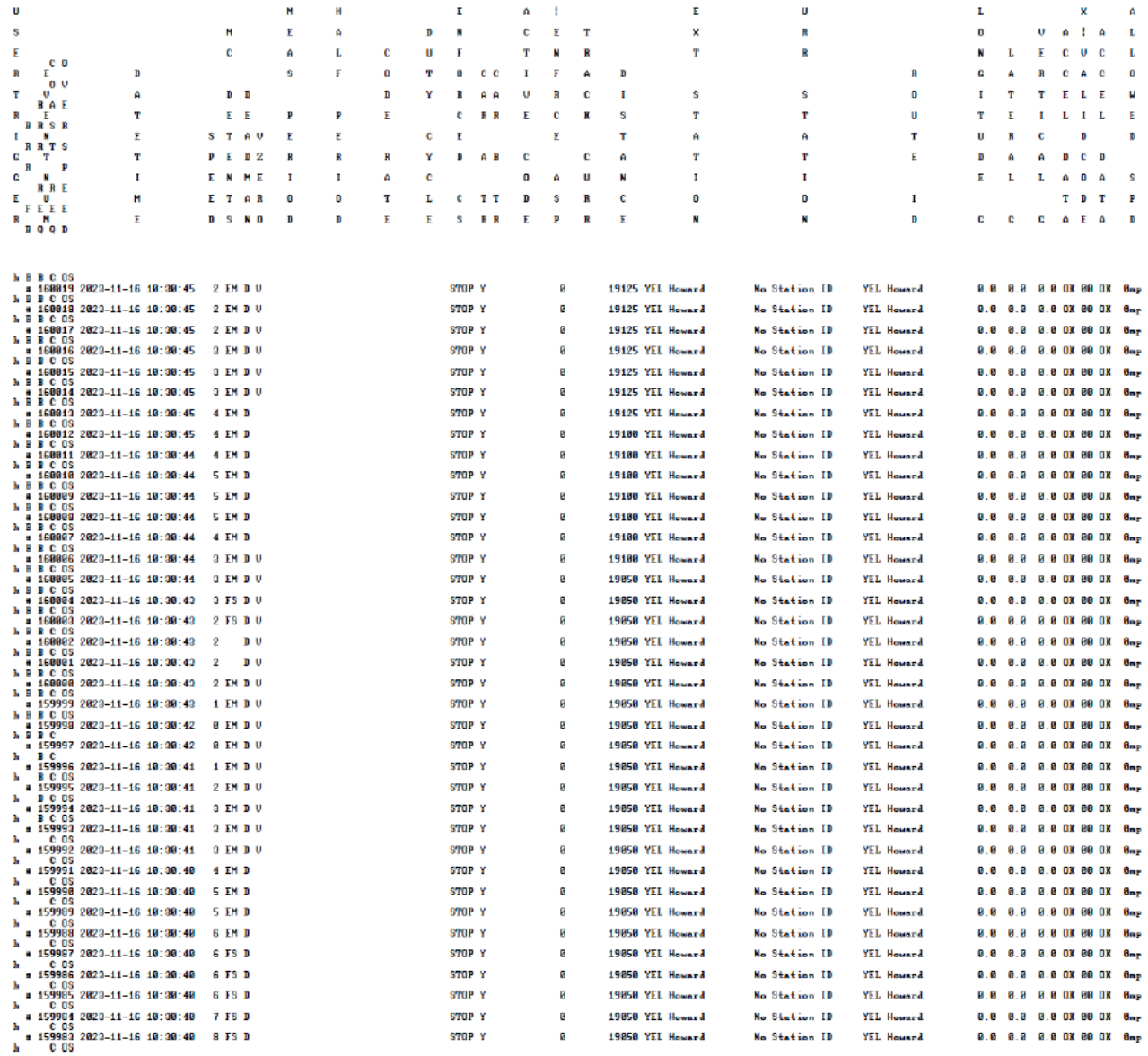


Figure #12b: *Vehicle Onboard ATC Event Log (Page 2 of 5)*

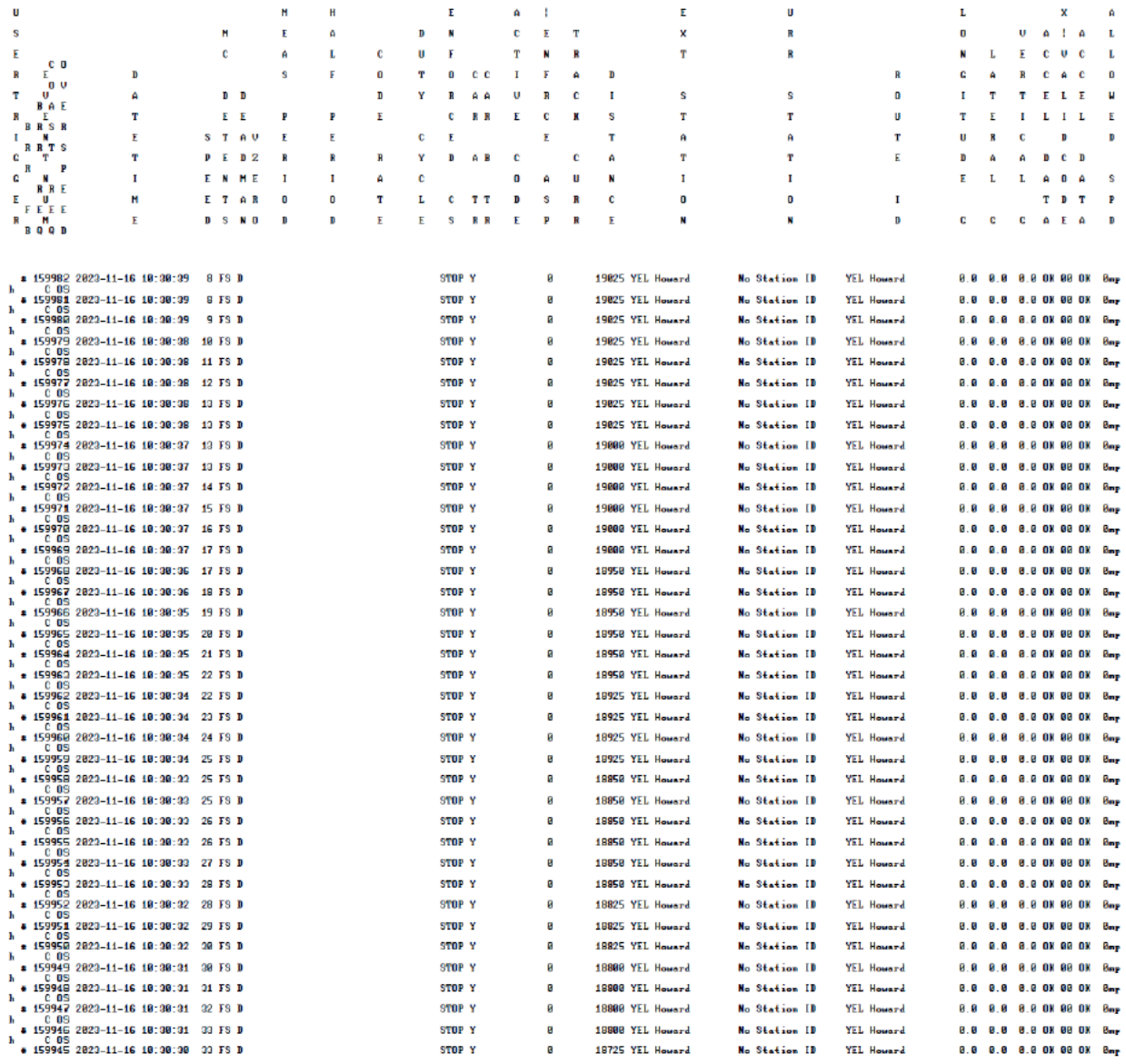


Figure #12c: *Vehicle Onboard ATC Event Log (Page 3 of 5)*

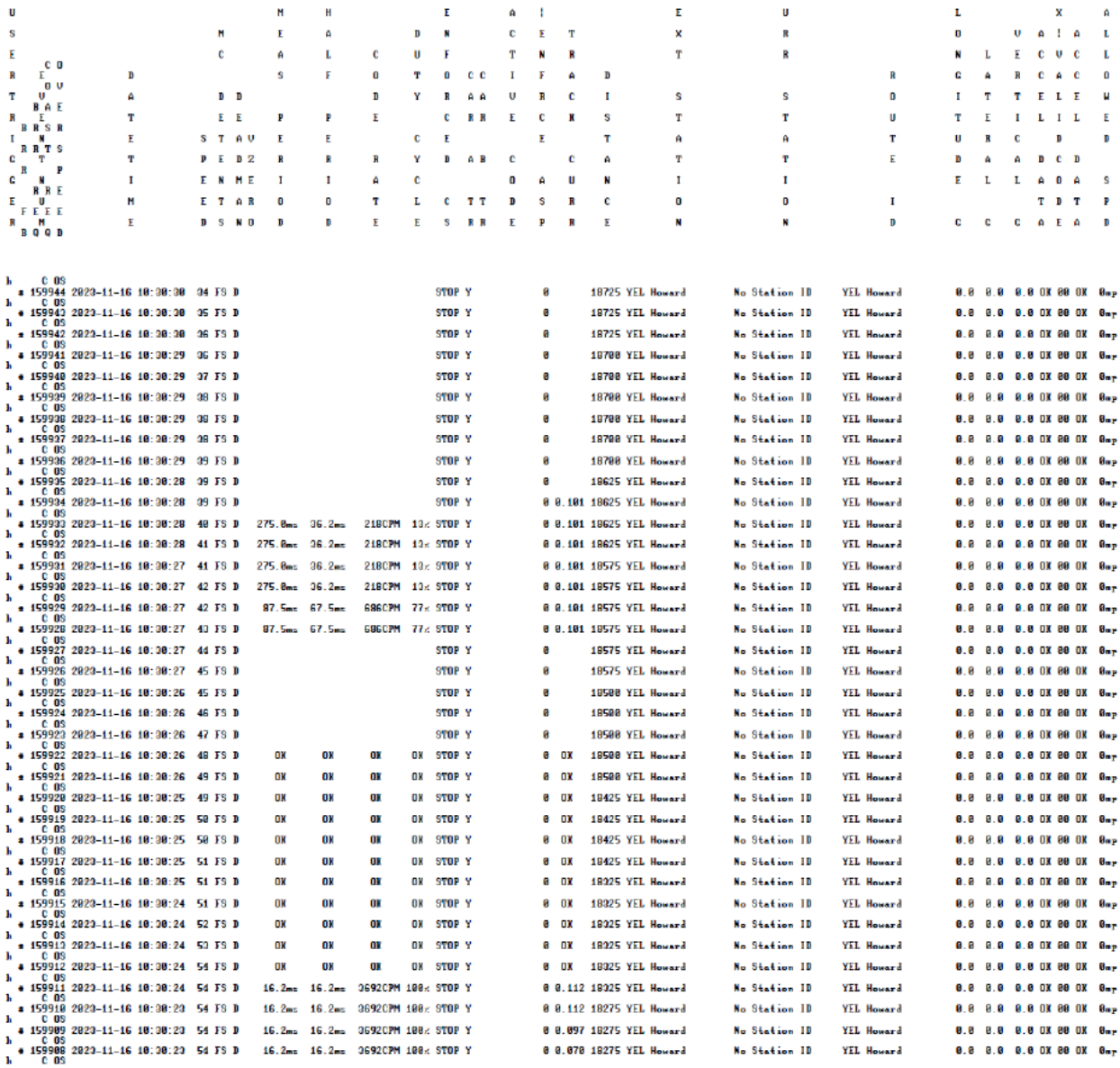
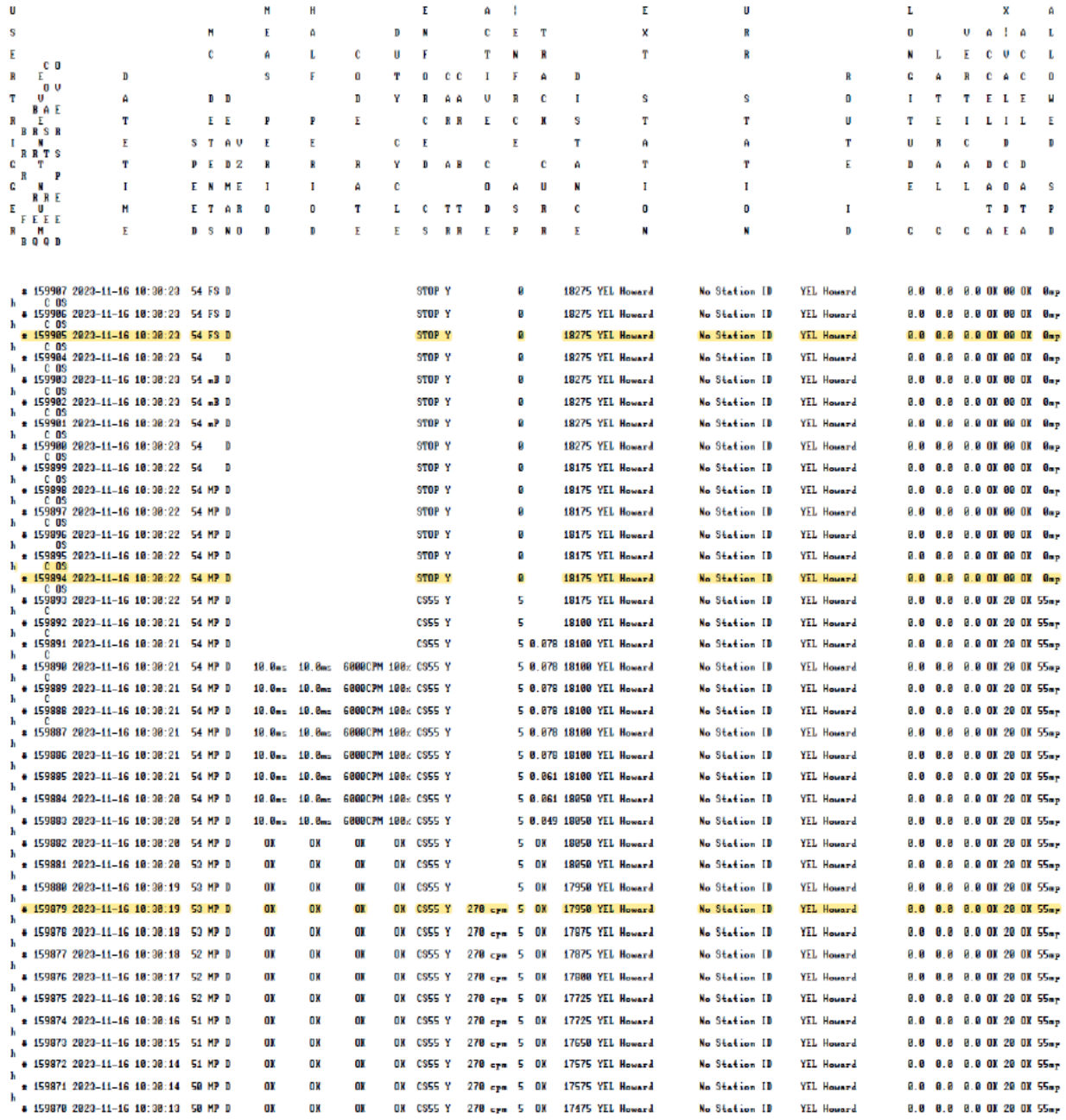


Figure #12d: *Vehicle Onboard ATC Event Log (Page 4 of 5)*



FS BRAKE

STOP CODE

LOSS OF CAB

Figure #12e: *Vehicle Onboard ATC Event Log (Page 5 of 5)*

Post Accident Testing and Analysis

As a follow-up to the accident, CTA Infrastructure immediately began to perform a series of measurements, tests, and analysis. One of the first tasks was to measure the location of the collision site with respect to the signal system block boundaries. As shown in Figure 8 above, the accident location was estimated to be 250 feet beyond the western boundary of the SK1-9T track circuit. Additional measurements were made to verify the length of each track circuit in approach to the accident site, including for track circuits SK1-44T, SK1-26T, and SK1-15T. Note that field measurements actually revealed that the track circuit lengths in approach to SK1-9T were slightly longer than what was shown on the drawings.

Without having the benefit of the ERU or Carborne ATC data directly following the incident (these downloads were being postponed pending arrival of the National Transportation Safety Board [NTSB]), CTA Infrastructure attempted to verify that the signal system was functioning as designed. Early testing included simulating the movement of approaching trains using track relays inside the Asbury Signal House. All of these simulated tests confirmed proper operation of the house equipment. Subsequent testing focused on verifying that the speed commands being transmitted to the trains through the rails were in accordance with the design, including attempts to look for possible "rogue" signals emanating from the other track or further away on the same track. Using a "Track Sniffer" device, CTA Infrastructure was able to confirm that the speed commands transmitted through the rails were in accordance with the design.

At this point, the NTSB had arrived, and data logs were available, as were highlights of the interview with the train operator. The investigation focus began to move away from a signal system functional failure, and towards the actual braking distance allowed by the signal system design, and the assumptions made in the design regarding rail adhesion and brake rates. It became apparent that the assumptions used in the braking distance design from the 1970's did not match CTA's current braking distance criteria, in particular given the downhill grade of 1.9% and the degraded brake rate value of 1.9 mph/s.

Figure 13 below provides a sample of the braking distance calculations associated with "ideal" conditions (1,689 feet) versus the conservative braking distance associated with CTA's current braking criteria (2,625 feet). Calculations revealed that the maximum safe braking distance that was present would only have resulted in a "safe stop" (stopping prior to the SK1-9T track circuit) had the braking conditions been near perfect (e.g. no need for safety factor and a non-degraded brake rate of 2.8 mph/s). As shown in Figure 11 above, the incident train's brake rate was interpolated from the vehicle data recorder to be in the range of 0.91 mph/s (even lower than the conservative assumptions in CTA's design criteria).

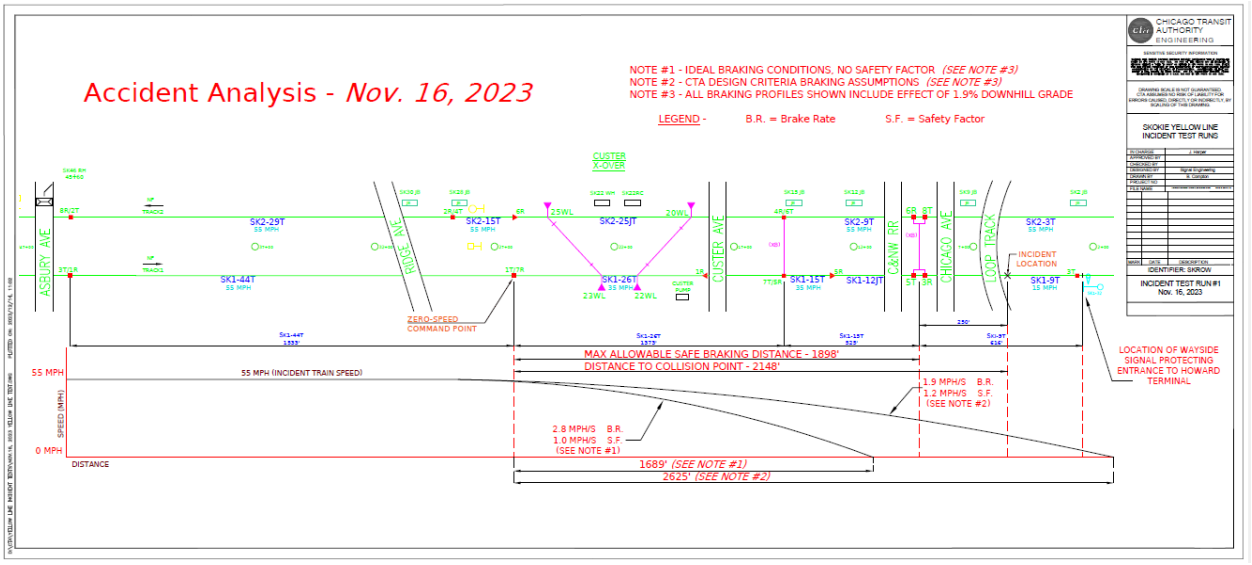


Figure #13: *Calculations of Braking Distances Approaching Collision Site*

The investigation team then began looking for reasons why the brake rate may not have met current CTA design criteria, and focused on the condition of the top of the rail on the downhill grade. Figure 14 provides an example of what appeared to be a residue of leaf materials that had been "crushed" into the rail head over the previous days leading up to the accident. Leaf residue is a known contributor to loss of adhesion between train wheels and the rails.

Figure #14: *Leaf Residue on Top of Rail Approaching Accident Location*

Conclusions and Recommendations from the Initial Investigation

The following conclusions were derived by CTA Infrastructure from the initial investigation into the accident:

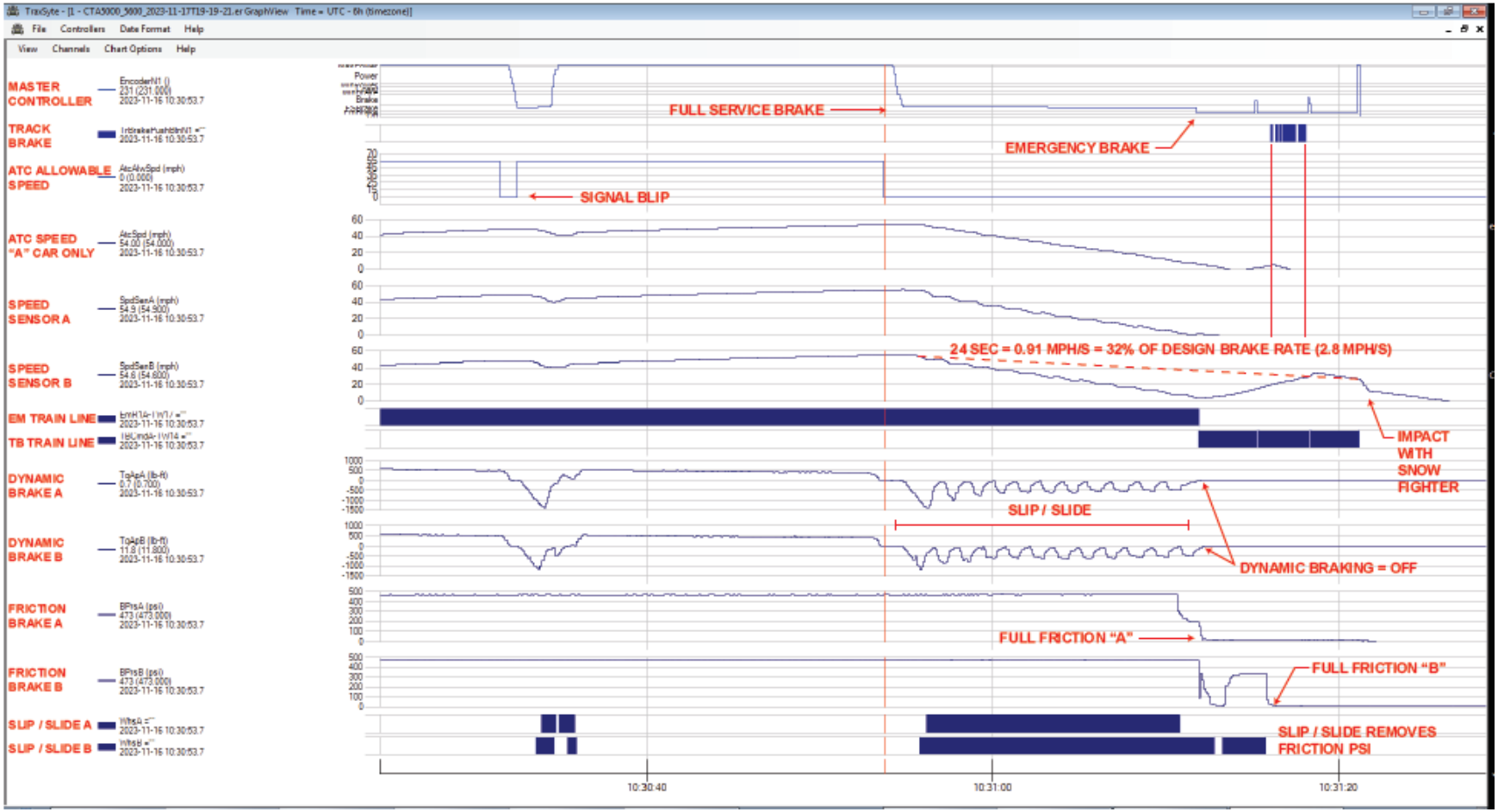
- The incident train impacted the Snow Fighter vehicle at a reasonably high speed that resulted in severe damage to the lead car of the train.
- The train operator's ability to stop the train was affected by the presence of the downhill grade in approach to the accident site.
- The train operator's ability to visualize the hazard ahead posed by the presence of the Snow Fighter was impeded by the horizontal curve in the track just prior to the collision point. Similarly, the operator's line of sight was impeded by the presence of multiple bridges and associated embankments for vehicular and railroad traffic spanning over the Yellow Line tracks approaching the collision point.
- The signal system was confirmed (via a variety of post-accident tests) to be functioning as designed. This includes confirmation that the Snow Fighter vehicle was recognized by the signal system throughout its trip from the Skokie Shops facility to the scene of the collision (i.e. the Snow Fighter was continuously shunting track circuits as expected during its trip).
- The operator appeared to react to the signal system's zero speed command in a timely fashion and to put the train into Full Service Brake as they descended the downhill grade.
- At some point, the operator realized that the Full Service Brakes (i.e. Dynamic) were not performing as needed, and placed the Master Controller into Emergency Brake, triggering the immediate application of the friction brakes and the track brakes.
- The train's braking systems began to react to "false" zero speed conditions from the speed sensors that resulted from the wheels appearing to be in a slipping or sliding condition (speed sensors monitor axle rotation). The unexpected reaction of the brake systems to these "false" zero speed conditions needs further investigation.
- The signal system design for the track circuits in approach to the collision site does not provide for a safe braking distance in accordance with CTA current safe braking criteria (there was insufficient safe braking distances provided per current criteria).
- The rails on the downhill grade in approach to the collision site appear to have been compromised in their ability to provide a reasonable level of adhesion with the train wheels due to a contaminate believed to be associated with crushed leaves.

Recommendations for Further Investigation

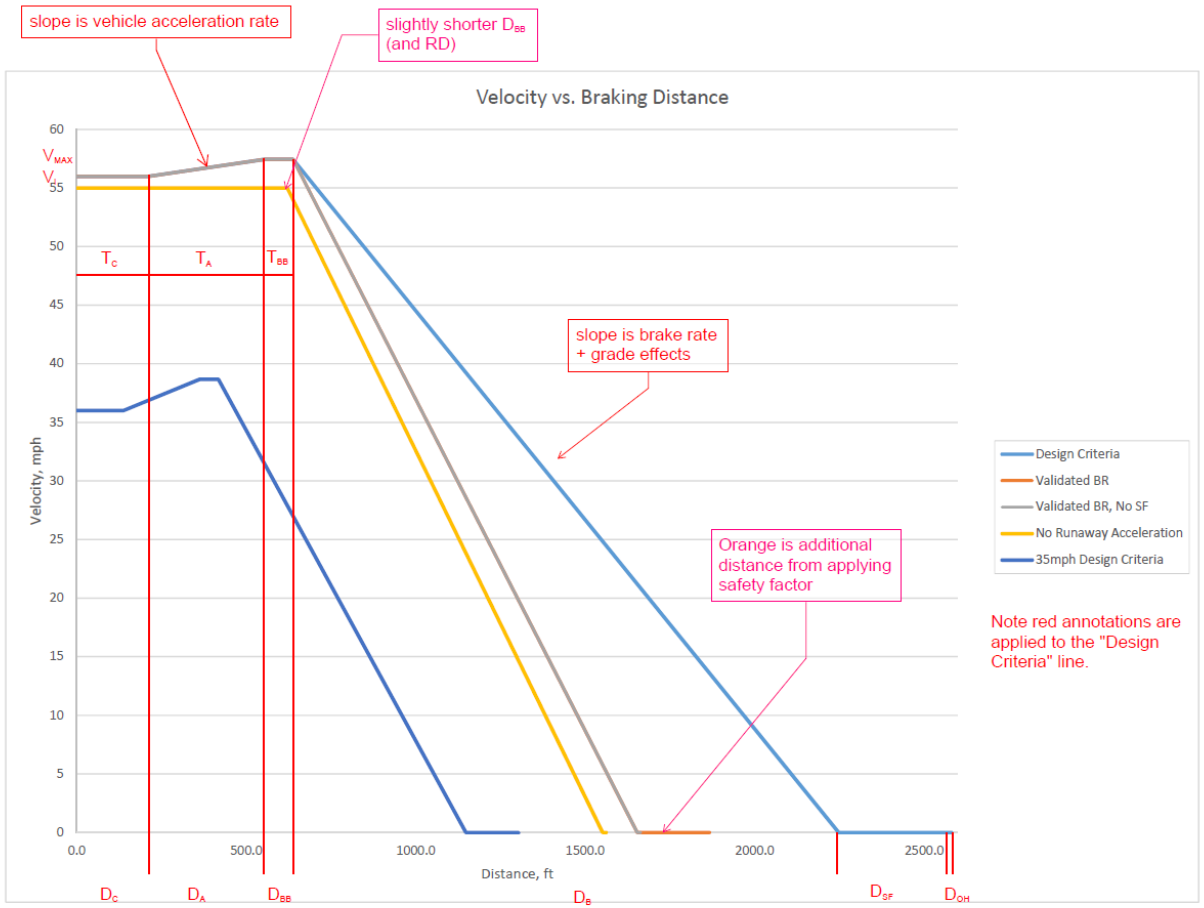
The following recommendations for further investigation were derived by CTA Infrastructure from the initial investigation into the accident:

- Once the accident vehicles have been removed from the site, accident re-enactment tests should be performed with a live two-car train from the same fleet (5000 Series). Re-enactment tests should attempt to replicate the conditions leading up to the collision, including simulated occupancy of the SK1-9T track circuit, replication of operator reactions, and replication of the environmental conditions present at the time of the accident. Data logs from the onboard recorders and wayside recorders should be captured. Attempts should then be made to clean the top of rails of the contaminates and re-run the re-enactment tests.
- Further review of the logs taken at the time of the accident should be performed to better understand how the train was reacting to braking commands/conditions leading up to the collision. In particular, a review of the slip/slide logic present on the 5000 Series cars should be performed, and how this logic ultimately affects the train's braking system logic and performance.
- A review of all signal system installations on the CTA system should be performed to verify braking distances meet CTA's current braking criteria. Any installations that are found to have insufficient braking distances should be mitigated by implementing temporary slow zones until such time modifications can be made to bring the braking distances into compliance with current criteria.

Appendix I: Larger Scale View of ERU Log Data Shown in Figure 11



Appendix II: Braking Profiles for Various Braking Criteria Assumptions



Reaction Distance:
$RD = D_C + D_A + D_{BB}$

Safe Braking Distance:
$SBD = D_C + D_A + D_{BB} + SF(D_B) + D_{OH}$

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MEMO:

DATE: December 15, 2023

TO: Nancy Ellen Zusman, CTA Chief Safety and Security Officer

FROM: James Harper, Chief Engineer Infrastructure

RE: November 16, 2023, Collision on Yellow Line Between Revenue Train and Snow Fighter
Results of Post-Incident Re-Enactment #1 and Mitigation Efforts Using Test Trains

Event Synopsis

On Thursday, November 16, 2023, at approximately 10:30 hours in the morning, Chicago Transit Authority (CTA) Yellow Line Run #593 was operating as a two-car consist (lead car 5600) on a normal round trip towards Howard Terminal. As the train approached Howard Terminal in the southbound direction, it struck maintenance vehicle S500, a non-revenue, diesel powered locomotive used to remove snow from the tracks (also known as a Snow Fighter). There were six CTA employees onboard the Snow Fighter and 31 passengers and crew onboard the revenue train.

Test Train Re-Enactments

Test Train Re-Enactment #1 (November 20, 2023)

This section provides a report on the efforts by CTA on November 20, 2023, to re-enact the collision conditions using a test train and using simulated occupancy of the section of track that the Snow Fighter was occupying at the time of the incident.

Re-Enactment #1 was performed for the following reasons:

- Attempt to demonstrate the effects of slippery rail on the overall braking capabilities of a two-car 5000 Series train.
- Attempt to demonstrate how the train reacts to a typical approach to Howard when there is no train ahead.
- Attempt to demonstrate how a two-car 5000 Series train reacts to the presence of a train ahead by simulating a vehicle in the section of track that the Snow Fighter was occupying.
- Attempt to understand how the slip/slide system on a two-car 5000 Series train can affect train braking performance.
- Attempt to understand how operators may react to a slip/slide conditions using available braking options, and how these differing reactions may affect overall braking performance.

- Attempt to demonstrate that a proposed slow zone approaching Howard will provide a larger safety buffer when a train or maintenance vehicle is ahead.

The test train (head car 5506) was staged at the Skokie-Dempster Station at approximately 1600 on Monday, November 20, 2023. The re-enactment was supported by staff from CTA Signal Maintenance and CTA Track Maintenance.

In addition, the following CTA participants participated in the review:

- Jim Harper, CTA Chief Engineer
- Carrie Wagener, CTA First Deputy Chief Engineer
- Cody Krezinski, CTA Engineer III – Civil / Track
- Brent Frey, CTA Signal Engineer I
- Kevin Carney, CTA Transit System Safety Officer
- Grant Macey, CTA Chief Rail Equipment Engineer
- Chris Hegarty, CTA General Manager, Rail Engineering & Instruction
- Ivan Davis, Senior Manager, Transportation (CTA Test Train Operator)
- CTA Rail Operations Supervisor

The weather at the time of the test was approximately 45 degrees Fahrenheit and overcast. A light rain had just begun when the testing commenced, which the train operator noted to be most problematic from a slippery rail condition.

The signal system track circuits involved in the incident, and in the re-enactment test, are shown in Figure 1 below. The figure includes a note where the zero speed (stop code) command is received when a train occupies the SKI-9T track circuit, which was occupied by the Snow Fighter at the time of the incident. The figure also shows the length of each track circuit involved and the location of the accident relative to the start of the SK1-9T track circuit.

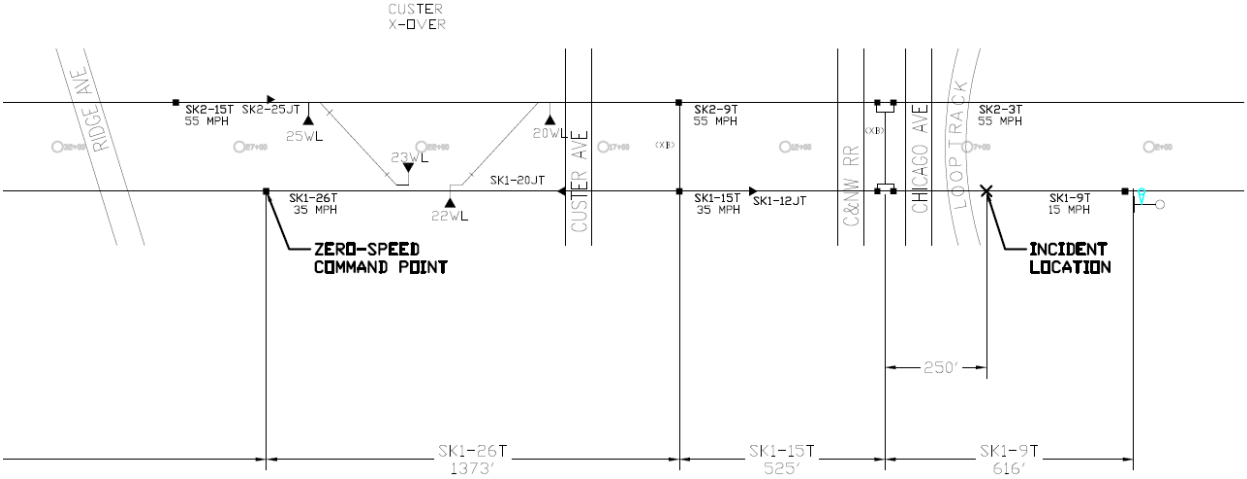


***Figure #1**: Track Circuits involved in the November 16, 2023 Accident*

All temporary slow zones implemented after the accident were removed at the start of the test to simulate the conditions under which the incident train operated. Later test runs re-instated a slow zone to demonstrate that a proposed mitigation plan of reducing train speeds would result in braking distances that maintain safe train spacing. A total of five test runs were conducted as part of Re-Enactment #1. Figure 2 below provides a tabulation of all five test run results.

Test Date	11/20/2023
Test Time	16:00
General Conditions	45F, light rain, overcast
Test Trainset	5505-5506
For all runs:	Light rain, slippery rail, train slip-slid most of downhill grade during brake application
Notes:	Simulated Location of Snow Fighter was 250' beyond entrance to 9T (any stopping distance beyond 9T greater than 250' (+) (shown in red implies collision)
	Simulated location of Snow Fighter was done using a track shunt at collision location.
	Cells shown in green indicate train stopped safely short of the 9T track circuit ahead

Test Run Number	Simulated occupancy of 9T	Max Speed (mph)	Distance to full stop before (-)/beyond (+) entrance to 9T (feet)	Average Brake Rate (mphps)	Collision with Simulated Snow Fighter?	Comments
1	Y	55	67 (-)	2.6	N	Max allowable speed of 55 mph; Full Service Brake applied.
2	Y	-	-	-		Test aborted due to release of brakes by RTO.
3	Y	55	324 (-)	3.1	N	Max allowable speed of 55 mph; Full Service Brake applied.
4	N	-	-	-		SK1-9T not occupied: Train receives stepdown from 55 mph to 35 mph to 15 mph per design; Stopped at Signal 32 per design.
5	Y	35	552 (-)	3.9	N	Proposed temporary slow zone restrictions in place; 35 mph at top of downhill grade at zero-speed command point (26T).

SK1 track segments, towards Howard: 44T-26T-15T-9T
"Zero-speed command point (26T bond)" is transition between 44T and 26T, before Custer x-over

***Figure #2**: Results of November 20, 2023 Re-Enactment #1 Test Runs*

Test Runs #1, #2, #3 and #5 were set up with a simulated train in the section of track that contained the Snow Fighter (SK1-9T track circuit). The simulation was performed by forcing the track circuit into an occupied state using control equipment in the signal bungalow. The expectation for the early test runs was that the train would reach a speed of approximately 55 mph and would react to a zero-speed (stop code) cab command at the start of the SK1-26T track circuit at the top of the downhill grade (as designed). Data from the test train for all test runs was recovered and analyzed as part of this review. ATC data and ERU logs for each run is found in Appendices I – V.

Test Runs #1 – 5 (November 20, 2023)

Test Run #1: Maximum Design Speed | SKI-9T Occupied

Test Run #1 was performed with a simulated train in the SK1-9T track circuit. The train approached Ridge Avenue Bridge with a green aspect, an allowable speed of 55 mph, and an actual speed of 55 mph on the cab's Aspect Display Unit (ADU) as seen in Figure 3 below.

***Figure #3**: Test Run #1 – Maximum speed approaching Dodge Bridge*

Prior to entering the SK1-26R track circuit, the operator anticipated a stop code command condition and began to apply the Full Service Brake before reaching the command point. Figure 4 below shows the speed at the time the stop code command was detected by the train after entering the SK1-26T track circuit.

***Figure #4**: Test Run #1 – Speed when stop code command was received from signal system*

Figure 5 below shows the position where the train stopped at the completion of Test Run #1, which was 67 feet ahead of the occupied SK1-9T track circuit. Note that the train received a 15 mph allowable speed at this location due to the method that was used to simulate the occupancy of the track circuit ahead (the track circuit was not shunted).

***Figure #5**: Test Run #1 – Location where train came to a stop*

Test Run #2: Maximum Design Speed | SKI-9T Occupied

Test Run #2 repeated the steps taken in Test Run #1. Again, the train did not achieve a speed of 55 mph before receiving the stop code command (actual train speed was 47 mph). In this case, the train never came to a full stop as the operator reacted to the 15 mph allowable speed when approaching the SK1-9T track circuit, and moved the train forward several hundred feet before stopping. As a result, this test run was deemed "invalid".

***Figure 6**: Test Run #2 – Speed when stop code command was received from signal system*

Test Run #3: Maximum Design Speed | SKI-9T Occupied

Test Run #3 repeated the steps taken in Test Run #1. The train did not achieve a speed of 55 mph before receiving the stop code command, which was logged at 51 mph as seen in Figure 7 below.

***Figure 7**: Test Run #3 – Speed when stop code command was received from signal system*

The train operator reacted to the stop code command by applying a Full Service Brake. The train came to a complete stop 324 feet ahead of the occupied track circuit, which is a significant margin of safety. Figure 8 below shows the location of the train where it came to a complete stop.

***Figure 8**: Test Run #3 – Location where train came to a stop*

Test Run #4: Designed Speed Downgrades | SKI-9T Unoccupied

Test Run #4 removed the simulated Snow Fighter in the SKI-9T track circuit and allowed the train to react to a downgrade in speed as it approached Howard Street Interlocking (as designed). Figures 9-11 below show the allowable speed downgrade from 55 mph to 35 mph to 15 mph. The test train experienced slip/slide conditions during this test run, but the operator maintained control of the train and stopped safely at the signal protecting the entrance to the interlocking (Signal 32).

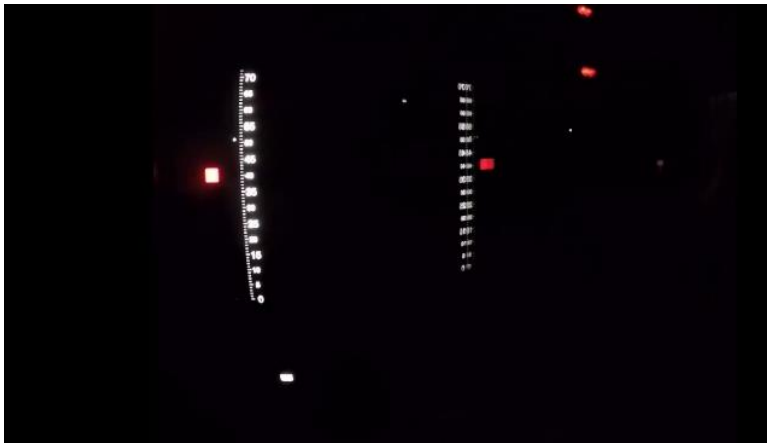


***Figure 9**: Test Run #4 – Allowable speed downgrade at 55 mph*

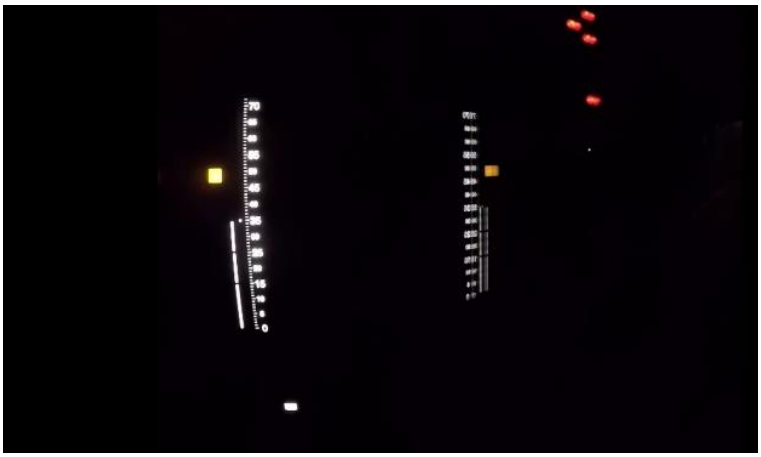


***Figure 10**: Test Run #4 – Allowable speed downgrade at 35 mph*

***Figure 11**: Test Run #4 – Allowable speed downgrade at 15 mph*

Test Run #5: 55 mph to 35 mph Downgrade | SKI-9T Occupied

Test Run #5 re-established the simulated Snow Fighter in the SK1-9T track circuit and reduced the maximum speed approaching the down grade to 35 mph (from 55 mph). Figure 12 below shows the actual speed of 35 mph at the point where the stop code command was received.

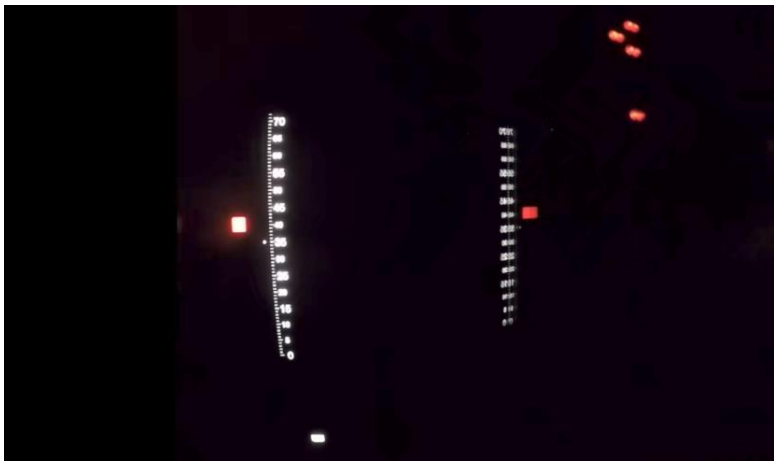


***Figure 12**: Test Run #5 – Speed when Zero Speed Command Received from Signal*

The train operator reacted to the zero speed command by applying a Full Service Brake. The train experienced a slip/slide condition on this run and came to a complete stop 552 feet ahead of the occupied track circuit, which is a significant margin of safety. This test run was deemed "successful" and demonstrated that a 35 mph slow zone in advance of the down grade will provide a significant safety buffer in terms of stopping well in advance of a train or vehicle ahead.

Conclusions

The following conclusions can be derived from this series of re-enactments:

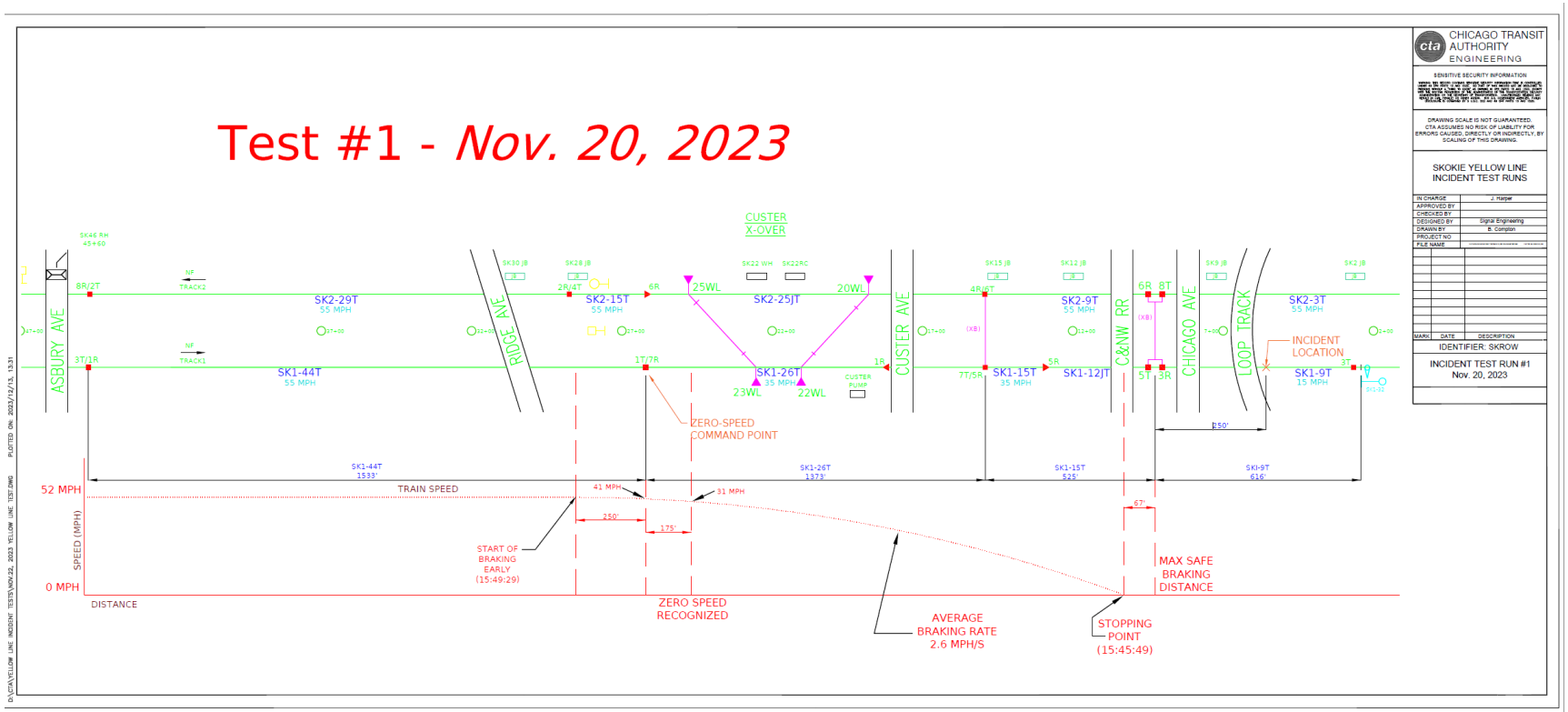
- The test train experienced slip/slide conditions on all test runs, similar to the conditions that were experienced by the train in the November 16 accident.
- With no train simulated ahead, the signal system functioned as designed and stepped the trains speed down to 15 mph as it approached the signal protecting the Howard Terminal Interlocking.
- With a train simulated ahead, the train operator was able to stop the train from 55 mph to a full stop well before the limits of the necessary safe braking distance (i.e. before entering the SK1-9T track circuit where the November 16 accident occurred).
- The slip/slide feature impacts the overall performance of the train's dynamic braking system.

- When the maximum allowable speed in approach to the downhill grade in advance of Howard was reduced to 35 mph, the train safely stopped with a large safety margin using only the Full Service Brake (i.e. dynamic brakes with friction brakes only in last portion of braking curve).

Appendices I - V

Appendix I: Test Run #1 Analysis

Test Run #1 Track Circuit Diagram and Vehicle Response



Test Run #1 ATC Event Log Data Review

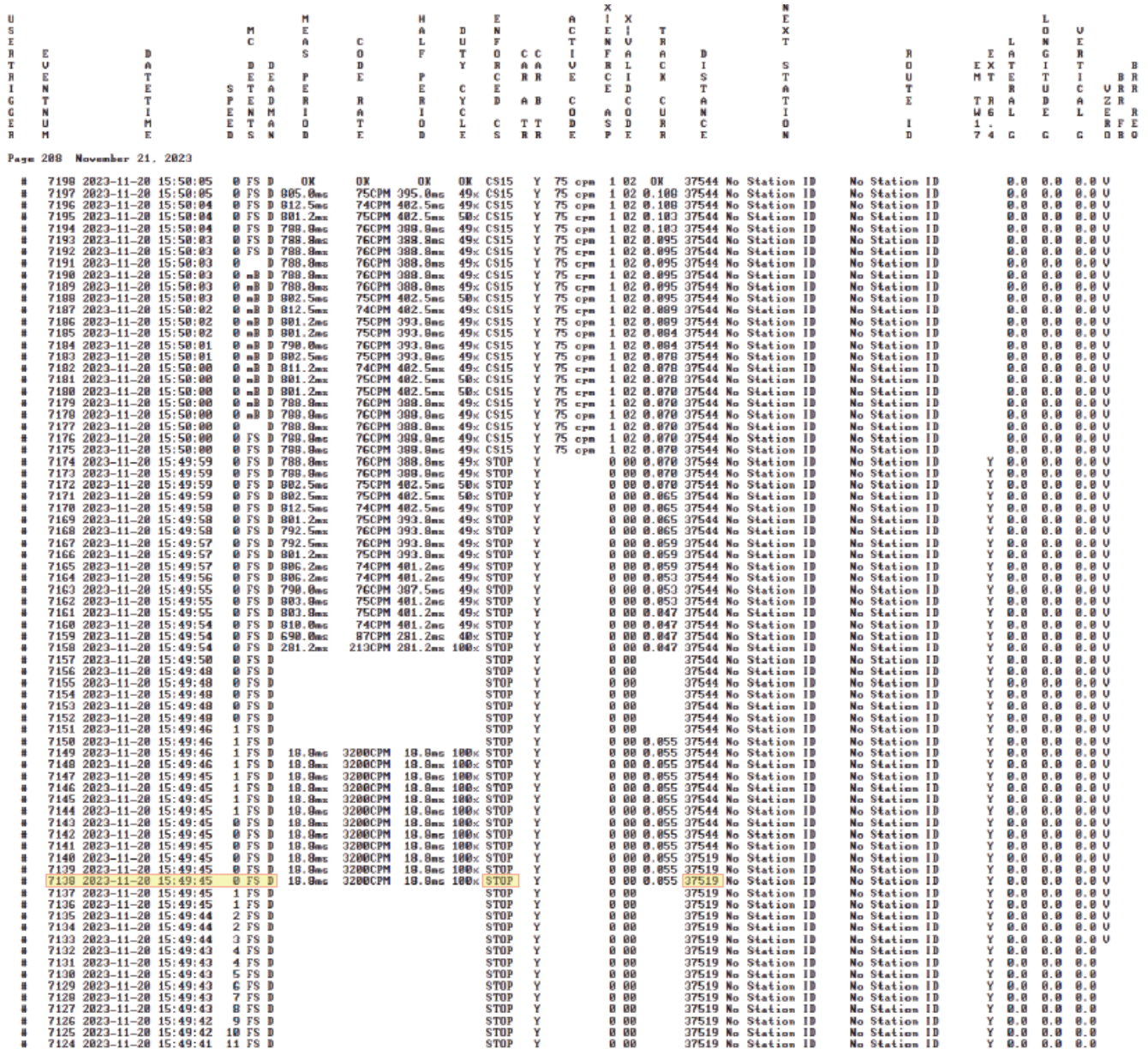
ATC Event Log Data Review – Test Run #1		
Criteria	**Time**	**Distance**
FS Brake	15:49:29	36969
Loss of Cab	15:49:34	37294
Stop Code	15:49:36	37394
Zero Speed	15:49:45	37519

Rail vehicle speed at loss of cab: **37 mph**

Total distance from brake application to stopping point: **550 feet**

Total time from brake application to stopping point: **16 seconds**

Test Run #1 ATC Event Log Data Review



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USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	MC DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR AAR	CAR ABR	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW17	EXT TR64	LATERAL G	LONGITUDE G	VERTICAL G	VZERO	BRR BRR FRB	RREQ
#	7198	2023-11-20 15:50:05	0	FS D		OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7197	2023-11-20 15:50:05	0	FS D		805.0ms	75CPM	395.0ms	49%	CS15	Y		75 cpm	1	02	0.100	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7196	2023-11-20 15:50:04	0	FS D		812.5ms	74CPM	402.5ms	49%	CS15	Y		75 cpm	1	02	0.100	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7195	2023-11-20 15:50:04	0	FS D		801.2ms	75CPM	402.5ms	50%	CS15	Y		75 cpm	1	02	0.103	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7194	2023-11-20 15:50:04	0	FS D		788.8ms	76CPM	388.8ms	49%	CS15	Y		75 cpm	1	02	0.103	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7193	2023-11-20 15:50:03	0	FS D		788.8ms	76CPM	388.8ms	49%	CS15	Y		75 cpm	1	02	0.095	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7192	2023-11-20 15:50:03	0	FS D		788.8ms	76CPM	388.8ms	49%	CS15	Y		75 cpm	1	02	0.095	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7191	2023-11-20 15:50:03	0		D	788.8ms	76CPM	388.8ms	49%	CS15	Y		75 cpm	1	02	0.095	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7190	2023-11-20 15:50:03	0	mB D		788.8ms	76CPM	388.8ms	49%	CS15	Y		75 cpm	1	02	0.095	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7189	2023-11-20 15:50:03	0	mB D		788.8ms	76CPM	388.8ms	49%	CS15	Y		75 cpm	1	02	0.095	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7188	2023-11-20 15:50:03	0	mB D		802.5ms	75CPM	402.5ms	50%	CS15	Y		75 cpm	1	02	0.095	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7187	2023-11-20 15:50:02	0	mB D		812.5ms	74CPM	402.5ms	49%	CS15	Y		75 cpm	1	02	0.089	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7186	2023-11-20 15:50:02	0	mB D		801.2ms	75CPM	393.8ms	49%	CS15	Y		75 cpm	1	02	0.089	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7185	2023-11-20 15:50:02	0	mB D		801.2ms	75CPM	393.8ms	49%	CS15	Y		75 cpm	1	02	0.084	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7184	2023-11-20 15:50:01	0	mB D		790.0ms	76CPM	393.8ms	49%	CS15	Y		75 cpm	1	02	0.084	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7183	2023-11-20 15:50:01	0	mB D		802.5ms	75CPM	393.8ms	49%	CS15	Y		75 cpm	1	02	0.078	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7182	2023-11-20 15:50:00	0	mB D		811.2ms	74CPM	402.5ms	49%	CS15	Y		75 cpm	1	02	0.078	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7181	2023-11-20 15:50:00	0	mB D		801.2ms	75CPM	402.5ms	50%	CS15	Y		75 cpm	1	02	0.078	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7180	2023-11-20 15:50:00	0	mB D		801.2ms	75CPM	402.5ms	50%	CS15	Y		75 cpm	1	02	0.078	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7179	2023-11-20 15:50:00	0	mB D		788.8ms	76CPM	388.8ms	49%	CS15	Y		75 cpm	1	02	0.078	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7178	2023-11-20 15:50:00	0	mB D		788.8ms	76CPM	388.8ms	49%	CS15	Y		75 cpm	1	02	0.078	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7177	2023-11-20 15:50:00	0		D	788.8ms	76CPM	388.8ms	49%	CS15	Y		75 cpm	1	02	0.078	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7176	2023-11-20 15:50:00	0	FS D		788.8ms	76CPM	388.8ms	49%	CS15	Y		75 cpm	1	02	0.078	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7175	2023-11-20 15:50:00	0	FS D		788.8ms	76CPM	388.8ms	49%	CS15	Y		75 cpm	1	02	0.078	37544	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	7174	2023-11-20 15:49:59	0	FS D		788.8ms	76CPM	388.8ms	49%	STOP	Y			0	00	0.078	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7173	2023-11-20 15:49:59	0	FS D		788.8ms	76CPM	388.8ms	49%	STOP	Y			0	00	0.078	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7172	2023-11-20 15:49:59	0	FS D		802.5ms	75CPM	402.5ms	50%	STOP	Y			0	00	0.078	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7171	2023-11-20 15:49:59	0	FS D		802.5ms	75CPM	402.5ms	50%	STOP	Y			0	00	0.065	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7170	2023-11-20 15:49:58	0	FS D		812.5ms	74CPM	402.5ms	49%	STOP	Y			0	00	0.065	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7169	2023-11-20 15:49:58	0	FS D		801.2ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.065	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7168	2023-11-20 15:49:58	0	FS D		792.5ms	76CPM	393.8ms	49%	STOP	Y			0	00	0.065	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7167	2023-11-20 15:49:57	0	FS D		792.5ms	76CPM	393.8ms	49%	STOP	Y			0	00	0.059	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7166	2023-11-20 15:49:57	0	FS D		801.2ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.059	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7165	2023-11-20 15:49:57	0	FS D		806.2ms	74CPM	401.2ms	49%	STOP	Y			0	00	0.059	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7164	2023-11-20 15:49:56	0	FS D		806.2ms	74CPM	401.2ms	49%	STOP	Y			0	00	0.053	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7163	2023-11-20 15:49:55	0	FS D		790.0ms	76CPM	387.5ms	49%	STOP	Y			0	00	0.053	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7162	2023-11-20 15:49:55	0	FS D		803.8ms	75CPM	401.2ms	49%	STOP	Y			0	00	0.053	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7161	2023-11-20 15:49:55	0	FS D		803.8ms	75CPM	401.2ms	49%	STOP	Y			0	00	0.047	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7160	2023-11-20 15:49:54	0	FS D		810.0ms	74CPM	401.2ms	49%	STOP	Y			0	00	0.047	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7159	2023-11-20 15:49:54	0	FS D		690.0ms	87CPM	281.2ms	40%	STOP	Y			0	00	0.047	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7158	2023-11-20 15:49:54	0	FS D		281.2ms	213CPM	281.2ms	100%	STOP	Y			0	00	0.047	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7157	2023-11-20 15:49:50	0	FS D						STOP	Y			0	00		37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7156	2023-11-20 15:49:48	0	FS D						STOP	Y			0	00		37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7155	2023-11-20 15:49:48	0	FS D						STOP	Y			0	00		37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7154	2023-11-20 15:49:48	0	FS D						STOP	Y			0	00		37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7153	2023-11-20 15:49:48	0	FS D						STOP	Y			0	00		37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7152	2023-11-20 15:49:48	0	FS D						STOP	Y			0	00		37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7151	2023-11-20 15:49:46	1	FS D						STOP	Y			0	00		37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7150	2023-11-20 15:49:46	1	FS D						STOP	Y			0	00	0.055	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7149	2023-11-20 15:49:46	1	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7148	2023-11-20 15:49:46	1	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7147	2023-11-20 15:49:45	1	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7146	2023-11-20 15:49:45	1	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7145	2023-11-20 15:49:45	1	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7144	2023-11-20 15:49:45	1	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7143	2023-11-20 15:49:45	0	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7142	2023-11-20 15:49:45	0	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7141	2023-11-20 15:49:45	0	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37544	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7140	2023-11-20 15:49:45	0	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37519	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7139	2023-11-20 15:49:45	0	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37519	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7138	2023-11-20 15:49:45	0	FS D		18.8ms	3200CPM	18.8ms	100%	STOP	Y			0	00	0.055	37519	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7137	2023-11-20 15:49:45	1	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7136	2023-11-20 15:49:45	1	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7135	2023-11-20 15:49:44	2	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7134	2023-11-20 15:49:44	2	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7133	2023-11-20 15:49:44	3	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	7132	2023-11-20 15:49:43	4	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	7131	2023-11-20 15:49:43	4	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	7130	2023-11-20 15:49:43	5	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	7129	2023-11-20 15:49:43	6	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	7128	2023-11-20 15:49:43	7	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	7127	2023-11-20 15:49:43	8	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	7126	2023-11-20 15:49:42	9	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	7125	2023-11-20 15:49:42	10	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	7124	2023-11-20 15:49:41	11	FS D						STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0			

ZERO SPEED

Test Run #1 ATC Event Log Data Review

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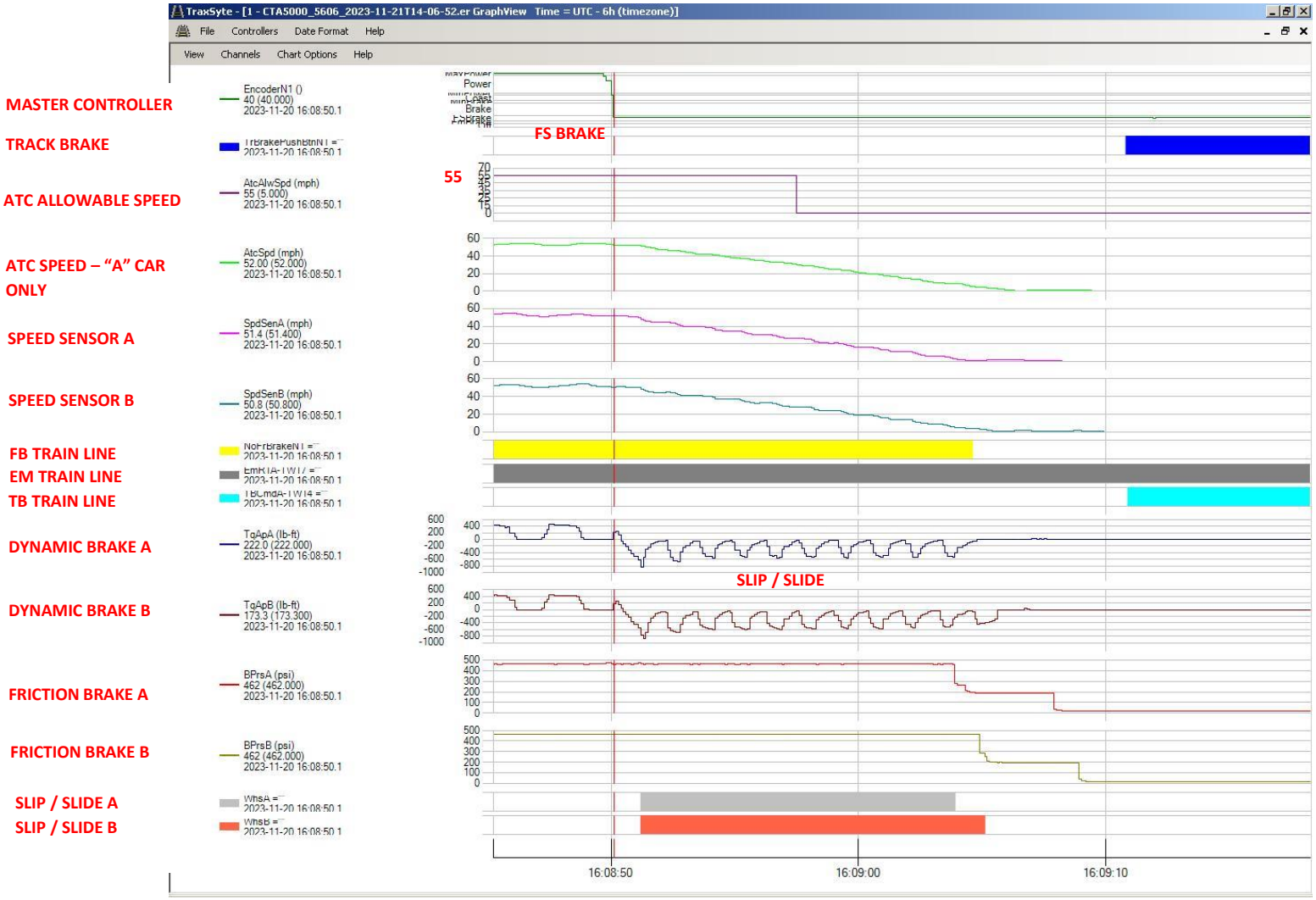
USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	MC DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR AB	CAR TR	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TRW17	EXT TR64	LATERAL G	LONGITUDE G	LATERAL G	VERTICAL G	VERZERO	BRRRFB	BRRRQ
#	7123	2023-11-20 15:49:41	12	FS	D					STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7122	2023-11-20 15:49:41	13	FS	D					STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7121	2023-11-20 15:49:41	14	FS	D					STOP	Y			0	00		37519	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7120	2023-11-20 15:49:41	14	FS	D					STOP	Y			0	00		37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7119	2023-11-20 15:49:41	15	FS	D					STOP	Y			0	00	0.004	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7118	2023-11-20 15:49:40	15	FS	D	60.0ms	1000CPM	46.2ms	77%	STOP	Y			0	00	0.004	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7117	2023-11-20 15:49:40	16	FS	D	60.0ms	1000CPM	46.2ms	77%	STOP	Y			0	00	0.004	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7116	2023-11-20 15:49:40	16	FS	D	60.0ms	1000CPM	46.2ms	77%	STOP	Y			0	00	0.004	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7115	2023-11-20 15:49:40	17	FS	D	60.0ms	1000CPM	46.2ms	77%	STOP	Y			0	00	0.004	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7114	2023-11-20 15:49:40	17	FS	D	60.0ms	1000CPM	46.2ms	77%	STOP	Y			0	00	0.004	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7113	2023-11-20 15:49:40	18	FS	D	60.0ms	1000CPM	46.2ms	77%	STOP	Y			0	00	0.004	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7112	2023-11-20 15:49:40	18	FS	D	60.0ms	1000CPM	46.2ms	77%	STOP	Y			0	00	0.070	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7111	2023-11-20 15:49:40	19	FS	D	60.0ms	1000CPM	46.2ms	77%	STOP	Y			0	00	0.085	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7110	2023-11-20 15:49:39	19	FS	D	601.2ms	100CPM	171.2ms	28%	STOP	Y			0	00	0.085	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7109	2023-11-20 15:49:39	20	FS	D	446.2ms	134CPM	16.2ms	3%	STOP	Y			0	00	0.085	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7108	2023-11-20 15:49:39	20	FS	D	16.2ms	3692CPM	16.2ms	100%	STOP	Y			0	00	0.085	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7107	2023-11-20 15:49:39	20	FS	D	16.2ms	3692CPM	16.2ms	100%	STOP	Y			0	00	0.076	37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7106	2023-11-20 15:49:39	21	FS	D					STOP	Y			0	00		37494	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7105	2023-11-20 15:49:39	21	FS	D					STOP	Y			0	00		37444	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7104	2023-11-20 15:49:38	22	FS	D					STOP	Y			0	00		37444	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7103	2023-11-20 15:49:38	23	FS	D					STOP	Y			0	00		37444	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7102	2023-11-20 15:49:38	24	FS	D					STOP	Y			0	00		37444	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7101	2023-11-20 15:49:38	24	FS	D					STOP	Y			0	00		37419	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7100	2023-11-20 15:49:37	25	FS	D					STOP	Y			0	00		37419	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7099	2023-11-20 15:49:37	26	FS	D					STOP	Y			0	00		37419	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7098	2023-11-20 15:49:37	27	FS	D					STOP	Y			0	00		37419	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7097	2023-11-20 15:49:37	28	FS	D					STOP	Y			0	00		37419	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7096	2023-11-20 15:49:37	28	FS	D					STOP	Y			0	00		37394	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7095	2023-11-20 15:49:36	29	FS	D					STOP	Y			0	00		37394	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7094	2023-11-20 15:49:36	30	FS	D					STOP	Y			0	00		37394	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7093	2023-11-20 15:49:36	30	FS	D					STOP	Y			0	00		37394	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7092	2023-11-20 15:49:36	30	FS	D					STOP	Y			0	00		37394	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7091	2023-11-20 15:49:36	30	FS	D					STOP	Y			0	00		37394	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7090	2023-11-20 15:49:36	30	FS	D					STOP	Y			0	00		37394	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7089	2023-11-20 15:49:36	30	FS	D					STOP	Y			0	00		37394	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	7088	2023-11-20 15:49:36	31	FS	D					CS55	Y			5	20		37394	No Station ID	No Station ID		0.0	0.0	0.0				
#	7087	2023-11-20 15:49:36	31	FS	D					CS55	Y			5	20		37319	No Station ID	No Station ID		0.0	0.0	0.0				
#	7086	2023-11-20 15:49:36	32	FS	D					CS55	Y			5	20		37319	No Station ID	No Station ID		0.0	0.0	0.0				
#	7085	2023-11-20 15:49:35	33	FS	D					CS55	Y			5	20		37319	No Station ID	No Station ID		0.0	0.0	0.0				
#	7084	2023-11-20 15:49:35	34	FS	D					CS55	Y			5	20		37319	No Station ID	No Station ID		0.0	0.0	0.0				
#	7083	2023-11-20 15:49:35	34	FS	D					CS55	Y			5	20		37294	No Station ID	No Station ID		0.0	0.0	0.0				
#	7082	2023-11-20 15:49:34	35	FS	D					CS55	Y			5	20		37294	No Station ID	No Station ID		0.0	0.0	0.0				
#	7081	2023-11-20 15:49:34	36	FS	D					CS55	Y			5	20		37294	No Station ID	No Station ID		0.0	0.0	0.0				
#	7080	2023-11-20 15:49:34	37	FS	D					CS55	Y			5	20		37294	No Station ID	No Station ID		0.0	0.0	0.0				
#	7079	2023-11-20 15:49:34	37	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37294	No Station ID	No Station ID		0.0	0.0	0.0				
#	7078	2023-11-20 15:49:34	37	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37219	No Station ID	No Station ID		0.0	0.0	0.0				
#	7077	2023-11-20 15:49:33	38	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37219	No Station ID	No Station ID		0.0	0.0	0.0				
#	7076	2023-11-20 15:49:33	39	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37219	No Station ID	No Station ID		0.0	0.0	0.0				
#	7075	2023-11-20 15:49:33	40	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37219	No Station ID	No Station ID		0.0	0.0	0.0				
#	7074	2023-11-20 15:49:33	41	FS	D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	37219	No Station ID	No Station ID		0.0	0.0	0.0				
#	7073	2023-11-20 15:49:33	41	FS	D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	37194	No Station ID	No Station ID		0.0	0.0	0.0				
#	7072	2023-11-20 15:49:32	42	FS	D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	37194	No Station ID	No Station ID		0.0	0.0	0.0				
#	7071	2023-11-20 15:49:32	43	FS	D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	37194	No Station ID	No Station ID		0.0	0.0	0.0				
#	7070	2023-11-20 15:49:32	43	FS	D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	37119	No Station ID	No Station ID		0.0	0.0	0.0				
#	7069	2023-11-20 15:49:32	44	FS	D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	37119	No Station ID	No Station ID		0.0	0.0	0.0				
#	7068	2023-11-20 15:49:31	45	FS	D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	37119	No Station ID	No Station ID		0.0	0.0	0.0				
#	7067	2023-11-20 15:49:31	46	FS	D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	37119	No Station ID	No Station ID		0.0	0.0	0.0				
#	7066	2023-11-20 15:49:31	46	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37119	No Station ID	No Station ID		0.0	0.0	0.0				
#	7065	2023-11-20 15:49:31	46	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37069	No Station ID	No Station ID		0.0	0.0	0.0				
#	7064	2023-11-20 15:49:31	47	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37069	No Station ID	No Station ID		0.0	0.0	0.0				
#	7063	2023-11-20 15:49:30	48	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37069	No Station ID	No Station ID		0.0	0.0	0.0				
#	7062	2023-11-20 15:49:30	49	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37069	No Station ID	No Station ID		0.0	0.0	0.0				
#	7061	2023-11-20 15:49:30	50	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37069	No Station ID	No Station ID		0.0	0.0	0.0				
#	7060	2023-11-20 15:49:30	51	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	37069	No Station ID	No Station ID		0.0	0.0	0.0				
#	7059	2023-11-20 15:49:30	51	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	36969	No Station ID	No Station ID		0.0	0.0	0.0				
#	7058	2023-11-20 15:49:29	52	FS	D	OK	OK	OK	OK	CS55	Y			5	20	OK	36969	No Station ID	No Station ID		0.0	0.0	0.0				
#	7057	2023-11-20 15:49:29	52	FS	D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	36969	No Station ID	No Station ID		0.0	0.0	0.0				
#	7056	2023-11-20 15:49:29	52		D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	36969	No Station ID	No Station ID		0.0	0.0	0.0				
#	7055	2023-11-20 15:49:29	52		D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	36969	No Station ID	No Station ID		0.0	0.0	0.0				
#	7054	2023-11-20 15:49:29	52		D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	36894	No Station ID	No Station ID		0.0	0.0	0.0				
#	7053	2023-11-20 15:49:29	52	mB	D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	36894	No Station ID	No Station ID		0.0	0.0	0.0				
#	7052	2023-11-20 15:49:29	52		D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	36894	No Station ID	No Station ID		0.0	0.0	0.0				
#	7051	2023-11-20 15:49:29	53		D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	36894	No Station ID	No Station ID		0.0	0.0	0.0				
#	7050	2023-11-20 15:49:29	53		D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	36894	No Station ID	No Station ID		0.0	0.0	0.0				
#	7049	2023-11-20 15:49:28	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cps	5	20	OK	36894	No Station ID	No Station ID		0.0	0.0	0.0				

STOP CODE

LOSS OF CAB

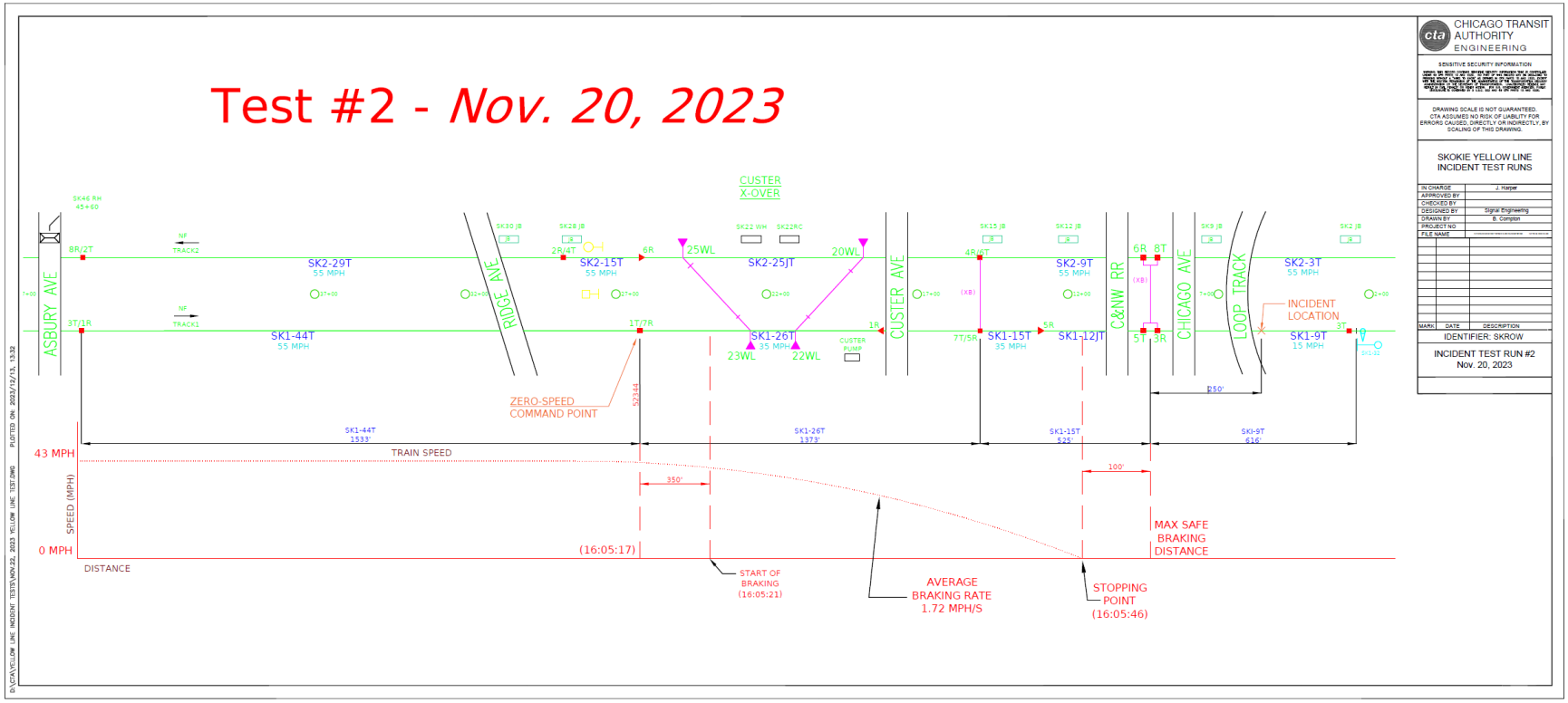
FS BRAKE

Test Run #1 ERU Event Log



Appendix II: Test Run #2 Analysis

Test Run #2 Track Circuit Diagram and Vehicle Response



Test Run #2 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #2		
Criteria	**Time**	**Distance**
Loss of Cab	16:05:17	52344
Stop Code	16:05:20	52544
FS Brake	16:05:21	52669
Zero Speed	16:05:46	52994

Rail vehicle speed at loss of cab: **47 mph**

Total distance from brake application to stopping point: **325 feet**

Total time from brake application to stopping point: **25 seconds**

Test Run #2 ATC Event Log Data Review

USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR AAR	ACTIVE CODE	XINFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW1.74	EMT TR6	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRR BRR	BRR RFB
Page 174 November 21. 2023																										
#	9748	2023-11-20 16:06:08	13	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53269	No Station ID	No Station ID			0.0	0.0	0.0			
#	9747	2023-11-20 16:06:07	13	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53244	No Station ID	No Station ID			0.0	0.0	0.0			
#	9746	2023-11-20 16:06:07	13	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53194	No Station ID	No Station ID			0.0	0.0	0.0			
#	9745	2023-11-20 16:06:06	12	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53194	No Station ID	No Station ID			0.0	0.0	0.0			
#	9744	2023-11-20 16:06:05	12	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53169	No Station ID	No Station ID			0.0	0.0	0.0			
#	9743	2023-11-20 16:06:04	11	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53169	No Station ID	No Station ID			0.0	0.0	0.0			
#	9742	2023-11-20 16:06:03	11	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53144	No Station ID	No Station ID			0.0	0.0	0.0			
#	9741	2023-11-20 16:06:02	12	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53144	No Station ID	No Station ID			0.0	0.0	0.0			
#	9740	2023-11-20 16:06:02	12	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53144	No Station ID	No Station ID			0.0	0.0	0.0			
#	9739	2023-11-20 16:06:02	12	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53144	No Station ID	No Station ID			0.0	0.0	0.0			
#	9738	2023-11-20 16:06:02	13	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53144	No Station ID	No Station ID			0.0	0.0	0.0			
#	9737	2023-11-20 16:06:02	13	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53144	No Station ID	No Station ID			0.0	0.0	0.0			
#	9736	2023-11-20 16:06:02	13	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53144	No Station ID	No Station ID			0.0	0.0	0.0			
#	9735	2023-11-20 16:06:02	13	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53094	No Station ID	No Station ID			0.0	0.0	0.0			
#	9734	2023-11-20 16:06:02	14	D	OK	OK	OK	OK	OK	CS15	Y	75 cpm	1	02	OK	53094	No Station ID	No Station ID			0.0	0.0	0.0			
#	9733	2023-11-20 16:06:02	14	D	806.2ms	74CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.112	53094	No Station ID	No Station ID			0.0	0.0	0.0			
#	9732	2023-11-20 16:06:02	15	D	806.2ms	74CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.112	53094	No Station ID	No Station ID			0.0	0.0	0.0			
#	9731	2023-11-20 16:06:01	14	D	806.2ms	74CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.112	53094	No Station ID	No Station ID			0.0	0.0	0.0			
#	9730	2023-11-20 16:06:01	13	D	797.5ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.106	53094	No Station ID	No Station ID			0.0	0.0	0.0			
#	9729	2023-11-20 16:06:01	13	D	797.5ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.106	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9728	2023-11-20 16:06:01	12	D	797.5ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.106	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9727	2023-11-20 16:06:01	11	D	797.5ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.106	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9726	2023-11-20 16:06:01	11	D	797.5ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.106	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9725	2023-11-20 16:06:01	11	D	797.5ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.106	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9724	2023-11-20 16:06:01	11	D	788.8ms	76CPM	388.8ms	49%	CS15	Y	75 cpm	1	02	0.106	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9723	2023-11-20 16:06:01	11	D	788.8ms	76CPM	388.8ms	49%	CS15	Y	75 cpm	1	02	0.106	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9722	2023-11-20 16:06:01	11	D	788.8ms	76CPM	388.8ms	49%	CS15	Y	75 cpm	1	02	0.106	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9721	2023-11-20 16:06:01	11	D	788.8ms	76CPM	388.8ms	49%	CS15	Y	75 cpm	1	02	0.101	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9720	2023-11-20 16:06:00	10	D	792.5ms	76CPM	388.8ms	49%	CS15	Y	75 cpm	1	02	0.101	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9719	2023-11-20 16:06:00	10	D	803.8ms	75CPM	398.8ms	49%	CS15	Y	75 cpm	1	02	0.101	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9718	2023-11-20 16:05:59	11	D	803.8ms	75CPM	398.8ms	49%	CS15	Y	75 cpm	1	02	0.101	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9717	2023-11-20 16:05:59	11	D	803.8ms	75CPM	398.8ms	49%	CS15	Y	75 cpm	1	02	0.101	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9716	2023-11-20 16:05:59	11	D	803.8ms	75CPM	398.8ms	49%	CS15	Y	75 cpm	1	02	0.101	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9715	2023-11-20 16:05:59	12	D	803.8ms	75CPM	398.8ms	49%	CS15	Y	75 cpm	1	02	0.101	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9714	2023-11-20 16:05:59	12	D	803.8ms	75CPM	398.8ms	49%	CS15	Y	75 cpm	1	02	0.101	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9713	2023-11-20 16:05:59	12	D	803.8ms	75CPM	398.8ms	49%	CS15	Y	75 cpm	1	02	0.101	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9712	2023-11-20 16:05:59	12	D	796.2ms	75CPM	391.2ms	49%	CS15	Y	75 cpm	1	02	0.101	53069	No Station ID	No Station ID			0.0	0.0	0.0			
#	9711	2023-11-20 16:05:59	12	D	796.2ms	75CPM	391.2ms	49%	CS15	Y	75 cpm	1	02	0.101	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9710	2023-11-20 16:05:59	13	D	796.2ms	75CPM	391.2ms	49%	CS15	Y	75 cpm	1	02	0.093	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9709	2023-11-20 16:05:59	13	D	790.0ms	76CPM	391.2ms	49%	CS15	Y	75 cpm	1	02	0.093	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9708	2023-11-20 16:05:58	12	D	793.8ms	76CPM	397.5ms	50%	CS15	Y	75 cpm	1	02	0.093	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9707	2023-11-20 16:05:58	11	D	793.8ms	76CPM	397.5ms	50%	CS15	Y	75 cpm	1	02	0.093	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9706	2023-11-20 16:05:58	11	D	793.8ms	76CPM	397.5ms	50%	CS15	Y	75 cpm	1	02	0.089	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9705	2023-11-20 16:05:58	11	D	793.8ms	76CPM	397.5ms	50%	CS15	Y	75 cpm	1	02	0.089	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9704	2023-11-20 16:05:58	11	D	793.8ms	76CPM	397.5ms	50%	CS15	Y	75 cpm	1	02	0.089	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9703	2023-11-20 16:05:58	10	D	803.8ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.089	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9702	2023-11-20 16:05:58	10	D	803.8ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.089	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9701	2023-11-20 16:05:58	10	D	803.8ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.089	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9700	2023-11-20 16:05:57	9	D	803.8ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.089	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9699	2023-11-20 16:05:57	9	D	796.2ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.084	53044	No Station ID	No Station ID			0.0	0.0	0.0			
#	9698	2023-11-20 16:05:57	9	D	796.2ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.084	52994	No Station ID	No Station ID			0.0	0.0	0.0			
#	9697	2023-11-20 16:05:57	8	D	788.8ms	76CPM	390.0ms	49%	CS15	Y	75 cpm	1	02	0.084	52994	No Station ID	No Station ID			0.0	0.0	0.0			
#	9696	2023-11-20 16:05:57	7	D	788.8ms	76CPM	390.0ms	49%	CS15	Y	75 cpm	1	02	0.084	52994	No Station ID	No Station ID			0.0	0.0	0.0			
#	9695	2023-11-20 16:05:57	7	D	792.5ms	76CPM	390.0ms	49%	CS15	Y	75 cpm	1	02	0.084	52994	No Station ID	No Station ID			0.0	0.0	0.0			
#	9694	2023-11-20 16:05:56	6	D	792.5ms	76CPM	390.0ms	49%	CS15	Y	75 cpm	1	02	0.084	52994	No Station ID	No Station ID			0.0	0.0	0.0			
#	9693	2023-11-20 16:05:56	5	D	792.5ms	76CPM	390.0ms	49%	CS15	Y	75 cpm	1	02	0.084	52994	No Station ID	No Station ID			0.0	0.0	0.0			
#	9692	2023-11-20 16:05:56	4	D	803.8ms	75CPM	400.0ms	49%	CS15	Y	75 cpm	1	02	0.084	52994	No Station ID	No Station ID			0.0	0.0	0.0			
#	9691	2023-11-20 16:05:56	3	D	803.8ms	75CPM	400.0ms	49%	CS15	Y	75 cpm	1	02	0.084	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9690	2023-11-20 16:05:56	2	D	803.8ms	75CPM	400.0ms	49%	CS15	Y	75 cpm	1	02	0.084	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9689	2023-11-20 16:05:56	1	D	803.8ms	75CPM	400.0ms	49%	CS15	Y	75 cpm	1	02	0.076	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9688	2023-11-20 16:05:55	0	D	803.8ms	75CPM	400.0ms	49%	CS15	Y	75 cpm	1	02	0.076	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9687	2023-11-20 16:05:55	0	D	803.8ms	75CPM	400.0ms	49%	CS15	Y	75 cpm	1	02	0.076	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9686	2023-11-20 16:05:55	0	D	796.2ms	75CPM	392.5ms	49%	CS15	Y	75 cpm	1	02	0.076	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9685	2023-11-20 16:05:55	0	D	792.5ms	76CPM	392.5ms	49%	CS15	Y	75 cpm	1	02	0.076	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9684	2023-11-20 16:05:55	0 mP	D	792.5ms	76CPM	392.5ms	49%	CS15	Y	75 cpm	1	02	0.076	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9683	2023-11-20 16:05:55	0 mB	D	792.5ms	76CPM	392.5ms	49%	CS15	Y	75 cpm	1	02	0.076	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9682	2023-11-20 16:05:55	0	D	792.5ms	76CPM	392.5ms	49%	CS15	Y	75 cpm	1	02	0.076	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9681	2023-11-20 16:05:55	0 FS	D	792.5ms	76CPM	392.5ms	49%	CS15	Y	75 cpm	1	02	0.076	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9680	2023-11-20 16:05:54	0 FS	D	792.5ms	76CPM	397.5ms	50%	CS15	Y	75 cpm	1	02	0.076	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9679	2023-11-20 16:05:54	0 FS	D	803.8ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.076	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9678	2023-11-20 16:05:53	0 FS	D	803.8ms	75CPM	397.5ms	49%	CS15	Y	75 cpm	1	02	0.070	52994	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	9677	2023-11-20 16:05:53	0 FS	D	796.2ms	73CPM	397.5ms	49%	STOP	Y		0	00	0.070	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	9676	2023-11-20 16:05:53	0 FS	D	788.8ms	76CPM	390.0ms	49%	STOP	Y		0	00	0.070	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	9675	2023-11-20 16:05:52	0 FS	D	793.8ms	76CPM	390.0ms	49%	STOP	Y		0	00	0.065	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	9674	2023-11-20 16:05:51	0 FS	D	802.5ms	75CPM	398.8ms	49%	STOP	Y		0	00	0.065	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		

BRAKE RELEASED

Test Run #2 ATC Event Log Data Review

ZERO SPEED

USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TRR	CAB TRR	ACTIVE CODE	XINFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXTRA6.4	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRRF	BRREQ
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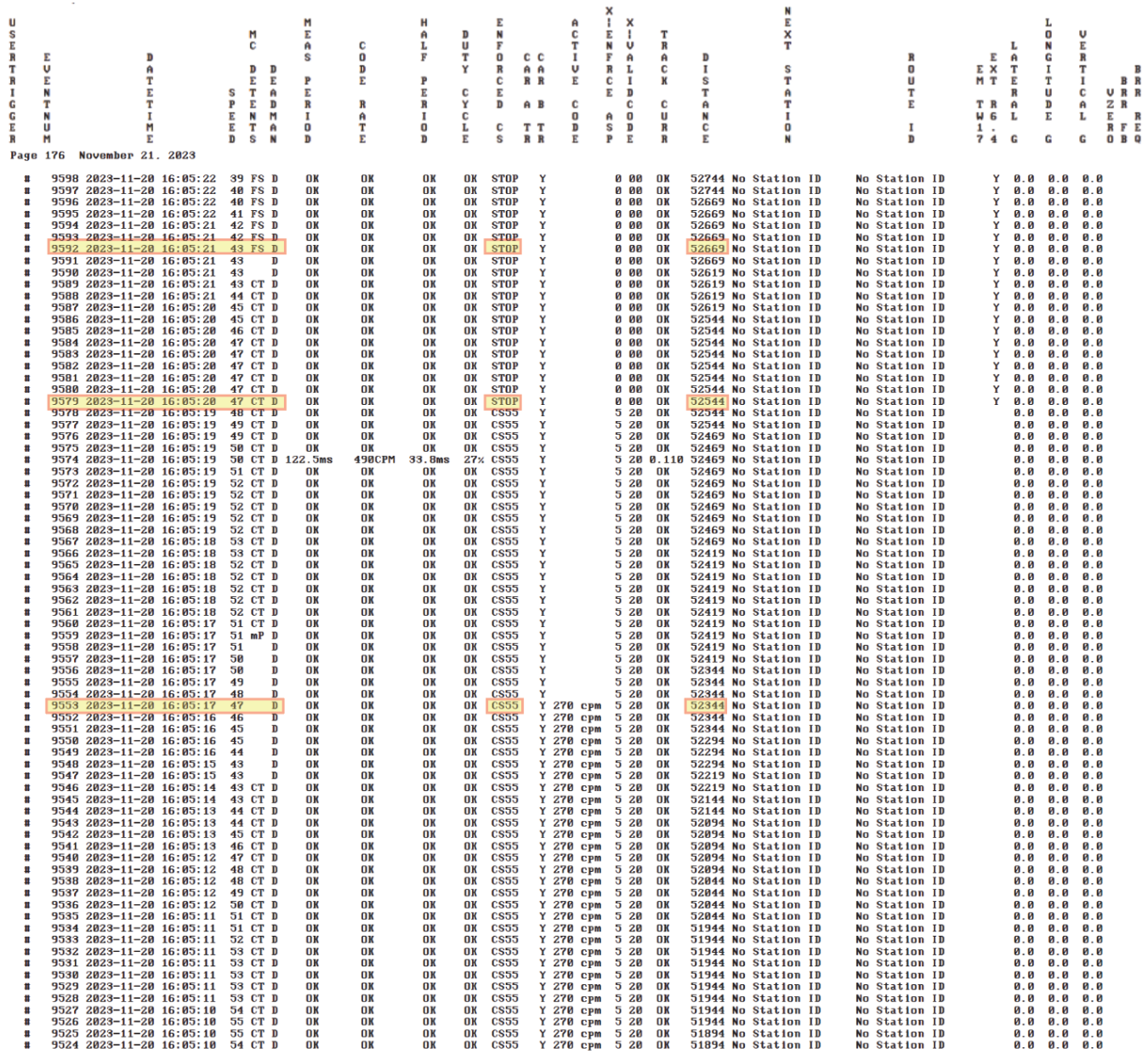
#	9673	2023-11-20 16:05:51	0	FS D		795.0ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.065	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9672	2023-11-20 16:05:51	0	FS D		791.2ms	76CPM	393.8ms	49%	STOP	Y			0	00	0.059	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9671	2023-11-20 16:05:50	0	FS D		795.0ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.059	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9670	2023-11-20 16:05:50	0	FS D		800.0ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.059	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9669	2023-11-20 16:05:49	0	FS D		800.0ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.053	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9668	2023-11-20 16:05:48	0	FS D		796.2ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.053	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9667	2023-11-20 16:05:48	0	FS D		800.0ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.053	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9666	2023-11-20 16:05:47	0	FS D		800.0ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.047	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9665	2023-11-20 16:05:46	0	FS D		796.2ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.047	52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9664	2023-11-20 16:05:34	0	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9663	2023-11-20 16:05:34	0	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9662	2023-11-20 16:05:34	0	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9661	2023-11-20 16:05:34	0	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9660	2023-11-20 16:05:34	0	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9659	2023-11-20 16:05:33	1	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9658	2023-11-20 16:05:32	1	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9657	2023-11-20 16:05:32	2	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9656	2023-11-20 16:05:32	2	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9655	2023-11-20 16:05:32	3	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9654	2023-11-20 16:05:31	4	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9653	2023-11-20 16:05:31	5	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9652	2023-11-20 16:05:31	6	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9651	2023-11-20 16:05:30	7	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9650	2023-11-20 16:05:30	8	FS D						STOP	Y			0	00		52994	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9649	2023-11-20 16:05:30	8	FS D						STOP	Y			0	00		52969	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9648	2023-11-20 16:05:30	9	FS D						STOP	Y			0	00		52969	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9647	2023-11-20 16:05:30	10	FS D						STOP	Y			0	00		52969	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9646	2023-11-20 16:05:29	11	FS D						STOP	Y			0	00		52969	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9645	2023-11-20 16:05:29	11	FS D						STOP	Y			0	00		52969	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9644	2023-11-20 16:05:29	12	FS D						STOP	Y			0	00		52969	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9643	2023-11-20 16:05:29	12	FS D						STOP	Y			0	00		52969	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9642	2023-11-20 16:05:29	13	FS D						STOP	Y			0	00		52969	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9641	2023-11-20 16:05:29	14	FS D						STOP	Y			0	00		52969	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9640	2023-11-20 16:05:28	15	FS D						STOP	Y			0	00		52969	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9639	2023-11-20 16:05:28	16	FS D						STOP	Y			0	00		52969	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9638	2023-11-20 16:05:28	16	FS D						STOP	Y			0	00		52944	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9637	2023-11-20 16:05:28	17	FS D						STOP	Y			0	00		52944	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9636	2023-11-20 16:05:27	18	FS D						STOP	Y			0	00		52944	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9635	2023-11-20 16:05:27	19	FS D						STOP	Y			0	00		52944	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9634	2023-11-20 16:05:27	19	FS D						STOP	Y			0	00		52919	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9633	2023-11-20 16:05:27	20	FS D						STOP	Y			0	00		52919	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9632	2023-11-20 16:05:27	21	FS D						STOP	Y			0	00		52919	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9631	2023-11-20 16:05:27	22	FS D						STOP	Y			0	00		52919	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9630	2023-11-20 16:05:26	23	FS D						STOP	Y			0	00		52919	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9629	2023-11-20 16:05:26	23	FS D						STOP	Y			0	00		52869	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9628	2023-11-20 16:05:26	23	FS D						STOP	Y			0	00	0.106	52869	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9627	2023-11-20 16:05:26	23	FS D	131.2ms		457CPM	53.8ms	40%	STOP	Y			0	00	0.106	52869	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9626	2023-11-20 16:05:26	24	FS D	131.2ms		457CPM	53.8ms	40%	STOP	Y			0	00	0.106	52869	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9625	2023-11-20 16:05:26	25	FS D	131.2ms		457CPM	53.8ms	40%	STOP	Y			0	00	0.106	52869	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9624	2023-11-20 16:05:25	26	FS D	131.2ms		457CPM	53.8ms	40%	STOP	Y			0	00	0.106	52869	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9623	2023-11-20 16:05:25	27	FS D	131.2ms		457CPM	53.8ms	40%	STOP	Y			0	00	0.101	52869	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9622	2023-11-20 16:05:25	27	FS D	131.2ms		457CPM	53.8ms	40%	STOP	Y			0	00	0.087	52869	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9621	2023-11-20 16:05:25	27	FS D	131.2ms		457CPM	53.8ms	40%	STOP	Y			0	00	0.087	52844	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9620	2023-11-20 16:05:25	27	FS D	156.2ms		384CPM	78.8ms	50%	STOP	Y			0	00	0.093	52844	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9619	2023-11-20 16:05:25	27	FS D	156.2ms		384CPM	78.8ms	50%	STOP	Y			0	00	0.093	52844	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9618	2023-11-20 16:05:25	28	FS D	161.2ms		372CPM	78.8ms	48%	STOP	Y			0	00	0.093	52844	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9617	2023-11-20 16:05:25	28	FS D	28.8ms		2087CPM	28.8ms	100%	STOP	Y			0	00	0.065	52844	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9616	2023-11-20 16:05:25	28	FS D						STOP	Y			0	00	0.051	52844	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9615	2023-11-20 16:05:25	28	FS D						STOP	Y			0	00	0.051	52844	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9614	2023-11-20 16:05:25	29	FS D						STOP	Y			0	00		52844	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9613	2023-11-20 16:05:25	29	FS D	OK		OK	OK	OK	STOP	Y			0	00	OK	52844	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9612	2023-11-20 16:05:24	30	FS D	OK		OK	OK	OK	STOP	Y			0	00	OK	52844	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9611	2023-11-20 16:05:24	30	FS D	OK		OK	OK	OK	STOP	Y			0	00	OK	52819	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9610	2023-11-20 16:05:24	31	FS D	OK		OK	OK	OK	STOP	Y			0	00	OK	52819	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9609	2023-11-20 16:05:24	32	FS D	OK		OK	OK	OK	STOP	Y			0	00	OK	52819	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9608	2023-11-20 16:05:24	33	FS D	OK		OK	OK	OK	STOP	Y			0	00	OK	52819	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9607	2023-11-20 16:05:24	34	FS D	OK		OK	OK	OK	STOP	Y			0	00	OK	52819	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9606	2023-11-20 16:05:23	34	FS D	110.0ms		545CPM	45.0ms	40%	STOP	Y			0	00	0.110	52819	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9605	2023-11-20 16:05:23	34	FS D	148.8ms		403CPM	118.8ms	79%	STOP	Y			0	00	0.105	52819	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9604	2023-11-20 16:05:23	35	FS D	30.0ms		2000CPM			STOP	Y			0	00	0.105	52819	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9603	2023-11-20 16:05:23	35	FS D	30.0ms		2000CPM			STOP	Y			0	00	0.105	52744	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9602	2023-11-20 16:05:23	35	FS D						STOP	Y			0	00		52744	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9601	2023-11-20 16:05:23	36	FS D						STOP	Y			0	00		52744	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9600	2023-11-20 16:05:23	37	FS D	OK		OK	OK	OK	STOP	Y			0	00	OK	52744	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9599	2023-11-20 16:05:22	38	FS D	OK		OK	OK	OK	STOP	Y			0	00	OK	52744	No Station ID	No Station ID	Y	0.0	0.0	0.0				

Test Run #2 ATC Event Log Data Review



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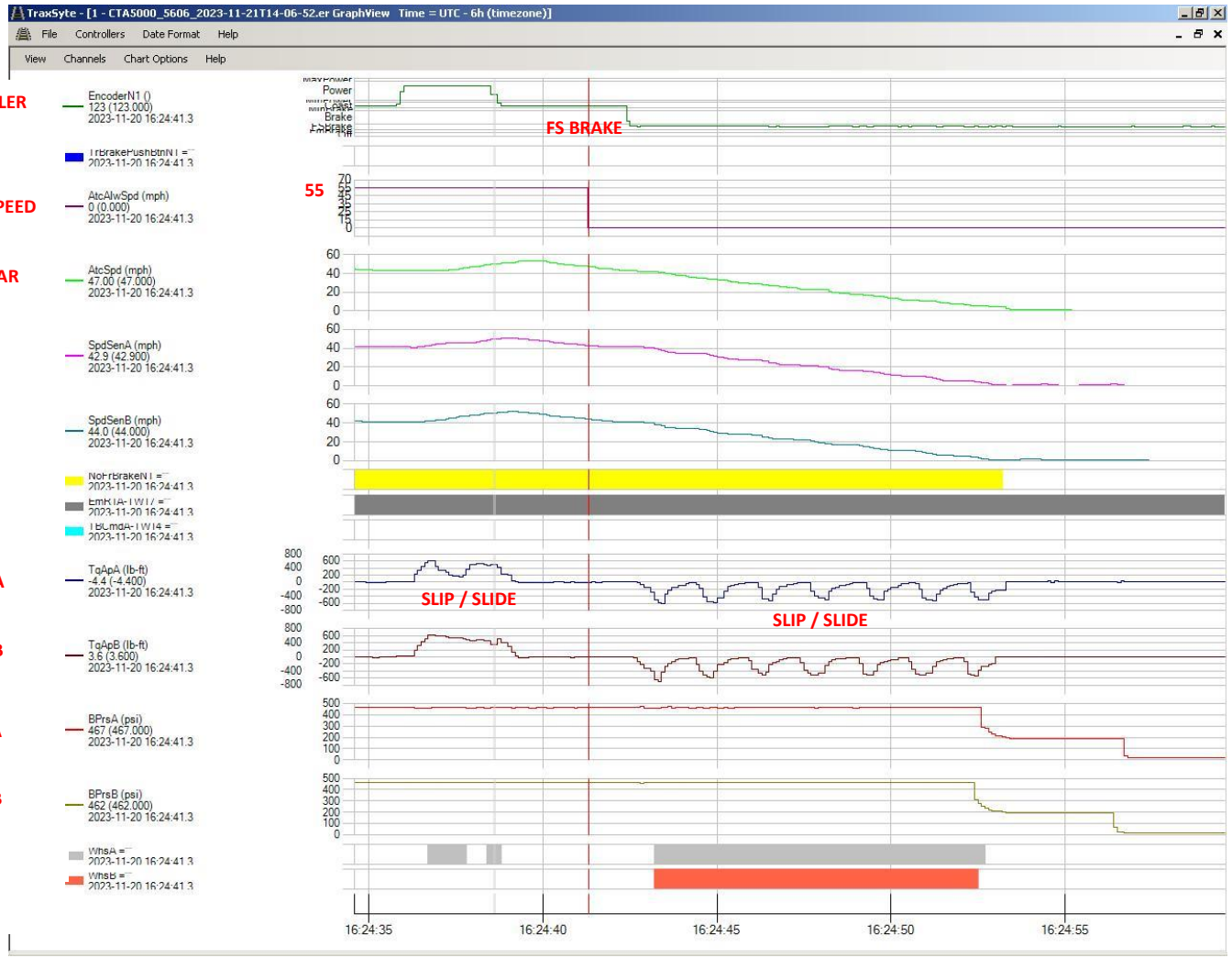
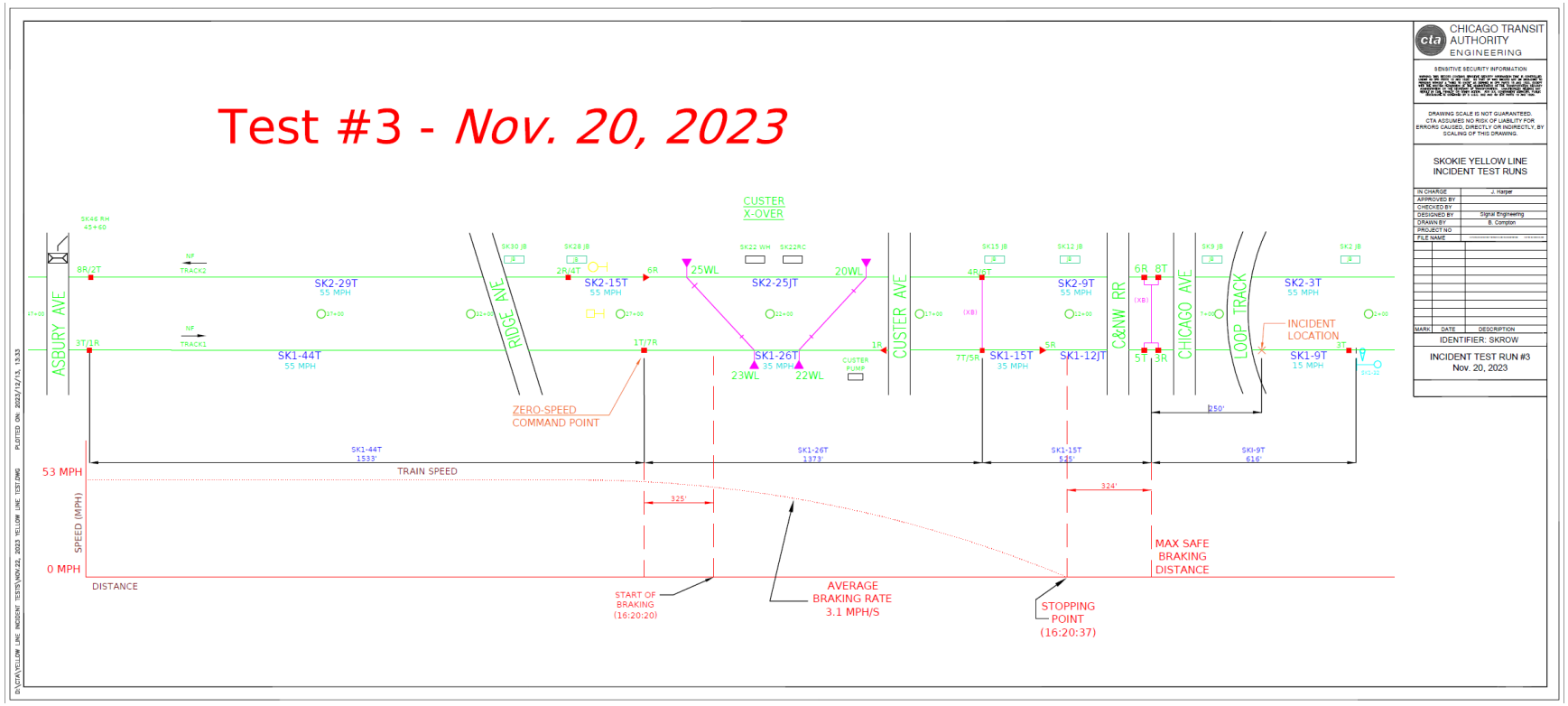
USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	MC DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAR AB	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TRW1.74	EXT TR6 4	LATERAL G	LONGITUDE G	VERTICAL G	VZERO	BRR RFB	BRR REQ
#	9598	2023-11-20 16:05:22	39	FS	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52744	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9597	2023-11-20 16:05:22	40	FS	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52744	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9596	2023-11-20 16:05:22	40	FS	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52669	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9595	2023-11-20 16:05:22	41	FS	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52669	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9594	2023-11-20 16:05:21	42	FS	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52669	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9593	2023-11-20 16:05:21	42	FS	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52669	No Station ID	No Station ID	Y	0.0	0.0	0.0			
FS BRAKE #	9592	2023-11-20 16:05:21	43	FS	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52669	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9591	2023-11-20 16:05:21	43		D	OK	OK	OK	OK	STOP	Y			0	00	OK	52669	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9590	2023-11-20 16:05:21	43		D	OK	OK	OK	OK	STOP	Y			0	00	OK	52619	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9589	2023-11-20 16:05:21	43	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52619	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9588	2023-11-20 16:05:21	44	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52619	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9587	2023-11-20 16:05:20	45	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52619	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9586	2023-11-20 16:05:20	45	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52544	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9585	2023-11-20 16:05:20	46	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52544	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9584	2023-11-20 16:05:20	47	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52544	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9583	2023-11-20 16:05:20	47	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52544	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9582	2023-11-20 16:05:20	47	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52544	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9581	2023-11-20 16:05:20	47	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52544	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9580	2023-11-20 16:05:20	47	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52544	No Station ID	No Station ID	Y	0.0	0.0	0.0			
STOP CODE #	9579	2023-11-20 16:05:20	47	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	52544	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9578	2023-11-20 16:05:19	48	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52544	No Station ID	No Station ID		0.0	0.0	0.0			
#	9577	2023-11-20 16:05:19	49	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52544	No Station ID	No Station ID		0.0	0.0	0.0			
#	9576	2023-11-20 16:05:19	49	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52469	No Station ID	No Station ID		0.0	0.0	0.0			
#	9575	2023-11-20 16:05:19	50	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52469	No Station ID	No Station ID		0.0	0.0	0.0			
#	9574	2023-11-20 16:05:19	50	CT	D	122.5ms	490CPM	33.8ms	27%	CS55	Y			5	20	0.110	52469	No Station ID	No Station ID		0.0	0.0	0.0			
#	9573	2023-11-20 16:05:19	51	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52469	No Station ID	No Station ID		0.0	0.0	0.0			
#	9572	2023-11-20 16:05:19	52	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52469	No Station ID	No Station ID		0.0	0.0	0.0			
#	9571	2023-11-20 16:05:19	52	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52469	No Station ID	No Station ID		0.0	0.0	0.0			
#	9570	2023-11-20 16:05:19	52	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52469	No Station ID	No Station ID		0.0	0.0	0.0			
#	9569	2023-11-20 16:05:19	52	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52469	No Station ID	No Station ID		0.0	0.0	0.0			
#	9568	2023-11-20 16:05:19	52	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52469	No Station ID	No Station ID		0.0	0.0	0.0			
#	9567	2023-11-20 16:05:18	53	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52469	No Station ID	No Station ID		0.0	0.0	0.0			
#	9566	2023-11-20 16:05:18	53	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52419	No Station ID	No Station ID		0.0	0.0	0.0			
#	9565	2023-11-20 16:05:18	52	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52419	No Station ID	No Station ID		0.0	0.0	0.0			
#	9564	2023-11-20 16:05:18	52	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52419	No Station ID	No Station ID		0.0	0.0	0.0			
#	9563	2023-11-20 16:05:18	52	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52419	No Station ID	No Station ID		0.0	0.0	0.0			
#	9562	2023-11-20 16:05:18	52	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52419	No Station ID	No Station ID		0.0	0.0	0.0			
#	9561	2023-11-20 16:05:18	52	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52419	No Station ID	No Station ID		0.0	0.0	0.0			
#	9560	2023-11-20 16:05:17	51	CT	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52419	No Station ID	No Station ID		0.0	0.0	0.0			
#	9559	2023-11-20 16:05:17	51	mP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	52419	No Station ID	No Station ID		0.0	0.0	0.0			
#	9558	2023-11-20 16:05:17	51		D	OK	OK	OK	OK	CS55	Y			5	20	OK	52419	No Station ID	No Station ID		0.0	0.0	0.0			
#	9557	2023-11-20 16:05:17	50		D	OK	OK	OK	OK	CS55	Y			5	20	OK	52419	No Station ID	No Station ID		0.0	0.0	0.0			
#	9556	2023-11-20 16:05:17	50		D	OK	OK	OK	OK	CS55	Y			5	20	OK	52344	No Station ID	No Station ID		0.0	0.0	0.0			
#	9555	2023-11-20 16:05:17	49		D	OK	OK	OK	OK	CS55	Y			5	20	OK	52344	No Station ID	No Station ID		0.0	0.0	0.0			
#	9554	2023-11-20 16:05:17	48		D	OK	OK	OK	OK	CS55	Y			5	20	OK	52344	No Station ID	No Station ID		0.0	0.0	0.0			
LOSS OF CAB #	9553	2023-11-20 16:05:17	47		D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52344	No Station ID	No Station ID		0.0	0.0	0.0			
#	9552	2023-11-20 16:05:16	46		D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52344	No Station ID	No Station ID		0.0	0.0	0.0			
#	9551	2023-11-20 16:05:16	45		D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52344	No Station ID	No Station ID		0.0	0.0	0.0			
#	9550	2023-11-20 16:05:16	45		D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52294	No Station ID	No Station ID		0.0	0.0	0.0			
#	9549	2023-11-20 16:05:16	44		D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52294	No Station ID	No Station ID		0.0	0.0	0.0			
#	9548	2023-11-20 16:05:15	43		D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52294	No Station ID	No Station ID		0.0	0.0	0.0			
#	9547	2023-11-20 16:05:15	43		D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52219	No Station ID	No Station ID		0.0	0.0	0.0			
#	9546	2023-11-20 16:05:14	43	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52219	No Station ID	No Station ID		0.0	0.0	0.0			
#	9545	2023-11-20 16:05:14	43	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52144	No Station ID	No Station ID		0.0	0.0	0.0			
#	9544	2023-11-20 16:05:13	44	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52144	No Station ID	No Station ID		0.0	0.0	0.0			
#	9543	2023-11-20 16:05:13	44	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52094	No Station ID	No Station ID		0.0	0.0	0.0			
#	9542	2023-11-20 16:05:13	45	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52094	No Station ID	No Station ID		0.0	0.0	0.0			
#	9541	2023-11-20 16:05:13	46	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52094	No Station ID	No Station ID		0.0	0.0	0.0			
#	9540	2023-11-20 16:05:12	47	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52094	No Station ID	No Station ID		0.0	0.0	0.0			
#	9539	2023-11-20 16:05:12	48	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52094	No Station ID	No Station ID		0.0	0.0	0.0			
#	9538	2023-11-20 16:05:12	48	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52044	No Station ID	No Station ID		0.0	0.0	0.0			
#	9537	2023-11-20 16:05:12	49	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52044	No Station ID	No Station ID		0.0	0.0	0.0			
#	9536	2023-11-20 16:05:12	50	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52044	No Station ID	No Station ID		0.0	0.0	0.0			
#	9535	2023-11-20 16:05:11	51	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	52044	No Station ID	No Station ID		0.0	0.0	0.0			
#	9534	2023-11-20 16:05:11	51	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	51944	No Station ID	No Station ID		0.0	0.0	0.0			
#	9533	2023-11-20 16:05:11	52	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	51944	No Station ID	No Station ID		0.0	0.0	0.0			
#	9532	2023-11-20 16:05:11	53	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	51944	No Station ID	No Station ID		0.0	0.0	0.0			
#	9531	2023-11-20 16:05:11	53	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	51944	No Station ID	No Station ID		0.0	0.0	0.0			
#	9530	2023-11-20 16:05:11	53	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	51944	No Station ID	No Station ID		0.0	0.0	0.0			
#	9529	2023-11-20 16:05:11	53	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	51944	No Station ID	No Station ID		0.0	0.0	0.0			
#	9528	2023-11-20 16:05:11	53	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	51944	No Station ID	No Station ID		0.0	0.0	0.0			
#	9527	2023-11-20 16:05:10	54	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	51944	No Station ID	No Station ID		0.0	0.0	0.0			
#	9526	2023-11-20 16:05:10	55	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	51944	No Station ID	No Station ID		0.0	0.0	0.0			
#	9525	2023-11-20 16:05:10	55	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	51894	No Station ID	No Station ID		0.0	0.0	0.0			
#	9524	2023-11-20 16:05:10	54	CT	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	51894	No Station ID	No Station ID		0.0	0.0	0.0			

Test Run #2 ERU Event Log



Appendix III: Test Run #3 Analysis

Test Run #3 Track Circuit Diagram and Vehicle Response



Test Run #3 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #3		
Criteria	**Time**	**Distance**
Loss of Cab	16:20:15	03183
Stop Code	16:20:18	03383
FS Brake	16:20:20	03508
Zero Speed	16:20:37	03908

Rail vehicle speed at loss of cab: **51 mph**

Total distance from brake application to stopping point: **400 feet**

Total time from brake application to stopping point: **17 seconds**

Test Run #3 ATC Event Log Data Review

ZERO SPEED

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TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	MC DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAB TR	CAB AB	ACTIVE CODE	XINFILL ASP	XVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW1	EXT TR7	LATERAL 6.4	LATERAL G	LONGITUDE G	VERTICAL G	VERTICAL G	UZERO	BRAKE BRFB	BRAKE REQ
#	12148	2023-11-20 16:20:54	0	FS D	796.2ms	75CPM	395.0ms	49%	STOP	Y				0	00	0.061	03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12147	2023-11-20 16:20:53	0	FS D	801.2ms	75CPM	395.0ms	49%	STOP	Y				0	00	0.061	03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12146	2023-11-20 16:20:52	0	FS D	796.2ms	75CPM	395.0ms	49%	STOP	Y				0	00	0.061	03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12145	2023-11-20 16:20:51	0	FS D	800.0ms	75CPM	395.0ms	49%	STOP	Y				0	00	0.061	03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12144	2023-11-20 16:20:49	0	FS D	800.0ms	75CPM	395.0ms	49%	STOP	Y				0	00	0.055	03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12143	2023-11-20 16:20:49	0	FS D	792.5ms	76CPM	390.0ms	49%	STOP	Y				0	00	0.055	03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12142	2023-11-20 16:20:49	0	FS D	792.5ms	76CPM	390.0ms	49%	STOP	Y				0	00	0.049	03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12141	2023-11-20 16:20:47	0	FS D	800.0ms	75CPM	398.8ms	49%	STOP	Y				0	00	0.049	03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12140	2023-11-20 16:20:47	0	FS D	792.5ms	76CPM	398.8ms	50%	STOP	Y				0	00	0.049	03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12139	2023-11-20 16:20:47	0	FS D	802.5ms	75CPM	398.8ms	49%	STOP	Y				0	00	0.049	03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12138	2023-11-20 16:20:37	0	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12137	2023-11-20 16:20:37	0	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12136	2023-11-20 16:20:37	0	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12135	2023-11-20 16:20:37	0	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12134	2023-11-20 16:20:37	0	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12133	2023-11-20 16:20:37	1	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12132	2023-11-20 16:20:37	1	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12131	2023-11-20 16:20:37	2	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12130	2023-11-20 16:20:37	3	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12129	2023-11-20 16:20:36	4	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12128	2023-11-20 16:20:36	5	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12127	2023-11-20 16:20:35	4	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12126	2023-11-20 16:20:34	3	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12125	2023-11-20 16:20:34	2	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12124	2023-11-20 16:20:33	1	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12123	2023-11-20 16:20:33	1	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12122	2023-11-20 16:20:33	2	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12121	2023-11-20 16:20:33	2	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12120	2023-11-20 16:20:33	3	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	12119	2023-11-20 16:20:32	4	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12118	2023-11-20 16:20:32	5	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12117	2023-11-20 16:20:32	6	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12116	2023-11-20 16:20:31	6	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12115	2023-11-20 16:20:31	7	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12114	2023-11-20 16:20:31	8	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12113	2023-11-20 16:20:31	9	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12112	2023-11-20 16:20:30	10	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12111	2023-11-20 16:20:30	11	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12110	2023-11-20 16:20:30	12	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12109	2023-11-20 16:20:30	13	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12108	2023-11-20 16:20:30	14	FS D					STOP	Y				0	00		03908	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12107	2023-11-20 16:20:29	14	FS D					STOP	Y				0	00		03883	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12106	2023-11-20 16:20:29	15	FS D					STOP	Y				0	00		03883	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12105	2023-11-20 16:20:29	16	FS D					STOP	Y				0	00		03883	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12104	2023-11-20 16:20:29	16	FS D					STOP	Y				0	00		03883	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12103	2023-11-20 16:20:29	17	FS D					STOP	Y				0	00	0.049	03883	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12102	2023-11-20 16:20:29	17	FS D					STOP	Y				0	00	0.049	03883	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12101	2023-11-20 16:20:28	17	FS D	16.2ms	3692CPM	16.2ms	100%	STOP	Y				0	00	0.049	03883	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12100	2023-11-20 16:20:28	18	FS D	16.2ms	3692CPM	16.2ms	100%	STOP	Y				0	00	0.049	03883	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12099	2023-11-20 16:20:28	19	FS D	16.2ms	3692CPM	16.2ms	100%	STOP	Y				0	00	0.049	03883	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12098	2023-11-20 16:20:28	20	FS D	16.2ms	3692CPM	16.2ms	100%	STOP	Y				0	00	0.049	03883	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12097	2023-11-20 16:20:28	21	FS D	16.2ms	3692CPM	16.2ms	100%	STOP	Y				0	00	0.049	03883	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12096	2023-11-20 16:20:28	21	FS D	16.2ms	3692CPM	16.2ms	100%	STOP	Y				0	00	0.049	03833	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12095	2023-11-20 16:20:27	21	FS D					STOP	Y				0	00		03833	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12094	2023-11-20 16:20:27	22	FS D					STOP	Y				0	00		03833	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12093	2023-11-20 16:20:27	22	FS D					STOP	Y				0	00	0.089	03833	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12092	2023-11-20 16:20:27	22	FS D	120.0ms	500CPM	32.5ms	27%	STOP	Y				0	00	0.089	03833	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12091	2023-11-20 16:20:27	23	FS D	120.0ms	500CPM	32.5ms	27%	STOP	Y				0	00	0.089	03833	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12090	2023-11-20 16:20:27	24	FS D	120.0ms	500CPM	32.5ms	27%	STOP	Y				0	00	0.089	03833	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12089	2023-11-20 16:20:27	24	FS D	120.0ms	500CPM	32.5ms	27%	STOP	Y				0	00	0.089	03808	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12088	2023-11-20 16:20:26	25	FS D	120.0ms	500CPM	32.5ms	27%	STOP	Y				0	00	0.089	03808	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12087	2023-11-20 16:20:26	26	FS D	120.0ms	500CPM	32.5ms	27%	STOP	Y				0	00	0.089	03808	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12086	2023-11-20 16:20:26	26	FS D					STOP	Y				0	00	0.070	03808	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12085	2023-11-20 16:20:26	26	FS D					STOP	Y				0	00		03808	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12084	2023-11-20 16:20:26	27	FS D					STOP	Y				0	00	0.063	03808	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12083	2023-11-20 16:20:26	27	FS D	128.8ms	466CPM	57.5ms	44%	STOP	Y				0	00	0.063	03808	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12082	2023-11-20 16:20:26	28	FS D	128.8ms	466CPM	57.5ms	44%	STOP	Y				0	00	0.063	03808	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12081	2023-11-20 16:20:25	28	FS D	128.8ms	466CPM	57.5ms	44%	STOP	Y				0	00	0.063	03783	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12080	2023-11-20 16:20:25	29	FS D	128.8ms	466CPM	57.5ms	44%	STOP	Y				0	00	0.063	03783	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12079	2023-11-20 16:20:25	30	FS D	128.8ms	466CPM	57.5ms	44%	STOP	Y				0	00	0.063	03783	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12078	2023-11-20 16:20:25	31	FS D	128.8ms	466CPM	57.5ms	44%	STOP	Y				0	00	0.055	03783	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12077	2023-11-20 16:20:25	32	FS D	16.2ms	3692CPM	16.2ms	100%	STOP	Y				0	00	0.055	03783	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12076	2023-11-20 16:20:25	32	FS D					STOP	Y				0	00	0.055	03783	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12075	2023-11-20 16:20:25	32	FS D					STOP	Y				0	00	0.055	03783	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	12074	2023-11-20 16:20:25	32	FS D					STOP	Y				0	00	0.055	03733	No Station ID	No Station ID	Y	0.0	0.0	0.0				

Test Run #3 ATC Event Log Data Review

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USER TRIGGER	EVENT NUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAB TR	ACTIVE CODE	INFRACE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EM TW17	EXT TR64	LATERAL G	LONGITUDE G	VERTICAL G	VZERO	BRR FB	BRR RO
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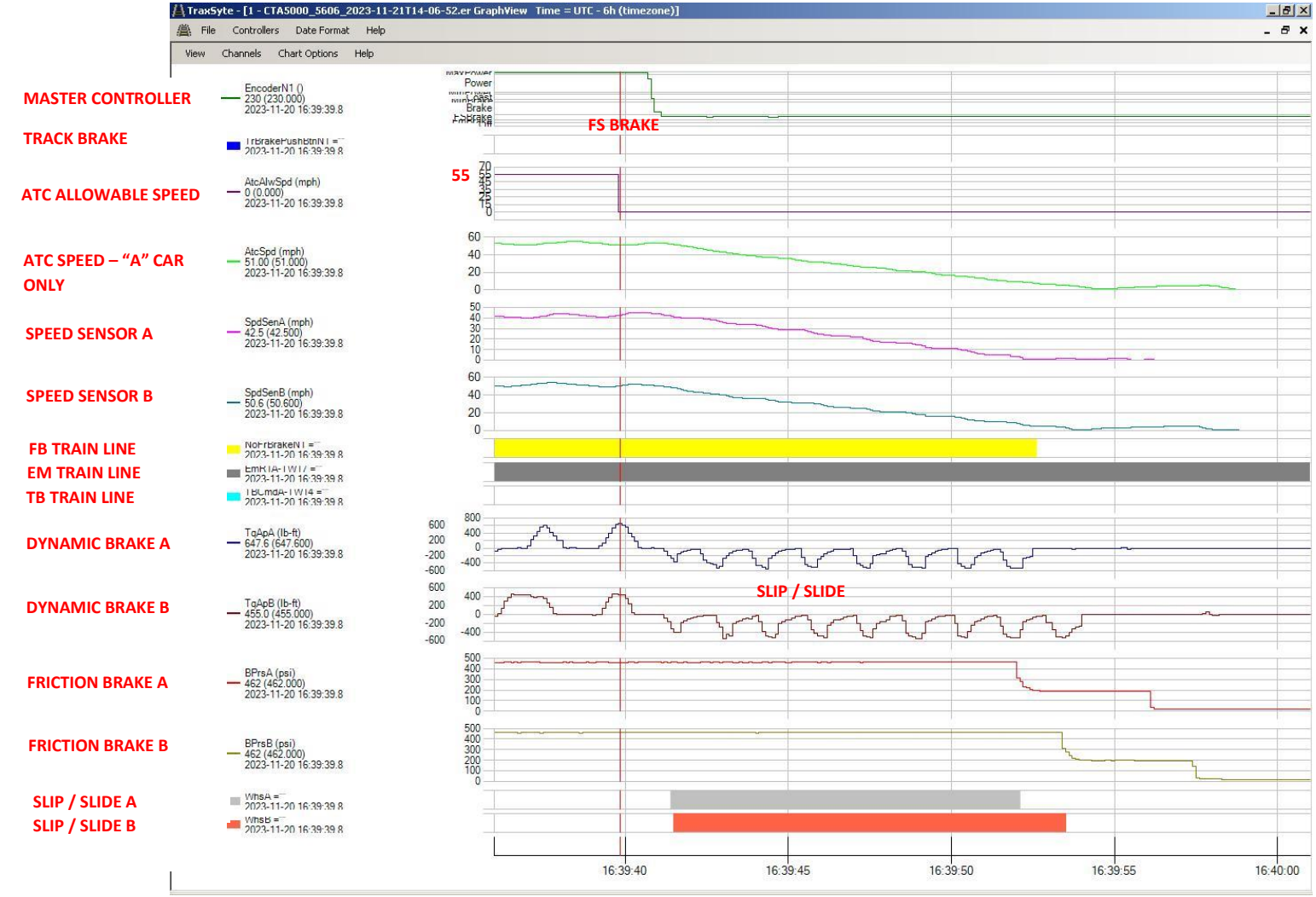
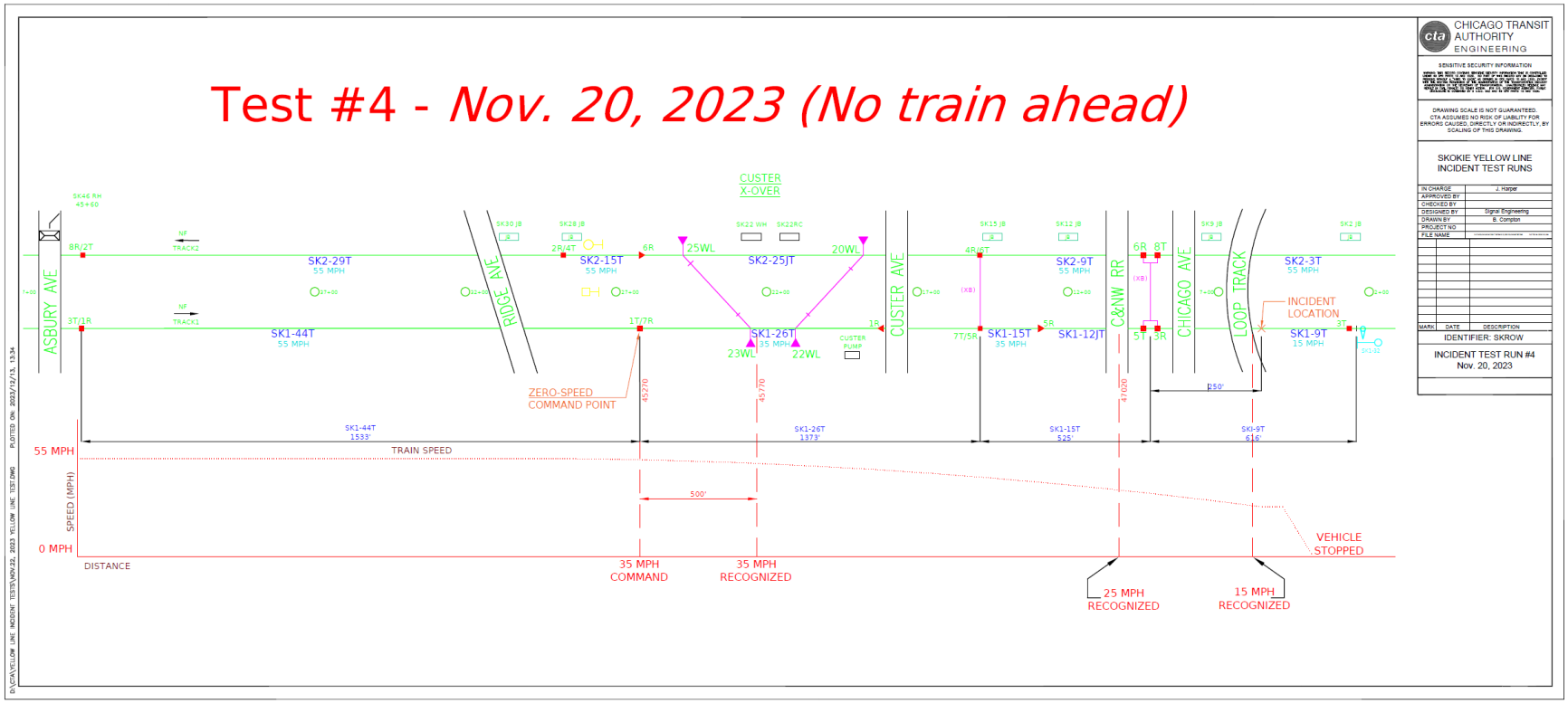
#	12073	2023-11-20 16:20:24	32	FS D						STOP	Y			0	00		03733	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12072	2023-11-20 16:20:24	32	FS D						STOP	Y			0	00		03733	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12071	2023-11-20 16:20:24	33	FS D						STOP	Y			0	00		03733	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12070	2023-11-20 16:20:24	33	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03733	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12069	2023-11-20 16:20:24	34	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03733	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12068	2023-11-20 16:20:24	35	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03733	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12067	2023-11-20 16:20:24	36	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03733	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12066	2023-11-20 16:20:23	36	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03683	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12065	2023-11-20 16:20:23	36	FS D						STOP	Y			0	00	0.110	03683	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12064	2023-11-20 16:20:23	37	FS D						STOP	Y			0	00	0.063	03683	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12063	2023-11-20 16:20:23	37	FS D						STOP	Y			0	00	0.053	03683	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12062	2023-11-20 16:20:23	37	FS D						STOP	Y			0	00	0.047	03683	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12061	2023-11-20 16:20:23	37	FS D						STOP	Y			0	00		03683	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12060	2023-11-20 16:20:23	37	FS D						STOP	Y			0	00	0.106	03683	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12059	2023-11-20 16:20:23	38	FS D	562.5ms	107CPM	45.0ms	8%		STOP	Y			0	00	0.106	03683	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12058	2023-11-20 16:20:23	39	FS D	562.5ms	107CPM	45.0ms	8%		STOP	Y			0	00	0.106	03683	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12057	2023-11-20 16:20:22	39	FS D	562.5ms	107CPM	45.0ms	8%		STOP	Y			0	00	0.106	03633	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12056	2023-11-20 16:20:22	40	FS D	562.5ms	107CPM	45.0ms	8%		STOP	Y			0	00	0.106	03633	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12055	2023-11-20 16:20:22	41	FS D	562.5ms	107CPM	45.0ms	8%		STOP	Y			0	00	0.106	03633	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12054	2023-11-20 16:20:22	42	FS D	562.5ms	107CPM	45.0ms	8%		STOP	Y			0	00	0.106	03633	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12053	2023-11-20 16:20:22	42	FS D						STOP	Y			0	00	0.106	03633	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12052	2023-11-20 16:20:22	43	FS D						STOP	Y			0	00	0.099	03633	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12051	2023-11-20 16:20:22	43	FS D						STOP	Y			0	00	0.099	03583	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12050	2023-11-20 16:20:21	44	FS D						STOP	Y			0	00	0.099	03583	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12049	2023-11-20 16:20:21	45	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03583	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12048	2023-11-20 16:20:21	46	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03583	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12047	2023-11-20 16:20:21	47	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03583	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12046	2023-11-20 16:20:21	48	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03583	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12045	2023-11-20 16:20:21	49	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03583	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12044	2023-11-20 16:20:21	49	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12043	2023-11-20 16:20:20	50	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12042	2023-11-20 16:20:20	51	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12041	2023-11-20 16:20:20	51	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12040	2023-11-20 16:20:20	52	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12039	2023-11-20 16:20:20	52	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12038	2023-11-20 16:20:20	53	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12037	2023-11-20 16:20:20	53	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
FS BRAKE #	12036	2023-11-20 16:20:20	53	FS D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12035	2023-11-20 16:20:20	53	D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12034	2023-11-20 16:20:20	53	mB D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12033	2023-11-20 16:20:20	53	D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12032	2023-11-20 16:20:20	53	D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12031	2023-11-20 16:20:20	53	MP D		OK	OK	OX	OK	STOP	Y			0	00	OX	03508	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12030	2023-11-20 16:20:19	53	MP D		OK	OK	OX	OK	STOP	Y			0	00	OX	03458	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12029	2023-11-20 16:20:19	52	MP D		OK	OK	OX	OK	STOP	Y			0	00	OX	03458	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12028	2023-11-20 16:20:19	51	MP D		OK	OK	OX	OK	STOP	Y			0	00	OX	03458	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12027	2023-11-20 16:20:19	51	MP D		OK	OK	OX	OK	STOP	Y			0	00	OX	03458	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12026	2023-11-20 16:20:18	51	MP D		OK	OK	OX	OK	STOP	Y			0	00	OX	03383	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12025	2023-11-20 16:20:18	51	MP D		OK	OK	OX	OK	STOP	Y			0	00	OX	03383	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12024	2023-11-20 16:20:18	51	MP D		OK	OK	OX	OK	STOP	Y			0	00	OX	03383	No Station ID	No Station ID		Y	0.0	0.0	0.0			
STOP CODE #	12023	2023-11-20 16:20:18	51	MP D		OK	OK	OX	OK	STOP	Y			0	00	OX	03383	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	12022	2023-11-20 16:20:18	51	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03383	No Station ID	No Station ID			0.0	0.0	0.0			
#	12021	2023-11-20 16:20:18	52	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03383	No Station ID	No Station ID			0.0	0.0	0.0			
#	12020	2023-11-20 16:20:18	53	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03383	No Station ID	No Station ID			0.0	0.0	0.0			
#	12019	2023-11-20 16:20:18	53	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03383	No Station ID	No Station ID			0.0	0.0	0.0			
#	12018	2023-11-20 16:20:18	53	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03383	No Station ID	No Station ID			0.0	0.0	0.0			
#	12017	2023-11-20 16:20:18	53	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03383	No Station ID	No Station ID			0.0	0.0	0.0			
#	12016	2023-11-20 16:20:18	53	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03383	No Station ID	No Station ID			0.0	0.0	0.0			
#	12015	2023-11-20 16:20:18	53	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03308	No Station ID	No Station ID			0.0	0.0	0.0			
#	12014	2023-11-20 16:20:17	54	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03308	No Station ID	No Station ID			0.0	0.0	0.0			
#	12013	2023-11-20 16:20:17	55	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03308	No Station ID	No Station ID			0.0	0.0	0.0			
#	12012	2023-11-20 16:20:17	54	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03308	No Station ID	No Station ID			0.0	0.0	0.0			
#	12011	2023-11-20 16:20:17	54	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03258	No Station ID	No Station ID			0.0	0.0	0.0			
#	12010	2023-11-20 16:20:16	53	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03258	No Station ID	No Station ID			0.0	0.0	0.0			
#	12009	2023-11-20 16:20:16	53	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03258	No Station ID	No Station ID			0.0	0.0	0.0			
#	12008	2023-11-20 16:20:16	53	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03258	No Station ID	No Station ID			0.0	0.0	0.0			
#	12007	2023-11-20 16:20:16	52	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03258	No Station ID	No Station ID			0.0	0.0	0.0			
#	12006	2023-11-20 16:20:16	52	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03258	No Station ID	No Station ID			0.0	0.0	0.0			
#	12005	2023-11-20 16:20:16	52	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03258	No Station ID	No Station ID			0.0	0.0	0.0			
#	12004	2023-11-20 16:20:16	51	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03258	No Station ID	No Station ID			0.0	0.0	0.0			
#	12003	2023-11-20 16:20:15	51	MP D		OK	OK	OX	OK	C855	Y			5	20	OX	03183	No Station ID	No Station ID			0.0	0.0	0.0			
LOSS OF CAB #	12002	2023-11-20 16:20:15	51	MP D		OK	OK	OX	OK	C855	Y	270	cpm	5	20	OX	03183	No Station ID	No Station ID			0.0	0.0	0.0			
#	12001	2023-11-20 16:20:15	52	MP D		OK	OK	OX	OK	C855	Y	270	cpm	5	20	OX	03183	No Station ID	No Station ID			0.0	0.0	0.0			
#	12000	2023-11-20 16:20:15	53	MP D		OK	OK	OX	OK	C855	Y	270	cpm	5	20	OX	03183	No Station ID	No Station ID			0.0	0.0	0.0			
#	11999	2023-11-20 16:20:15	53	MP D		OK	OK	OX	OK	C855	Y	270	cpm	5	20	OX	03183	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #3 ERU Event Log



Appendix IV: Test Run #4 Analysis

Test Run #4 Track Circuit Diagram and Vehicle Response



Test Run #4 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #4		
Criteria	**Allowable Speed**	**Time**
Enters SK1-26T	35 mph	16:35:13
Enters SK1-15T	25 mph	16:35:39
Enters SK1-9T	15 mph	16:35:44
Reach 15 mph	15 mph	16:35:48
Zero Speed	0 mph	16:36:21

Total time from entering SK1-26T track circuit to reach SK1-9T track circuit: **35 seconds**

Test Run #4 ATC Event Log Data Review

ZERO SPEED

USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAR TR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TRW1.74	EXT TRW6	LATERAL G	LONGITUDE G	VERTICAL G	BRZERO	BRREF	BRRRE BO
Page 119 November 21, 2023																											
#	13948	2023-11-20 16:37:05	0							STOP				0 00			00000	No Station ID	No Station ID	B	B	0.0	0.0	0.0		B B
#	13947	2023-11-20 16:37:05	0							STOP				0 00			00000	No Station ID	No Station ID	B	B	0.0	0.0	0.0		B B
#	13946	2023-11-20 16:37:05	0							STOP				0 00			00000	No Station ID	No Station ID	B	B	0.0	0.0	0.0		B B
#	13945	2023-11-20 16:36:23	0	OF						CS15				1 02			47770	No Station ID	No Station ID	B		0.0	0.0	0.0	V	
#	13944	2023-11-20 16:36:23	0	OF		OK	OK	OK	OK	CS15				1 02	OK		47770	No Station ID	No Station ID	B		0.0	0.0	0.0	V	
#	13943	2023-11-20 16:36:22	0	OF		OK	OK	OK	OK	CS15			75 cpm	1 02	OK		47770	No Station ID	No Station ID	B		0.0	0.0	0.0	V	
#	13942	2023-11-20 16:36:22	0	OF		OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID	B		0.0	0.0	0.0	V	
#	13941	2023-11-20 16:36:22	0	OF	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID	B		0.0	0.0	0.0	V	
#	13940	2023-11-20 16:36:21	0	OF	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	13939	2023-11-20 16:36:21	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	13938	2023-11-20 16:36:21	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	13937	2023-11-20 16:36:20	1	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	13936	2023-11-20 16:36:20	2	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	13935	2023-11-20 16:36:19	3	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	13934	2023-11-20 16:36:19	3	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	13933	2023-11-20 16:36:18	4	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0		
#	13932	2023-11-20 16:36:18	4	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0		
#	13931	2023-11-20 16:36:18	4		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0		
#	13930	2023-11-20 16:36:18	4	CT	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0		
#	13929	2023-11-20 16:36:17	4	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0		
#	13928	2023-11-20 16:36:17	4	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0		
#	13927	2023-11-20 16:36:15	5	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47770	No Station ID	No Station ID			0.0	0.0	0.0		
#	13926	2023-11-20 16:36:14	5	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47720	No Station ID	No Station ID			0.0	0.0	0.0		
#	13925	2023-11-20 16:36:12	6	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47720	No Station ID	No Station ID			0.0	0.0	0.0		
#	13924	2023-11-20 16:36:12	7	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47720	No Station ID	No Station ID			0.0	0.0	0.0		
#	13923	2023-11-20 16:36:12	7		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47720	No Station ID	No Station ID			0.0	0.0	0.0		
#	13922	2023-11-20 16:36:12	7	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47720	No Station ID	No Station ID			0.0	0.0	0.0		
#	13921	2023-11-20 16:36:11	7	CT	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47720	No Station ID	No Station ID			0.0	0.0	0.0		
#	13920	2023-11-20 16:36:11	7	CT	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47695	No Station ID	No Station ID			0.0	0.0	0.0		
#	13919	2023-11-20 16:36:10	8	CT	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47695	No Station ID	No Station ID			0.0	0.0	0.0		
#	13918	2023-11-20 16:36:09	9	CT	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47695	No Station ID	No Station ID			0.0	0.0	0.0		
#	13917	2023-11-20 16:36:08	10	CT	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47695	No Station ID	No Station ID			0.0	0.0	0.0		
#	13916	2023-11-20 16:36:08	10	CT	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47670	No Station ID	No Station ID			0.0	0.0	0.0		
#	13915	2023-11-20 16:36:07	11	CT	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47670	No Station ID	No Station ID			0.0	0.0	0.0		
#	13914	2023-11-20 16:36:06	12	CT	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47670	No Station ID	No Station ID			0.0	0.0	0.0		
#	13913	2023-11-20 16:36:05	12	CT	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47620	No Station ID	No Station ID			0.0	0.0	0.0		
#	13912	2023-11-20 16:36:04	12	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47620	No Station ID	No Station ID			0.0	0.0	0.0		
#	13911	2023-11-20 16:36:04	12	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47620	No Station ID	No Station ID			0.0	0.0	0.0		
#	13910	2023-11-20 16:36:04	12		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47620	No Station ID	No Station ID			0.0	0.0	0.0		
#	13909	2023-11-20 16:36:03	12		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47595	No Station ID	No Station ID			0.0	0.0	0.0		
#	13908	2023-11-20 16:36:03	11		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47595	No Station ID	No Station ID			0.0	0.0	0.0		
#	13907	2023-11-20 16:36:02	10		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47595	No Station ID	No Station ID			0.0	0.0	0.0		
#	13906	2023-11-20 16:36:02	10		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47570	No Station ID	No Station ID			0.0	0.0	0.0		
#	13905	2023-11-20 16:36:02	11		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47570	No Station ID	No Station ID			0.0	0.0	0.0		
#	13904	2023-11-20 16:36:00	11	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47570	No Station ID	No Station ID			0.0	0.0	0.0		
#	13903	2023-11-20 16:36:00	11	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47545	No Station ID	No Station ID			0.0	0.0	0.0		
#	13902	2023-11-20 16:36:00	12	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47545	No Station ID	No Station ID			0.0	0.0	0.0		
#	13901	2023-11-20 16:35:59	12		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47545	No Station ID	No Station ID			0.0	0.0	0.0		
#	13900	2023-11-20 16:35:59	12	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47545	No Station ID	No Station ID			0.0	0.0	0.0		
#	13899	2023-11-20 16:35:59	12	CT	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47545	No Station ID	No Station ID			0.0	0.0	0.0		
#	13898	2023-11-20 16:35:59	12		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47545	No Station ID	No Station ID			0.0	0.0	0.0		
#	13897	2023-11-20 16:35:59	12		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47545	No Station ID	No Station ID			0.0	0.0	0.0		
#	13896	2023-11-20 16:35:59	12	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47545	No Station ID	No Station ID			0.0	0.0	0.0		
#	13895	2023-11-20 16:35:58	11	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47545	No Station ID	No Station ID			0.0	0.0	0.0		
#	13894	2023-11-20 16:35:58	11	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47495	No Station ID	No Station ID			0.0	0.0	0.0		
#	13893	2023-11-20 16:35:58	11	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47495	No Station ID	No Station ID			0.0	0.0	0.0		
#	13892	2023-11-20 16:35:58	11		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47495	No Station ID	No Station ID			0.0	0.0	0.0		
#	13891	2023-11-20 16:35:58	11	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47495	No Station ID	No Station ID			0.0	0.0	0.0		
#	13890	2023-11-20 16:35:58	11	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47495	No Station ID	No Station ID			0.0	0.0	0.0		
#	13889	2023-11-20 16:35:58	11		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47495	No Station ID	No Station ID			0.0	0.0	0.0		
#	13888	2023-11-20 16:35:57	10		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47495	No Station ID	No Station ID			0.0	0.0	0.0		
#	13887	2023-11-20 16:35:56	9		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47495	No Station ID	No Station ID			0.0	0.0	0.0		
#	13886	2023-11-20 16:35:56	8		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47455	No Station ID	No Station ID			0.0	0.0	0.0		
#	13885	2023-11-20 16:35:55	8		D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47470	No Station ID	No Station ID			0.0	0.0	0.0		
#	13884	2023-11-20 16:35:54	8	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47470	No Station ID	No Station ID			0.0	0.0	0.0		
#	13883	2023-11-20 16:35:54	8	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47470	No Station ID	No Station ID			0.0	0.0	0.0		
#	13882	2023-11-20 16:35:53	9	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47470	No Station ID	No Station ID			0.0	0.0	0.0		
#	13881	2023-11-20 16:35:52	9	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47445	No Station ID	No Station ID			0.0	0.0	0.0		
#	13880	2023-11-20 16:35:51	10	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47445	No Station ID	No Station ID			0.0	0.0	0.0		
#	13879	2023-11-20 16:35:50	10	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47395	No Station ID	No Station ID			0.0	0.0	0.0		
#	13878	2023-11-20 16:35:50	11	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47395	No Station ID	No Station ID			0.0	0.0	0.0		
#	13877	2023-11-20 16:35:49	12	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47395	No Station ID	No Station ID			0.0	0.0	0.0		
#	13876	2023-11-20 16:35:49	12	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47370	No Station ID	No Station ID			0.0	0.0	0.0		
#	13875	2023-11-20 16:35:49	13	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47370	No Station ID	No Station ID			0.0	0.0	0.0		
#	13874	2023-11-20 16:35:49	13	mP	D	OK	OK	OK	OK	CS15	Y	75	cpm	1 02	OK		47370	No Station ID	No Station ID			0.0	0.0	0.0		

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USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAB TR	ACTIVE CODE	XMIT FREQ ASP	XMIT VALID CODE	TRACK CURR	DISTANCE	NEXT STATION ID	ROUTE ID	EMT TW1.74	EXT TRIG	LATERAL G	LONGITUDE G	VERTICAL G	VZERO	BRR DFB	BRR REQ
#	13873	2023-11-20 16:35:49	13	mP	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13872	2023-11-20 16:35:49	13	mP	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13871	2023-11-20 16:35:49	13	mP	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13870	2023-11-20 16:35:49	13	CT	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13869	2023-11-20 16:35:49	13	mB	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13868	2023-11-20 16:35:48	14	mB	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13867	2023-11-20 16:35:48	14	mB	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13866	2023-11-20 16:35:48	15	mB	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13865	2023-11-20 16:35:48	15		D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13864	2023-11-20 16:35:48	15	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13863	2023-11-20 16:35:48	15	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13862	2023-11-20 16:35:48	16	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13861	2023-11-20 16:35:47	17	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13860	2023-11-20 16:35:47	18	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47370	No Station ID	No Station ID			0.0	0.0	0.0			
#	13859	2023-11-20 16:35:47	18	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47345	No Station ID	No Station ID			0.0	0.0	0.0			
#	13858	2023-11-20 16:35:47	19	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47345	No Station ID	No Station ID			0.0	0.0	0.0			
#	13857	2023-11-20 16:35:46	20	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47345	No Station ID	No Station ID			0.0	0.0	0.0			
#	13856	2023-11-20 16:35:46	20	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47295	No Station ID	No Station ID			0.0	0.0	0.0			
#	13855	2023-11-20 16:35:46	21	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47295	No Station ID	No Station ID			0.0	0.0	0.0			
#	13854	2023-11-20 16:35:46	21	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 02	0E	47295	No Station ID	No Station ID			0.0	0.0	0.0			
#	13853	2023-11-20 16:35:46	21	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 06	0E	47295	No Station ID	No Station ID			0.0	0.0	0.0			
#	13852	2023-11-20 16:35:46	21	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 06	0E	47295	No Station ID	No Station ID			0.0	0.0	0.0			
#	13851	2023-11-20 16:35:45	22	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 06	0E	47295	No Station ID	No Station ID			0.0	0.0	0.0			
#	13850	2023-11-20 16:35:45	23	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 06	0E	47295	No Station ID	No Station ID			0.0	0.0	0.0			
#	13849	2023-11-20 16:35:45	23	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 06	0E	47270	No Station ID	No Station ID			0.0	0.0	0.0			
#	13848	2023-11-20 16:35:45	24	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 06	0E	47270	No Station ID	No Station ID			0.0	0.0	0.0			
#	13847	2023-11-20 16:35:44	25	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 06	0E	47270	No Station ID	No Station ID			0.0	0.0	0.0			
#	13846	2023-11-20 16:35:44	25	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 06	0E	47245	No Station ID	No Station ID			0.0	0.0	0.0			
#	13845	2023-11-20 16:35:44	26	FS	D		0X	0X	0X	0X	CS15	Y	75 cpm	1 06	0E	47245	No Station ID	No Station ID			0.0	0.0	0.0			
ENTERS SK1-9T #	13844	2023-11-20 16:35:43	26	FS	D		0X	0X	0X	0X	CS25	Y		2 04	0E	47245	No Station ID	No Station ID			0.0	0.0	0.0			
#	13843	2023-11-20 16:35:43	26	FS	D		0X	0X	0X	0X	CS25	Y		2 04	0E	47195	No Station ID	No Station ID			0.0	0.0	0.0			
#	13842	2023-11-20 16:35:43	26	FS	D		0X	0X	0X	0X	CS25	Y		2 04	0E	47195	No Station ID	No Station ID			0.0	0.0	0.0			
#	13841	2023-11-20 16:35:43	25	FS	D		0X	0X	0X	0X	CS25	Y		2 04	0E	47195	No Station ID	No Station ID			0.0	0.0	0.0			
#	13840	2023-11-20 16:35:42	25	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47195	No Station ID	No Station ID			0.0	0.0	0.0			
#	13839	2023-11-20 16:35:42	26	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47195	No Station ID	No Station ID			0.0	0.0	0.0			
#	13838	2023-11-20 16:35:42	26	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47170	No Station ID	No Station ID			0.0	0.0	0.0			
#	13837	2023-11-20 16:35:42	27	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47170	No Station ID	No Station ID			0.0	0.0	0.0			
#	13836	2023-11-20 16:35:42	28	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47170	No Station ID	No Station ID			0.0	0.0	0.0			
#	13835	2023-11-20 16:35:42	29	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47170	No Station ID	No Station ID			0.0	0.0	0.0			
#	13834	2023-11-20 16:35:42	29	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47170	No Station ID	No Station ID			0.0	0.0	0.0			
#	13833	2023-11-20 16:35:42	30	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47170	No Station ID	No Station ID			0.0	0.0	0.0			
#	13832	2023-11-20 16:35:41	31	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47170	No Station ID	No Station ID			0.0	0.0	0.0			
#	13831	2023-11-20 16:35:41	31	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47170	No Station ID	No Station ID			0.0	0.0	0.0			
#	13830	2023-11-20 16:35:41	31	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47095	No Station ID	No Station ID			0.0	0.0	0.0			
#	13829	2023-11-20 16:35:41	32	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 04	0E	47095	No Station ID	No Station ID			0.0	0.0	0.0			
#	13828	2023-11-20 16:35:40	33	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47095	No Station ID	No Station ID			0.0	0.0	0.0			
#	13827	2023-11-20 16:35:40	33	FS	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47070	No Station ID	No Station ID			0.0	0.0	0.0			
#	13826	2023-11-20 16:35:40	33		D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47070	No Station ID	No Station ID			0.0	0.0	0.0			
#	13825	2023-11-20 16:35:39	33		D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47070	No Station ID	No Station ID			0.0	0.0	0.0			
#	13824	2023-11-20 16:35:39	33		D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47070	No Station ID	No Station ID			0.0	0.0	0.0			
#	13823	2023-11-20 16:35:39	33	CT	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47070	No Station ID	No Station ID			0.0	0.0	0.0			
#	13822	2023-11-20 16:35:39	33		D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47070	No Station ID	No Station ID			0.0	0.0	0.0			
#	13821	2023-11-20 16:35:39	33		D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47020	No Station ID	No Station ID			0.0	0.0	0.0			
#	13820	2023-11-20 16:35:39	34		D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47020	No Station ID	No Station ID			0.0	0.0	0.0			
#	13819	2023-11-20 16:35:39	34	MP	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47020	No Station ID	No Station ID			0.0	0.0	0.0			
#	13818	2023-11-20 16:35:39	34	MP	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47020	No Station ID	No Station ID			0.0	0.0	0.0			
ENTERS SK1-15T #	13817	2023-11-20 16:35:39	34	MP	D		0X	0X	0X	0X	CS25	Y	120 cpm	2 0C	0E	47020	No Station ID	No Station ID			0.0	0.0	0.0			
#	13816	2023-11-20 16:35:39	34	MP	D		0X	0X	0X	0X	CS35	Y		3 08	0E	47020	No Station ID	No Station ID			0.0	0.0	0.0			
#	13815	2023-11-20 16:35:38	34	MP	D		0X	0X	0X	0X	CS35	Y		3 08	0E	47020	No Station ID	No Station ID			0.0	0.0	0.0			
#	13814	2023-11-20 16:35:38	34	MP	D		0X	0X	0X	0X	CS35	Y		3 08	0E	46970	No Station ID	No Station ID			0.0	0.0	0.0			
#	13813	2023-11-20 16:35:37	34	MP	D		0X	0X	0X	0X	CS35	Y	180 cpm	3 08	0E	46970	No Station ID	No Station ID			0.0	0.0	0.0			
#	13812	2023-11-20 16:35:36	34	MP	D		0X	0X	0X	0X	CS35	Y	180 cpm	3 08	0E	46920	No Station ID	No Station ID			0.0	0.0	0.0			
#	13811	2023-11-20 16:35:35	34	MP	D		0X	0X	0X	0X	CS35	Y	180 cpm	3 08	0E	46870	No Station ID	No Station ID			0.0	0.0	0.0			
#	13810	2023-11-20 16:35:35	35	MP	D		0X	0X	0X	0X	CS35	Y	180 cpm	3 08	0E	46870	No Station ID	No Station ID			0.0	0.0	0.0			
#	13809	2023-11-20 16:35:34	35	MP	D		0X	0X	0X	0X	CS35	Y	180 cpm	3 08	0E	46820	No Station ID	No Station ID			0.0	0.0	0.0			
#	13808	2023-11-20 16:35:33	35	MP	D		0X	0X	0X	0X	CS35	Y	180 cpm	3 08	0E	46770	No Station ID	No Station ID			0.0	0.0	0.0			
#	13807	2023-11-20 16:35:32	35	MP	D		0X	0X	0X	0X	CS35	Y	180 cpm	3 08	0E	46720	No Station ID	No Station ID			0.0	0.0	0.0			
#	13806	2023-11-20 16:35:32	34	MP	D		0X	0X	0X	0X	CS35	Y	180 cpm	3 08	0E	46720	No Station ID	No Station ID			0.0	0.0	0.0			
#	13805	2023-11-20 16:35:32	34	MP	D		0X	0X	0X	0X	CS35	Y	180 cpm	3 08	0E	46670	No Station ID	No Station ID			0.0	0.0	0.0			
#	13804	2023-11-20 16:35:32	34	MP	D		0X	0X	0X	0X	CS35	Y		3 08	0E	46670	No Station ID	No Station ID			0.0	0.0	0.0			
#	13803	2023-11-20 16:35:32	34	MP	D		0X	0X	0X	0X	CS35	Y		3 08	0E	46670	No Station ID	No Station ID			0.0	0.0	0.0			
#	13802	2023-11-20 16:35:32	34	MP	D		0X	0X	0X	0X	CS35	Y		3 08	0E	46670	No Station ID	No Station ID			0.0	0.0	0.0			
#	13801	2023-11-20 16:35:32	34	MP	D		0X	0X	0X	0X	CS35	Y		3 08	0E	46670	No Station ID	No Station ID			0.0	0.0	0.0			
#	13800	2023-11-20 16:35:32	34	MP	D		0X	0X	0X	0X	CS35	Y		3 08	0E	46670	No Station ID	No Station ID			0.0	0.0	0.0			
#	13799	2023-11-20 16:35:31	33	MP	D		0X	0X	0X	0X	CS35	Y		3 08	0E	46670	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #4 ATC Event
Log Data Review

USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAAR TRR	CAAB TTR	ACTIVE CODE	XIMFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	ROUTE ID	NEXT STATION	EM TW1.7	EXT TR6.4	LATERAL G	LONGITUDE G	VERTICAL G	UZER	BRR BFB	BRR REQ
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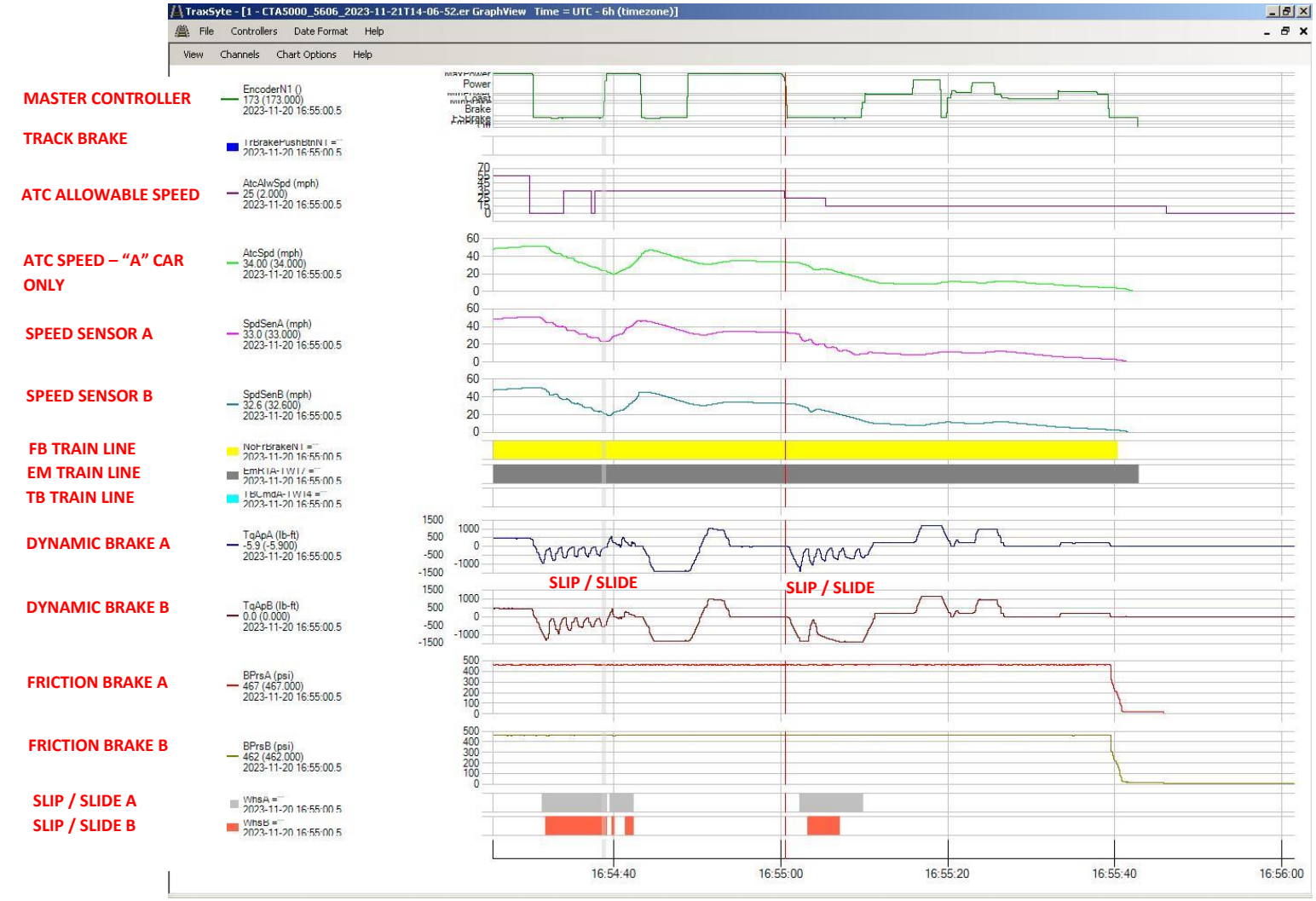
#	13798	2023-11-20 16:35:31	33	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46670	No Station ID	No Station ID		0.0	0.0	0.0				
#	13797	2023-11-20 16:35:31	33	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46620	No Station ID	No Station ID		0.0	0.0	0.0				
#	13796	2023-11-20 16:35:30	32	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46620	No Station ID	No Station ID		0.0	0.0	0.0				
#	13795	2023-11-20 16:35:30	32	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46570	No Station ID	No Station ID		0.0	0.0	0.0				
#	13794	2023-11-20 16:35:29	31	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46570	No Station ID	No Station ID		0.0	0.0	0.0				
#	13793	2023-11-20 16:35:29	31	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46545	No Station ID	No Station ID		0.0	0.0	0.0				
#	13792	2023-11-20 16:35:28	32	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46545	No Station ID	No Station ID		0.0	0.0	0.0				
#	13791	2023-11-20 16:35:28	33	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46545	No Station ID	No Station ID		0.0	0.0	0.0				
#	13790	2023-11-20 16:35:28	33	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13789	2023-11-20 16:35:28	33	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13788	2023-11-20 16:35:28	33	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13787	2023-11-20 16:35:28	33	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13786	2023-11-20 16:35:28	33	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13785	2023-11-20 16:35:28	34	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13784	2023-11-20 16:35:28	34	D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13783	2023-11-20 16:35:28	35	D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13782	2023-11-20 16:35:28	35	CT D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13781	2023-11-20 16:35:28	35	D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13780	2023-11-20 16:35:27	35	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13779	2023-11-20 16:35:27	35	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46495	No Station ID	No Station ID		0.0	0.0	0.0				
#	13778	2023-11-20 16:35:27	35	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46445	No Station ID	No Station ID		0.0	0.0	0.0				
#	13777	2023-11-20 16:35:27	36	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46445	No Station ID	No Station ID		0.0	0.0	0.0				
#	13776	2023-11-20 16:35:27	37	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46445	No Station ID	No Station ID		0.0	0.0	0.0				
#	13775	2023-11-20 16:35:26	38	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46445	No Station ID	No Station ID		0.0	0.0	0.0				
#	13774	2023-11-20 16:35:26	38	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46395	No Station ID	No Station ID		0.0	0.0	0.0				
#	13773	2023-11-20 16:35:26	39	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46395	No Station ID	No Station ID		0.0	0.0	0.0				
#	13772	2023-11-20 16:35:25	40	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46395	No Station ID	No Station ID		0.0	0.0	0.0				
#	13771	2023-11-20 16:35:25	41	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46395	No Station ID	No Station ID		0.0	0.0	0.0				
#	13770	2023-11-20 16:35:25	41	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46320	No Station ID	No Station ID		0.0	0.0	0.0				
#	13769	2023-11-20 16:35:25	42	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46320	No Station ID	No Station ID		0.0	0.0	0.0				
#	13768	2023-11-20 16:35:25	43	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46320	No Station ID	No Station ID		0.0	0.0	0.0				
#	13767	2023-11-20 16:35:24	43	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46320	No Station ID	No Station ID		0.0	0.0	0.0				
#	13766	2023-11-20 16:35:24	44	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46320	No Station ID	No Station ID		0.0	0.0	0.0				
#	13765	2023-11-20 16:35:24	44	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46320	No Station ID	No Station ID		0.0	0.0	0.0				
#	13764	2023-11-20 16:35:24	44	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46245	No Station ID	No Station ID		0.0	0.0	0.0				
#	13763	2023-11-20 16:35:24	45	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46245	No Station ID	No Station ID		0.0	0.0	0.0				
#	13762	2023-11-20 16:35:23	46	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46245	No Station ID	No Station ID		0.0	0.0	0.0				
#	13761	2023-11-20 16:35:23	46	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46195	No Station ID	No Station ID		0.0	0.0	0.0				
#	13760	2023-11-20 16:35:23	47	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46195	No Station ID	No Station ID		0.0	0.0	0.0				
#	13759	2023-11-20 16:35:22	46	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46195	No Station ID	No Station ID		0.0	0.0	0.0				
#	13758	2023-11-20 16:35:22	46	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13757	2023-11-20 16:35:22	45	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13756	2023-11-20 16:35:22	44	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13755	2023-11-20 16:35:22	43	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13754	2023-11-20 16:35:22	43	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13753	2023-11-20 16:35:22	43	FS D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13752	2023-11-20 16:35:22	43	D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13751	2023-11-20 16:35:22	43	D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13750	2023-11-20 16:35:22	42	D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13749	2023-11-20 16:35:22	42	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13748	2023-11-20 16:35:22	40	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13747	2023-11-20 16:35:22	39	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13746	2023-11-20 16:35:21	38	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13745	2023-11-20 16:35:21	37	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13744	2023-11-20 16:35:21	36	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46120	No Station ID	No Station ID		0.0	0.0	0.0				
#	13743	2023-11-20 16:35:21	36	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13742	2023-11-20 16:35:21	36	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13741	2023-11-20 16:35:21	36	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13740	2023-11-20 16:35:21	35	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13739	2023-11-20 16:35:21	34	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13738	2023-11-20 16:35:21	33	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13737	2023-11-20 16:35:21	33	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13736	2023-11-20 16:35:21	33	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13735	2023-11-20 16:35:21	32	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13734	2023-11-20 16:35:21	32	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13733	2023-11-20 16:35:21	32	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13732	2023-11-20 16:35:21	31	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13731	2023-11-20 16:35:21	30	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13730	2023-11-20 16:35:20	29	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13729	2023-11-20 16:35:20	28	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46095	No Station ID	No Station ID		0.0	0.0	0.0				
#	13728	2023-11-20 16:35:20	28	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46020	No Station ID	No Station ID		0.0	0.0	0.0				
#	13727	2023-11-20 16:35:20	27	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46020	No Station ID	No Station ID		0.0	0.0	0.0				
#	13726	2023-11-20 16:35:20	26	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46020	No Station ID	No Station ID		0.0	0.0	0.0				
#	13725	2023-11-20 16:35:19	25	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46020	No Station ID	No Station ID		0.0	0.0	0.0				
#	13724	2023-11-20 16:35:19	24	MP D		OK	OK	OK	OK	CS35	Y	100 cpm	3	00	OK	46020	No Station ID	No Station ID		0.0	0.0	0.0				

CTA Results of Post-Incident Re-Enactment #1 - November 20, 2023 **December 2023**

Test Run #4 ATC Event Log Data Review

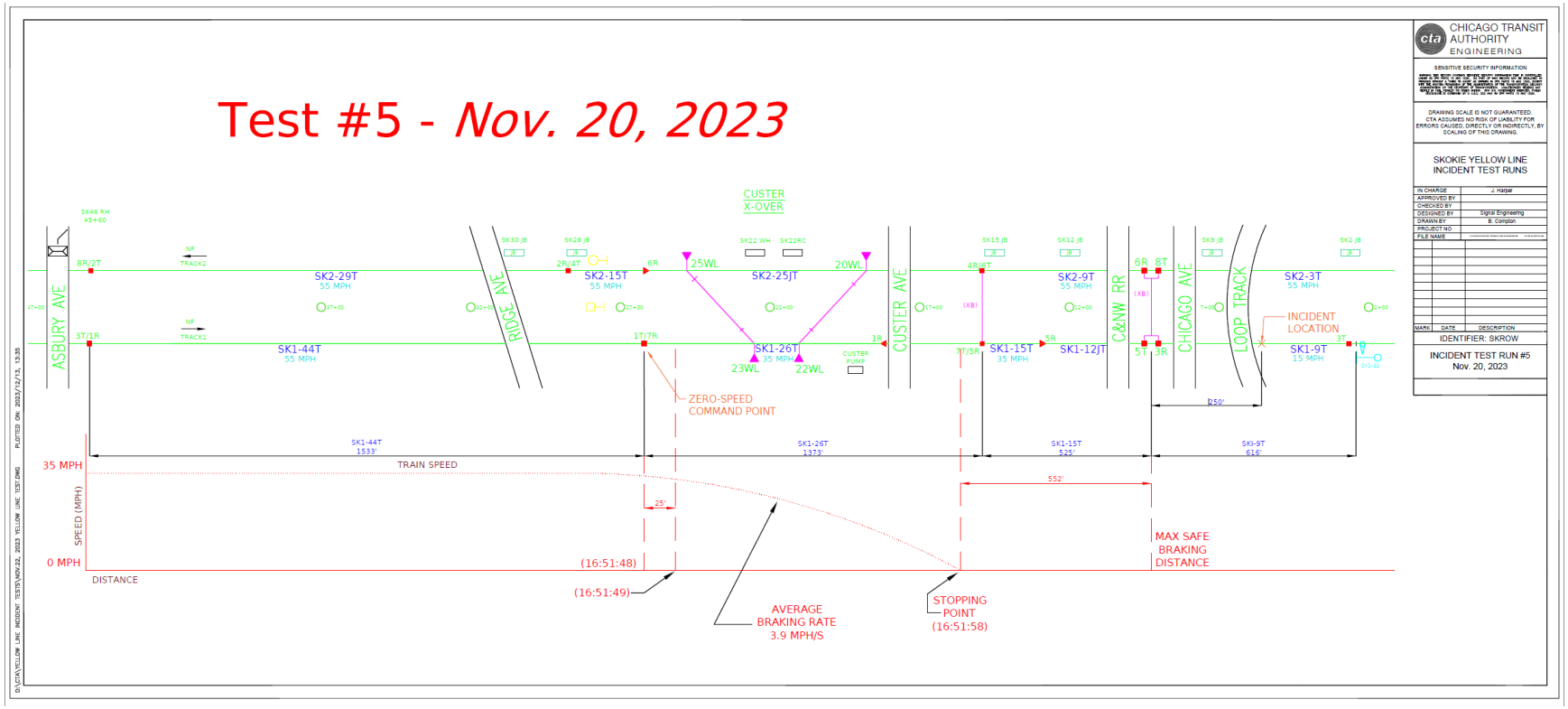
USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR AB	CAR TR	ACTIVE CODE	XINFIRE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EXT TRW1.74	LATERAL G	LONGITUDE G	VERTICAL G	VZERO	BRR BRR REQ
Page 121 November 21, 2023																									
#	13723	2023-11-20 16:35:19	24	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13722	2023-11-20 16:35:19	23	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13721	2023-11-20 16:35:19	22	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13720	2023-11-20 16:35:19	21	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13719	2023-11-20 16:35:18	20	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13718	2023-11-20 16:35:18	21	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13717	2023-11-20 16:35:18	22	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13716	2023-11-20 16:35:18	22	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13715	2023-11-20 16:35:18	23	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13714	2023-11-20 16:35:18	23	CT D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13713	2023-11-20 16:35:18	23	mB D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13712	2023-11-20 16:35:18	23	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13711	2023-11-20 16:35:18	24	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13710	2023-11-20 16:35:17	24	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13709	2023-11-20 16:35:17	24	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45995	No Station ID	No Station ID		0.0	0.0	0.0			
#	13708	2023-11-20 16:35:17	24	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45920	No Station ID	No Station ID		0.0	0.0	0.0			
#	13707	2023-11-20 16:35:17	25	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45920	No Station ID	No Station ID		0.0	0.0	0.0			
#	13706	2023-11-20 16:35:17	26	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45920	No Station ID	No Station ID		0.0	0.0	0.0			
#	13705	2023-11-20 16:35:16	27	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45920	No Station ID	No Station ID		0.0	0.0	0.0			
#	13704	2023-11-20 16:35:16	27	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45920	No Station ID	No Station ID		0.0	0.0	0.0			
#	13703	2023-11-20 16:35:16	27	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45920	No Station ID	No Station ID		0.0	0.0	0.0			
#	13702	2023-11-20 16:35:16	28	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45920	No Station ID	No Station ID		0.0	0.0	0.0			
#	13701	2023-11-20 16:35:16	28	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45895	No Station ID	No Station ID		0.0	0.0	0.0			
#	13700	2023-11-20 16:35:16	28	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45895	No Station ID	No Station ID		0.0	0.0	0.0			
#	13699	2023-11-20 16:35:16	28	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45895	No Station ID	No Station ID		0.0	0.0	0.0			
#	13698	2023-11-20 16:35:16	28	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45895	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13697	2023-11-20 16:35:16	28	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45895	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13696	2023-11-20 16:35:16	28	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45895	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13695	2023-11-20 16:35:16	28	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45895	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13694	2023-11-20 16:35:16	29	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45895	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13693	2023-11-20 16:35:16	29	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45895	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13692	2023-11-20 16:35:16	29	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45895	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13691	2023-11-20 16:35:16	29	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45895	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13690	2023-11-20 16:35:16	29	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45895	No Station ID	No Station ID		0.0	0.0	0.0			
#	13689	2023-11-20 16:35:15	30	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45895	No Station ID	No Station ID		0.0	0.0	0.0			
#	13688	2023-11-20 16:35:15	30	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45870	No Station ID	No Station ID		0.0	0.0	0.0			
#	13687	2023-11-20 16:35:15	31	FS D	295.0ms	203CPM	33.0ms	11%	CS35	Y				3 00	0.087	45870	No Station ID	No Station ID		0.0	0.0	0.0			
#	13686	2023-11-20 16:35:15	32	FS D	295.0ms	203CPM	33.0ms	11%	CS35	Y				3 00	0.074	45870	No Station ID	No Station ID		0.0	0.0	0.0			
#	13685	2023-11-20 16:35:15	32	FS D	295.0ms	203CPM	33.0ms	11%	CS35	Y				3 00	0.074	45870	No Station ID	No Station ID		0.0	0.0	0.0			
#	13684	2023-11-20 16:35:15	32	FS D	295.0ms	203CPM	33.0ms	11%	CS35	Y				3 00	0.074	45870	No Station ID	No Station ID		0.0	0.0	0.0			
#	13683	2023-11-20 16:35:15	32	FS D	295.0ms	203CPM	33.0ms	11%	CS35	Y				3 00	0.074	45870	No Station ID	No Station ID		0.0	0.0	0.0			
#	13682	2023-11-20 16:35:15	32	FS D	295.0ms	203CPM	33.0ms	11%	CS35	Y				3 00	0.074	45870	No Station ID	No Station ID		0.0	0.0	0.0			
#	13681	2023-11-20 16:35:15	33	FS D	295.0ms	203CPM	33.0ms	11%	CS35	Y				3 00	0.074	45870	No Station ID	No Station ID		0.0	0.0	0.0			
#	13680	2023-11-20 16:35:14	33	FS D	11.2ms	5333CPM	11.2ms	100%	CS35	Y				3 00	0.074	45870	No Station ID	No Station ID		0.0	0.0	0.0			
#	13679	2023-11-20 16:35:14	33	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45870	No Station ID	No Station ID		0.0	0.0	0.0			
#	13678	2023-11-20 16:35:14	33	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45795	No Station ID	No Station ID		0.0	0.0	0.0			
#	13677	2023-11-20 16:35:14	34	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45795	No Station ID	No Station ID		0.0	0.0	0.0			
#	13676	2023-11-20 16:35:14	35	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45795	No Station ID	No Station ID		0.0	0.0	0.0			
#	13675	2023-11-20 16:35:14	35	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45795	No Station ID	No Station ID		0.0	0.0	0.0			
#	13674	2023-11-20 16:35:14	35	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45795	No Station ID	No Station ID		0.0	0.0	0.0			
#	13673	2023-11-20 16:35:14	35	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45795	No Station ID	No Station ID		0.0	0.0	0.0			
#	13672	2023-11-20 16:35:14	36	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45795	No Station ID	No Station ID		0.0	0.0	0.0			
#	13671	2023-11-20 16:35:14	37	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45795	No Station ID	No Station ID		0.0	0.0	0.0			
#	13670	2023-11-20 16:35:13	38	FS D	106.2ms	565CPM	36.2ms	34%	CS35	Y				3 00	0.112	45795	No Station ID	No Station ID		0.0	0.0	0.0			
#	13669	2023-11-20 16:35:13	38	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45795	No Station ID	No Station ID		0.0	0.0	0.0			
#	13668	2023-11-20 16:35:13	38	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45770	No Station ID	No Station ID		0.0	0.0	0.0			
#	13667	2023-11-20 16:35:13	39	FS D		OK	OK	OK	OK	CS35	Y			3 00	OK	45770	No Station ID	No Station ID		0.0	0.0	0.0			
ENTERS SK1-26T #	13666	2023-11-20 16:35:13	40	FS D		OK	OK	OK	OK	CS35	Y	180 cpm		3 00	OK	45770	No Station ID	No Station ID		0.0	0.0	0.0			
#	13665	2023-11-20 16:35:12	40	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45770	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13664	2023-11-20 16:35:12	41	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45770	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13663	2023-11-20 16:35:12	42	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45770	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13662	2023-11-20 16:35:12	42	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45695	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13661	2023-11-20 16:35:12	43	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45695	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13660	2023-11-20 16:35:12	43	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45695	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13659	2023-11-20 16:35:11	44	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45695	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13658	2023-11-20 16:35:11	44	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45695	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13657	2023-11-20 16:35:11	45	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45695	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13656	2023-11-20 16:35:11	45	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45620	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13655	2023-11-20 16:35:11	46	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45620	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13654	2023-11-20 16:35:11	47	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45620	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13653	2023-11-20 16:35:11	48	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45620	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13652	2023-11-20 16:35:11	49	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45620	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13651	2023-11-20 16:35:10	50	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45620	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13650	2023-11-20 16:35:10	51	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45620	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	13649	2023-11-20 16:35:09	51	FS D		OK	OK	OK	OK	STOP	Y			0 00	OK	45570	No Station ID	No Station ID	Y	0.0	0.0	0.0			

Test Run #4 ERU Event Log



Appendix V: Test Run #5 Analysis

Test Run #5 Track Circuit Diagram and Vehicle Response



Test Run #5 ATC Event Log Data Review

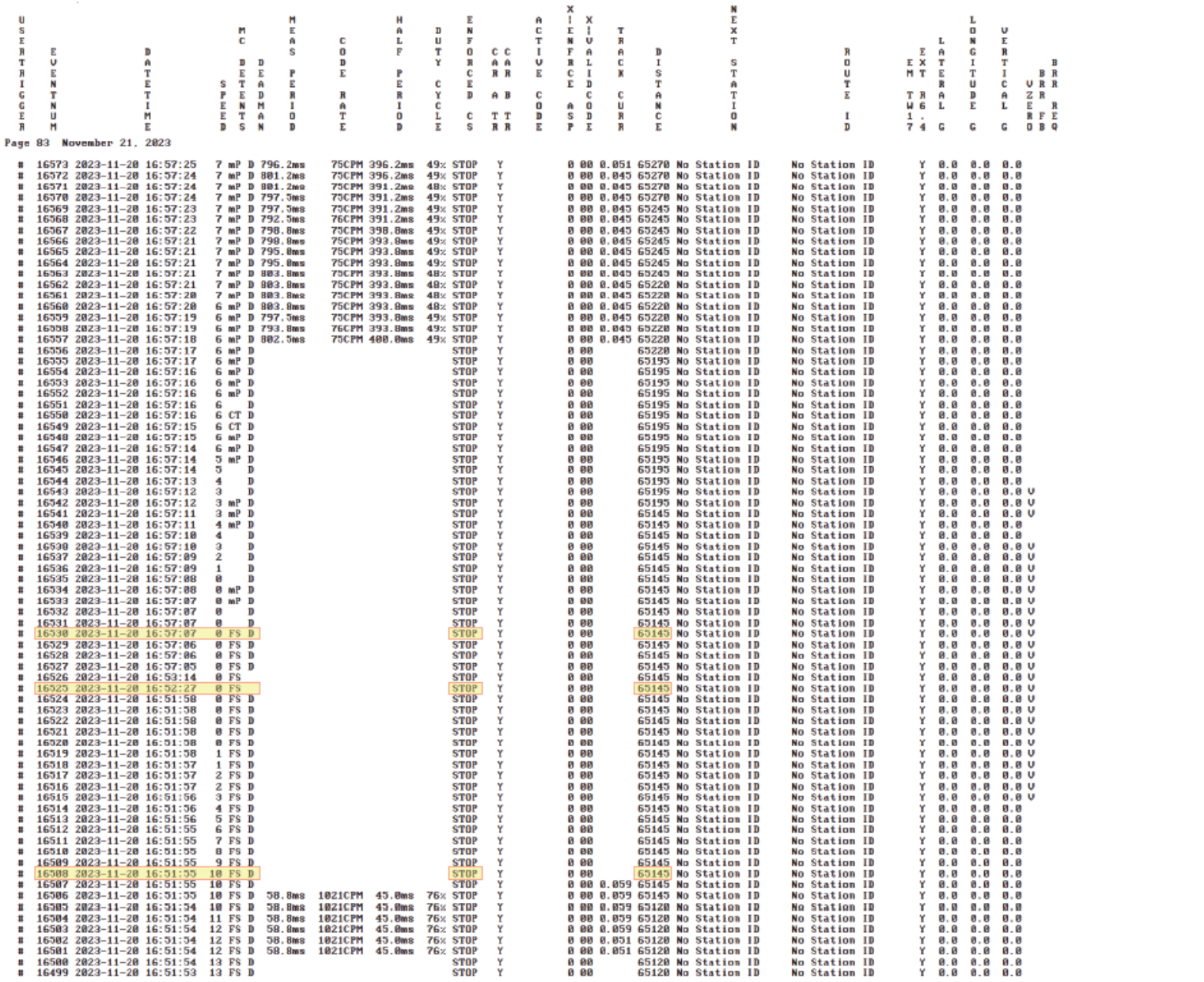
ATC Event Log Data Review – Test Run #5		
Criteria	**Time**	**Distance**
Loss of Cab	16:51:45	64745
Stop Code	16:51:48	64920
FS Brake	16:51:49	64945
Zero Speed	16:52:27	65145

Rail vehicle speed at loss of cab: **34 mph**

Total distance from brake application to stopping point: **200 feet**

Total time from brake application to stopping point: **38 seconds**

Test Run #5 ATC Event Log Data Review



USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	MC DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TRR	CAR ATR	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW14	EXTRA6	LATERAL G	LONGITUDE G	VERTICAL G	VZERO	BRRFB	BRREQ
Page 83 November 21, 2023																											
#	16573	2023-11-20 16:57:25	7	mP D		796.2ms	75CPM	396.2ms	49%	STOP	Y			0	00	0.051	65270	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16572	2023-11-20 16:57:24	7	mP D		801.2ms	75CPM	396.2ms	49%	STOP	Y			0	00	0.045	65270	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16571	2023-11-20 16:57:24	7	mP D		801.2ms	75CPM	391.2ms	48%	STOP	Y			0	00	0.045	65270	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16570	2023-11-20 16:57:24	7	mP D		797.5ms	75CPM	391.2ms	49%	STOP	Y			0	00	0.045	65270	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16569	2023-11-20 16:57:23	7	mP D		797.5ms	75CPM	391.2ms	49%	STOP	Y			0	00	0.045	65245	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16568	2023-11-20 16:57:23	7	mP D		792.5ms	76CPM	391.2ms	49%	STOP	Y			0	00	0.045	65245	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16567	2023-11-20 16:57:22	7	mP D		798.8ms	75CPM	398.8ms	49%	STOP	Y			0	00	0.045	65245	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16566	2023-11-20 16:57:21	7	mP D		798.8ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.045	65245	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16565	2023-11-20 16:57:21	7	mP D		795.0ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.045	65245	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16564	2023-11-20 16:57:21	7	mP D		795.0ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.045	65245	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16563	2023-11-20 16:57:21	7	mP D		803.8ms	75CPM	393.8ms	48%	STOP	Y			0	00	0.045	65245	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16562	2023-11-20 16:57:21	7	mP D		803.8ms	75CPM	393.8ms	48%	STOP	Y			0	00	0.045	65220	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16561	2023-11-20 16:57:20	7	mP D		803.8ms	75CPM	393.8ms	48%	STOP	Y			0	00	0.045	65220	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16560	2023-11-20 16:57:20	6	mP D		803.8ms	75CPM	393.8ms	48%	STOP	Y			0	00	0.045	65220	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16559	2023-11-20 16:57:19	6	mP D		797.5ms	75CPM	393.8ms	49%	STOP	Y			0	00	0.045	65220	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16558	2023-11-20 16:57:19	6	mP D		793.8ms	76CPM	393.8ms	49%	STOP	Y			0	00	0.045	65220	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16557	2023-11-20 16:57:18	6	mP D		802.5ms	75CPM	400.0ms	49%	STOP	Y			0	00	0.045	65220	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16556	2023-11-20 16:57:17	6	mP D						STOP	Y			0	00		65220	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16555	2023-11-20 16:57:17	6	mP D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16554	2023-11-20 16:57:16	6	mP D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16553	2023-11-20 16:57:16	6	mP D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16552	2023-11-20 16:57:16	6	mP D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16551	2023-11-20 16:57:16	6	D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16550	2023-11-20 16:57:16	6	CT D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16549	2023-11-20 16:57:15	6	CT D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16548	2023-11-20 16:57:15	6	mP D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16547	2023-11-20 16:57:14	6	mP D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16546	2023-11-20 16:57:14	5	mP D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16545	2023-11-20 16:57:14	5	D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16544	2023-11-20 16:57:13	4	D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16543	2023-11-20 16:57:12	3	D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16542	2023-11-20 16:57:12	3	mP D						STOP	Y			0	00		65195	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16541	2023-11-20 16:57:11	3	mP D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16540	2023-11-20 16:57:11	4	mP D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16539	2023-11-20 16:57:10	4	D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16538	2023-11-20 16:57:10	3	D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16537	2023-11-20 16:57:09	2	D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16536	2023-11-20 16:57:09	1	D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16535	2023-11-20 16:57:08	0	D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16534	2023-11-20 16:57:08	0	mP D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16533	2023-11-20 16:57:07	0	mP D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16532	2023-11-20 16:57:07	0	D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16531	2023-11-20 16:57:07	0	D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16530	2023-11-20 16:57:07	0	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16529	2023-11-20 16:57:06	0	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16528	2023-11-20 16:57:06	0	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16527	2023-11-20 16:57:05	0	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16526	2023-11-20 16:53:14	0	FS						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16525	2023-11-20 16:52:27	0	FS						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16524	2023-11-20 16:51:58	0	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16523	2023-11-20 16:51:58	0	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16522	2023-11-20 16:51:58	0	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16521	2023-11-20 16:51:58	0	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16520	2023-11-20 16:51:58	0	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16519	2023-11-20 16:51:58	1	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16518	2023-11-20 16:51:57	1	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16517	2023-11-20 16:51:57	2	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16516	2023-11-20 16:51:57	2	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16515	2023-11-20 16:51:56	3	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16514	2023-11-20 16:51:56	4	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16513	2023-11-20 16:51:56	5	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16512	2023-11-20 16:51:55	6	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16511	2023-11-20 16:51:55	7	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16510	2023-11-20 16:51:55	8	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16509	2023-11-20 16:51:55	9	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16508	2023-11-20 16:51:55	10	FS D						STOP	Y			0	00		65145	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16507	2023-11-20 16:51:55	10	FS D						STOP	Y			0	00	0.059	65145	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16506	2023-11-20 16:51:55	10	FS D		58.8ms	1021CPM	45.0ms	76%	STOP	Y			0	00	0.059	65145	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16505	2023-11-20 16:51:54	10	FS D		58.8ms	1021CPM	45.0ms	76%	STOP	Y			0	00	0.059	65120	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16504	2023-11-20 16:51:54	11	FS D		58.8ms	1021CPM	45.0ms	76%	STOP	Y			0	00	0.059	65120	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16503	2023-11-20 16:51:54	12	FS D		58.8ms	1021CPM	45.0ms	76%	STOP	Y			0	00	0.059	65120	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16502	2023-11-20 16:51:54	12	FS D		58.8ms	1021CPM	45.0ms	76%	STOP	Y			0	00	0.051	65120	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16501	2023-11-20 16:51:54	12	FS D		58.8ms	1021CPM	45.0ms	76%	STOP	Y			0	00	0.051	65120	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16500	2023-11-20 16:51:54	13	FS D						STOP	Y			0	00		65120	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16499	2023-11-20 16:51:53	13	FS D						STOP	Y			0	00		65120	No Station ID	No Station ID		Y	0.0	0.0	0.0			

ZERO SPEED

CTA Results of Post-Incident Re-Enactment #1 - November 20, 2023 **December 2023**

Test Run #5 ATC Event Log Data Review

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USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	MC DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW17	EXT TR6.4	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRRFB	BRREQ
#	16498	2023-11-20 16:51:53	14	FS D						STOP	Y			0 00			65120	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16497	2023-11-20 16:51:53	15	FS D						STOP	Y			0 00			65120	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16496	2023-11-20 16:51:53	15	FS D						STOP	Y			0 00	0.095		65120	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16495	2023-11-20 16:51:53	16	FS D						STOP	Y			0 00	0.095		65120	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16494	2023-11-20 16:51:53	17	FS D						STOP	Y			0 00	0.095		65120	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16493	2023-11-20 16:51:53	18	FS D						STOP	Y			0 00	0.095		65120	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16492	2023-11-20 16:51:52	18	FS D						STOP	Y			0 00	0.095		65095	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16491	2023-11-20 16:51:52	18	FS D						STOP	Y			0 00	0.074		65095	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16490	2023-11-20 16:51:52	18	FS D						STOP	Y			0 00	0.061		65095	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16489	2023-11-20 16:51:52	18	FS D						STOP	Y			0 00	0.095		65095	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16488	2023-11-20 16:51:52	19	FS D						STOP	Y			0 00	0.095		65095	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16487	2023-11-20 16:51:52	20	FS D						STOP	Y			0 00	0.095		65095	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16486	2023-11-20 16:51:52	21	FS D						STOP	Y			0 00	0.095		65095	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16485	2023-11-20 16:51:52	22	FS D						STOP	Y			0 00	0.095		65095	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16484	2023-11-20 16:51:51	22	FS D						STOP	Y			0 00	0.095		65045	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16483	2023-11-20 16:51:51	22	FS D						STOP	Y			0 00	0.063		65045	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16482	2023-11-20 16:51:51	23	FS D						STOP	Y			0 00	0.063		65045	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16481	2023-11-20 16:51:51	23	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		65045	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16480	2023-11-20 16:51:51	24	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		65045	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16479	2023-11-20 16:51:51	25	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		65045	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16478	2023-11-20 16:51:50	25	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		65020	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16477	2023-11-20 16:51:50	26	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		65020	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16476	2023-11-20 16:51:50	27	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		65020	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16475	2023-11-20 16:51:50	28	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		65020	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16474	2023-11-20 16:51:50	29	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		65020	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16473	2023-11-20 16:51:50	30	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		65020	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16472	2023-11-20 16:51:50	30	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		65020	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16471	2023-11-20 16:51:49	30	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16470	2023-11-20 16:51:49	31	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16469	2023-11-20 16:51:49	31	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16468	2023-11-20 16:51:49	32	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16467	2023-11-20 16:51:49	32	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
FS BRAKE #	16466	2023-11-20 16:51:49	32	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16465	2023-11-20 16:51:49	32	D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16464	2023-11-20 16:51:49	32	D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16463	2023-11-20 16:51:49	33	D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16462	2023-11-20 16:51:49	34	D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16461	2023-11-20 16:51:49	34	D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16460	2023-11-20 16:51:49	34	mB D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16459	2023-11-20 16:51:49	35	mB D	OK	OK	OK	OK	STOP	Y				0 00	OK		64945	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16458	2023-11-20 16:51:49	35	mB D	OK	OK	OK	OK	STOP	Y				0 00	OK		64920	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16457	2023-11-20 16:51:49	35	mB D	OK	OK	OK	OK	STOP	Y				0 00	OK		64920	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16456	2023-11-20 16:51:48	35	mB D	OK	OK	OK	OK	STOP	Y				0 00	OK		64920	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16455	2023-11-20 16:51:48	35	mB D	OK	OK	OK	OK	STOP	Y				0 00	OK		64920	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16454	2023-11-20 16:51:48	35	mB D	OK	OK	OK	OK	STOP	Y				0 00	OK		64920	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16453	2023-11-20 16:51:48	35	mB D	OK	OK	OK	OK	STOP	Y				0 00	OK		64920	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16452	2023-11-20 16:51:48	35	mB D	OK	OK	OK	OK	STOP	Y				0 00	OK		64920	No Station ID	No Station ID	Y	0.0	0.0	0.0			
STOP CODE #	16451	2023-11-20 16:51:48	35	mB D	OK	OK	OK	OK	STOP	Y				0 00	OK		64920	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	16450	2023-11-20 16:51:48	35	mB D	OK	OK	OK	OK	CS35	Y				3 00	OK		64920	No Station ID	No Station ID		0.0	0.0	0.0			
#	16449	2023-11-20 16:51:48	35	CT D	OK	OK	OK	OK	CS35	Y				3 00	OK		64920	No Station ID	No Station ID		0.0	0.0	0.0			
#	16448	2023-11-20 16:51:48	35	mP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64920	No Station ID	No Station ID		0.0	0.0	0.0			
#	16447	2023-11-20 16:51:48	35	D	OK	OK	OK	OK	CS35	Y				3 00	OK		64920	No Station ID	No Station ID		0.0	0.0	0.0			
#	16446	2023-11-20 16:51:48	35	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64920	No Station ID	No Station ID		0.0	0.0	0.0			
#	16445	2023-11-20 16:51:48	35	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64920	No Station ID	No Station ID		0.0	0.0	0.0			
#	16444	2023-11-20 16:51:48	36	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64920	No Station ID	No Station ID		0.0	0.0	0.0			
#	16443	2023-11-20 16:51:48	36	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64920	No Station ID	No Station ID		0.0	0.0	0.0			
#	16442	2023-11-20 16:51:48	37	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64920	No Station ID	No Station ID		0.0	0.0	0.0			
#	16441	2023-11-20 16:51:48	36	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64920	No Station ID	No Station ID		0.0	0.0	0.0			
#	16440	2023-11-20 16:51:47	36	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64845	No Station ID	No Station ID		0.0	0.0	0.0			
#	16439	2023-11-20 16:51:47	36	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64845	No Station ID	No Station ID		0.0	0.0	0.0			
#	16438	2023-11-20 16:51:47	36	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64045	No Station ID	No Station ID		0.0	0.0	0.0			
#	16437	2023-11-20 16:51:47	35	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64845	No Station ID	No Station ID		0.0	0.0	0.0			
#	16436	2023-11-20 16:51:47	34	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64845	No Station ID	No Station ID		0.0	0.0	0.0			
#	16435	2023-11-20 16:51:47	33	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64845	No Station ID	No Station ID		0.0	0.0	0.0			
#	16434	2023-11-20 16:51:47	32	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64845	No Station ID	No Station ID		0.0	0.0	0.0			
#	16433	2023-11-20 16:51:47	32	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64845	No Station ID	No Station ID		0.0	0.0	0.0			
#	16432	2023-11-20 16:51:47	32	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64845	No Station ID	No Station ID		0.0	0.0	0.0			
#	16431	2023-11-20 16:51:47	32	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64845	No Station ID	No Station ID		0.0	0.0	0.0			
#	16430	2023-11-20 16:51:47	32	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64845	No Station ID	No Station ID		0.0	0.0	0.0			
#	16429	2023-11-20 16:51:47	31	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64845	No Station ID	No Station ID		0.0	0.0	0.0			
#	16428	2023-11-20 16:51:46	31	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64820	No Station ID	No Station ID		0.0	0.0	0.0			
#	16427	2023-11-20 16:51:46	32	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64820	No Station ID	No Station ID		0.0	0.0	0.0			
#	16426	2023-11-20 16:51:46	32	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64820	No Station ID	No Station ID		0.0	0.0	0.0			
#	16425	2023-11-20 16:51:46	32	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64820	No Station ID	No Station ID		0.0	0.0	0.0			
#	16424	2023-11-20 16:51:46	32	MP D	OK	OK	OK	OK	CS35	Y				3 00	OK		64820	No Station ID	No Station ID		0.0	0.0	0.0			

Test Run #5 ATC Event Log Data Review

LOSS OF CAB

USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC BEETS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAR AB	ACTIVE CODE	XINFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION ID	ROUTE ID	EM TW17	EXT TR64	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRR BRR	BRR REQ
Page 85 November 21, 2023																											
#	16423	2023-11-20 16:51:46	32	MP D		OK	OK	OK	OK	CS35	Y			3 08	OK	64820	No Station ID	No Station ID			0.0	0.0	0.0			
#	16422	2023-11-20 16:51:46	33	MP D		OK	OK	OK	OK	CS35	Y			3 08	OK	64820	No Station ID	No Station ID			0.0	0.0	0.0			
#	16421	2023-11-20 16:51:45	33	MP D		OK	OK	OK	OK	CS35	Y			3 08	OK	64745	No Station ID	No Station ID			0.0	0.0	0.0			
#	16420	2023-11-20 16:51:45	34	MP D		OK	OK	OK	OK	CS35	Y			3 08	OK	64745	No Station ID	No Station ID			0.0	0.0	0.0			
#	16419	2023-11-20 16:51:45	34	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64745	No Station ID	No Station ID			0.0	0.0	0.0			
#	16418	2023-11-20 16:51:45	35	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64745	No Station ID	No Station ID			0.0	0.0	0.0			
#	16417	2023-11-20 16:51:45	35	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64745	No Station ID	No Station ID			0.0	0.0	0.0			
#	16416	2023-11-20 16:51:45	36	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64745	No Station ID	No Station ID			0.0	0.0	0.0			
#	16415	2023-11-20 16:51:45	36	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64745	No Station ID	No Station ID			0.0	0.0	0.0			
#	16414	2023-11-20 16:51:45	36	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64745	No Station ID	No Station ID			0.0	0.0	0.0			
#	16413	2023-11-20 16:51:45	35	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64745	No Station ID	No Station ID			0.0	0.0	0.0			
#	16412	2023-11-20 16:51:44	35	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64720	No Station ID	No Station ID			0.0	0.0	0.0			
#	16411	2023-11-20 16:51:44	34	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64720	No Station ID	No Station ID			0.0	0.0	0.0			
#	16410	2023-11-20 16:51:44	33	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64720	No Station ID	No Station ID			0.0	0.0	0.0			
#	16409	2023-11-20 16:51:44	32	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64720	No Station ID	No Station ID			0.0	0.0	0.0			
#	16408	2023-11-20 16:51:44	32	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64720	No Station ID	No Station ID			0.0	0.0	0.0			
#	16407	2023-11-20 16:51:44	32	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64720	No Station ID	No Station ID			0.0	0.0	0.0			
#	16406	2023-11-20 16:51:44	32	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64720	No Station ID	No Station ID			0.0	0.0	0.0			
#	16405	2023-11-20 16:51:44	32	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64720	No Station ID	No Station ID			0.0	0.0	0.0			
#	16404	2023-11-20 16:51:44	31	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64720	No Station ID	No Station ID			0.0	0.0	0.0			
#	16403	2023-11-20 16:51:43	31	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64670	No Station ID	No Station ID			0.0	0.0	0.0			
#	16402	2023-11-20 16:51:43	32	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64670	No Station ID	No Station ID			0.0	0.0	0.0			
#	16401	2023-11-20 16:51:43	32	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64670	No Station ID	No Station ID			0.0	0.0	0.0			
#	16400	2023-11-20 16:51:43	32	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64670	No Station ID	No Station ID			0.0	0.0	0.0			
#	16399	2023-11-20 16:51:43	32	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64670	No Station ID	No Station ID			0.0	0.0	0.0			
#	16398	2023-11-20 16:51:43	32	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64670	No Station ID	No Station ID			0.0	0.0	0.0			
#	16397	2023-11-20 16:51:43	32	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64670	No Station ID	No Station ID			0.0	0.0	0.0			
#	16396	2023-11-20 16:51:43	33	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64670	No Station ID	No Station ID			0.0	0.0	0.0			
#	16395	2023-11-20 16:51:42	33	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16394	2023-11-20 16:51:42	34	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16393	2023-11-20 16:51:42	34	WP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16392	2023-11-20 16:51:42	34	CT D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16391	2023-11-20 16:51:42	34	WB D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16390	2023-11-20 16:51:42	35	WB D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16389	2023-11-20 16:51:42	35	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16388	2023-11-20 16:51:42	35	WB D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16387	2023-11-20 16:51:42	35	CT D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16386	2023-11-20 16:51:42	35	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16385	2023-11-20 16:51:42	35	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16384	2023-11-20 16:51:42	35	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16383	2023-11-20 16:51:42	36	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16382	2023-11-20 16:51:42	37	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64620	No Station ID	No Station ID			0.0	0.0	0.0			
#	16381	2023-11-20 16:51:41	37	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64570	No Station ID	No Station ID			0.0	0.0	0.0			
#	16380	2023-11-20 16:51:41	36	MP D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64570	No Station ID	No Station ID			0.0	0.0	0.0			
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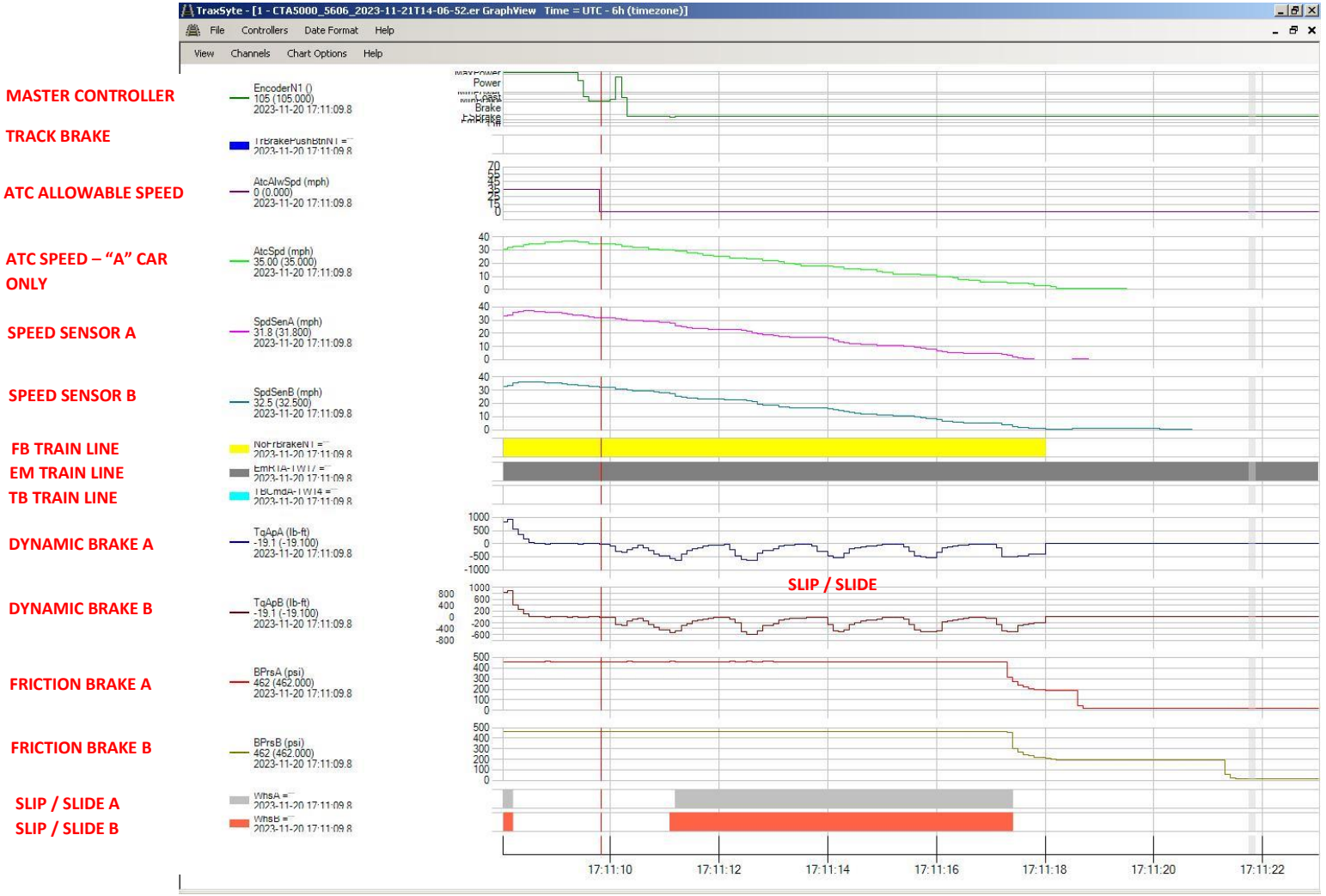
#	16349	2023-11-20 16:51:39	35	D		OK	OK	OK	OK	CS35	Y	180 cpm		3 08	OK	64495	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #5 ERU Event Log



CHICAGO TRANSIT AUTHORITY

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Chicago, Illinois 60661-1498
TEL 312 664-7200
www.transitchicago.com

MEMO:

DATE: December 15, 2023

TO: Nancy-Ellen Zusman, CTA Chief Safety and Security Officer

FROM: James Harper, Chief Engineer Infrastructure

RE: November 16, 2023, Collision on Yellow Line Between Revenue Train and Snow Fighter
Results of Post-Incident Re-Enactment #2 and Mitigation Efforts Using Test Trains

Event Synopsis

On Thursday, November 16, 2023, at approximately 10:30 hours in the morning, Chicago Transit Authority (CTA) Yellow Line Run #593 was operating as a two-car consist (lead car 5600) on a normal round trip towards Howard Terminal. As the train approached Howard Terminal in the southbound direction, it struck maintenance vehicle S500, a non-revenue, diesel powered locomotive used to remove snow from the tracks (also known as a Snow Fighter). There were six CTA employees onboard the Snow Fighter and 31 passengers and crew onboard the revenue train.

Test Train Re-Enactments

Test Train Re-Enactment #2 (November 22, 2023)

This section provides a report on the efforts by CTA on November 22, 2023 to re-enact the collision conditions using a test train and using simulated occupancy of the section of track that the Snow Fighter was occupying at the time of the incident.

The re-enactment was performed for the following reasons:

- Attempt to demonstrate the effects of slippery rail on the overall braking capabilities of a two-car 5000 Series train (as noted on the day of the collision, the top of the rail on the downhill grade was still “contaminated” with a material that appeared to reduce the wheel-to-rail adhesion).
- Attempt to demonstrate how a two-car 5000 Series train reacts to the presence of a train ahead by simulating the presence of a train in the section of track that the Snow Fighter was occupying.
- Attempt to understand how the slip/slide system on a two-car 5000 Series train can affect train braking performance.
- Attempt to understand how a two-car 5000 Series train reacts to a slip/slide condition without operator intervention and how this may affect overall braking performance.

- Attempt to demonstrate that the proposed 35 mph slow zones approaching the downhill grade will provide for safer braking distances when a vehicle is located ahead.

The test train (head car 5505) was staged at the Skokie-Dempster Station at approximately 1030 hours on Wednesday, November 22, 2023. The re-enactment was supported by staff from CTA Signal Maintenance and CTA Track Maintenance.

In addition, the following CTA participants participated in the review:

- Jim Harper, CTA Chief Engineer
- Carrie Wagener, CTA First Deputy Chief Engineer
- Cody Krezinski, CTA Engineer III – Civil / Track
- Brent Frey, CTA Signal Engineer I
- Kevin Carney, CTA Transit System Safety Officer
- Grant Macey, CTA Chief Rail Equipment Engineer
- Chris Hegarty, CTA General Manager, Rail Engineering & Instruction
- CTA Train Operator
- CTA Rail Operations Supervisor

The signal system track circuits involved in the incident, and in re-enactment tests, are shown in Figure 1 below. The figure includes a note where the zero speed command is received when a train occupies the track circuit that was occupied by the Snow Fighter at the time of the incident (SKI-9T track circuit). The figure also shows the length of each track circuit involved and the location of the accident relative to the start of the SK1-9T track circuit.

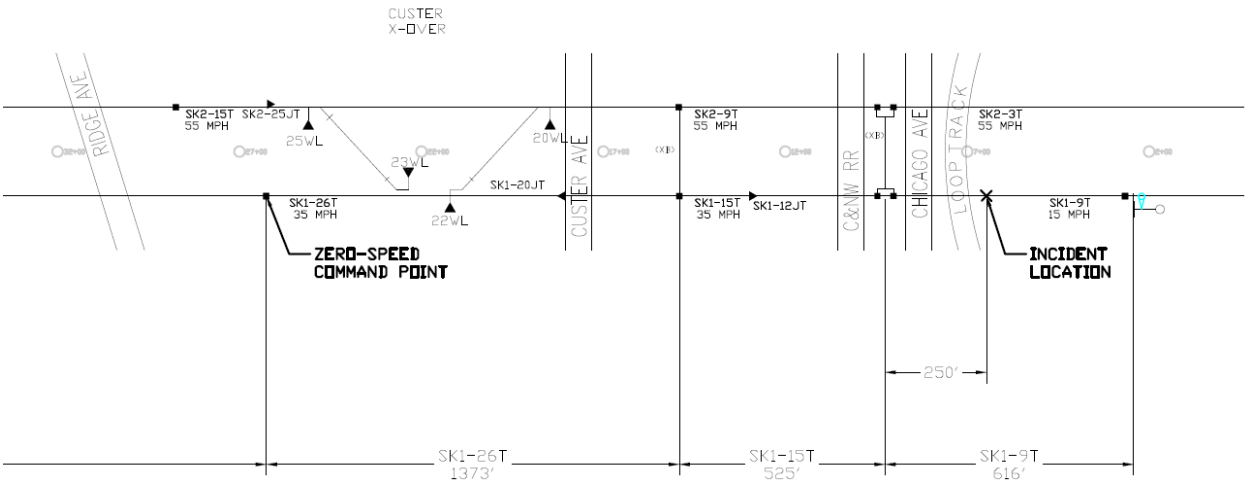


***Figure #1**: Track Circuits involved in the November 16, 2023 Accident*

All temporary slow zones implemented after the accident were removed at the start of the test to simulate the conditions under which the incident train operated. A total of six test runs were conducted. See Figure 2 below for a tabulation of the test results.

Test Date	11/22/2023
Test Time	10:00
General Conditions	45F, partly cloudy
Test Trainset	5505-5506
For all runs:	Rails were slippery but got progressivly less slippery as the test progressed
Notes:	Simulated Location of Snow Fighter was 250' beyond entrance to 9T (any stopping distance beyond 9T greater than 250' (+) (shown in red implies collision)
	Simulated location of Snow Fighter was done using a track shunt at collision location.
	Cells shown in green indicate train stopped safely short of the 9T track circuit ahead

Test Run Number	Simulated occupancy of 9T	Max Speed (mph)	Distance to full stop before (-)/beyond (+) entrance to 9T (feet)	Average Brake Rate (mphl/s)	Collision with Simulated Snow Fighter?	Comments
1	Y	55	492 (+)	1.3	Y	No Operator Intervention; Train automatically deployed penalty brake after entering 26T and reaction time ran. Train nearly reached Howard Interlocking X32 home signal.
2	Y	55	479 (+)	1.4	Y	Operator reacted to steady red audible and used full service brake, no track brake
3	Y	55	264 (+)	1.6	Y	Operator reacted to steady red audible and used full service brake, track brake deployed when simulated snow fighter position came into view
3A	Y	55	218 (+)	1.7	N	Operator reacted to steady red audible and used full service brake, transitioned to "full emergency" position when simulated snow fighter position came into view
4	Y	35	261 (-)	2.1	N	No Operator Intervention;Train automatically deployed penalty brake after entering 26T and reaction time ran.
5	Y	35	533 (-)	2.9	N	Operator reacted to steady red audible and used full service brake, no track brake
6	Y	55	414(+)	1.4	Y	No Operator Intervention; Train automatically deployed penalty brake after entering 26T and reaction time ran.

SK1 track segments, towards Howard: 44T-26T-15T-9T
"Zero-speed command point (26T bond)" is transition between 44T and 26T, before Custer x-over

***Figure #2**: Results of November 22, 2023 Re-Enactment #2 Test Runs*

All test runs were set up with a simulated train in the section of track that contained the Snow Fighter (the SK1-9T track circuit). The simulation was performed by applying a shunt on the track at the spot where the Snow Fighter was located at the time of the collision. The expectation for the test runs was that the train would reach a speed of approximately 35 mph or 55 mph and would react to a zero-speed cab command at the start of the SK1-26T track circuit at the top of the downhill grade (as designed). Data from test train 5505 for all test runs was recovered and analyzed as part of this review. ATC data and ERU data for each run is found in Appendices I – VI.

Test Runs #1 – 6 (November 22, 2023)

Test Run #1: No Operator Intervention | 55 mph

Test Run #1 was performed with a simulated Snow Fighter in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it reached before receiving a red cab signal stop code as seen in Figure 3 below. The operator of the train did not apply a braking application (the operator retained the master controller in the propulsion position) and as a result the train received a penalty brake a few seconds after entering SK1-26T. The train came to a complete stop roughly 492 feet beyond the entrance of SK1-9T, which would have resulted in a collision with the simulated Snow Fighter. As seen in Figure 4 below, the Test Run #1 train nearly reached the Howard Interlocking X32 Home Signal (the allowable speed on the train's ADU was 15 mph because the test train had gone past the track shunt). The train experienced roughly 20 seconds of slip/slide conditions and the average brake rate was approximately 1.3 mph/s.

***Figure #3**: Test Run #1 – Speed when stop code command was received from signal system*

***Figure #4**: Test Run #1 – Location where train came to a stop*

Test Run #2: Full Service Brake | 55 mph

Test Run #2 was performed with a simulated Snow Fighter in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it nearly reached before receiving a red cab signal stop code as seen in Figure 5 below. The operator of the train immediately applied the Full Service Brake. The train came to a complete stop (see Figure 6 below) roughly 479 feet beyond the entrance of SK1-9T, which would have resulted in a collision with the simulated Snow Fighter. The train experienced roughly 15 seconds of slip/slide conditions and the average brake rate was approximately 1.4 mph/s.

***Figure #5**: Test Run #2 – Speed when stop code command was received from signal system*

***Figure #6**: Test Run #2 – Location where train came to a stop*

Test Run #3: Full Service Brake & Track Brake | 55 mph

Test Run #3 was performed with a simulated Snow Fighter in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it nearly reached before receiving a red cab signal stop code as seen in Figure 7 below. The operator of the train immediately applied the Full Service Brake and deployed the Track Brake when the simulated Snow Fighter came into view. The train came to a complete stop (see Figure 8 below) roughly 264 feet beyond the entrance of SK1-9T, which would have resulted in a collision with the simulated Snow Fighter. The train experienced roughly 18 seconds of slip/slide conditions and the average brake rate was approximately 1.6 mph/s.

***Figure #7**: Test Run #3 – Speed when stop code command was received from signal system*

***Figure #8**: Test Run #3 – Location where train came to a stop*

Test Run #3A: Full Service Brake and Emergency | 55 mph

Test Run #3A was performed with a simulated Snow Fighter in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it nearly reached before receiving a red cab signal stop code as seen in Figure 9 below. The operator of the train immediately applied the Full Service Brake and then moved the Master Controller to the Emergency Position when the simulated Snow Fighter came into view (the Emergency position causes the train's track and friction brakes to apply). The train came to a complete stop (see Figure 10 below) roughly 218 feet beyond the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter, but still violated the maximum safe braking distance assumed by the wayside signal system. The train experienced roughly 14 seconds of slip/slide conditions and the average brake rate was approximately 1.7 mph/s.

***Figure #9**: Test Run #3A – Speed when stop code command was received from signal system*

***Figure #10**: Test Run #3A – Location where train came to a stop*

Test Run #4: No Operator Intervention | 35 mph

Test Run #4 was performed with a simulated Snow Fighter in the SK1-9T track circuit. The train was given a maximum allowable speed of 35 mph, which it nearly reached before receiving a red cab signal stop code as seen in Figure 11 below. The operator of the train did not apply a braking application (the operator retained the master controller in the propulsion position) and as a result the train received a penalty brake shortly after entering SK1-26T. The train came to a complete stop (see Figure 12 below) roughly 261 feet before the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter and met the maximum safe braking distance. The train experienced roughly eight (8) seconds of slip/slide conditions and an average brake rate of 2.1 mph/s.

***Figure #11**: Test Run #4 – Speed when stop code command was received from signal system*

***Figure #12**: Test Run #4 – Location where train came to a stop*

Test Run #5: Full Service Brake | 35 mph

Test Run #5 was performed with a simulated Snow Fighter in the SK1-9T track circuit. The train was given a maximum allowable speed of 35 mph, which it reached before receiving a red cab signal stop code as seen in Figure 13 below. The operator of the train immediately applied the Full Service Brake. The train came to a complete stop (see Figure 14 below) roughly 533 feet before the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter and met the maximum safe braking distance. The train experienced roughly 10 seconds of slip/slide conditions and an average brake rate of 2.9 mph/s.

***Figure #13**: Test Run #5 – Speed when stop code command was received from signal system*

***Figure #14**: Test Run #5 – Location where train came to a stop*

Test Run #6: No Operator Intervention | 55 mph (Repeat of Test Run #1)

Test Run #6 was performed with a simulated Snow Fighter in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it reached before receiving a red cab signal stop code as seen in Figure 15 below. The operator of the train did not apply a braking application (the operator retained the master controller in the propulsion position) and the train received a penalty brake shortly after entering SK1-26T as a result. The train came to a complete stop (see Figure 16 below) roughly 414 feet beyond the entrance of SK1-9T, which would have resulted in a collision with the simulated Snow Fighter. The train experienced roughly 15 seconds of slip/slide conditions and an average brake rate of 1.37 mph/s.

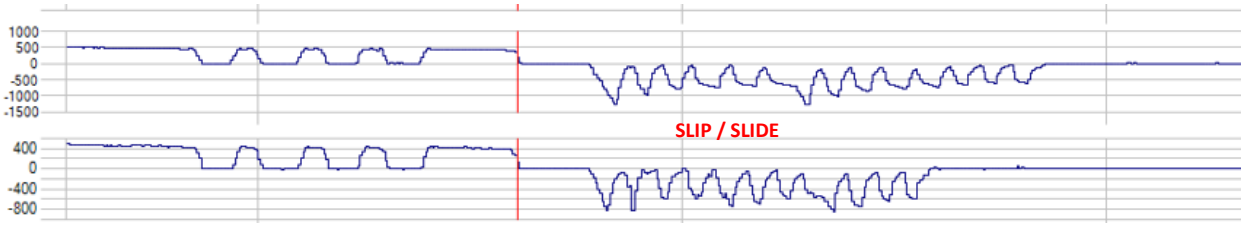
***Figure #15**: Test Run #6 – Speed when stop code command was received from signal system*

***Figure #16**: Test Run #6 – Location where train came to a stop*

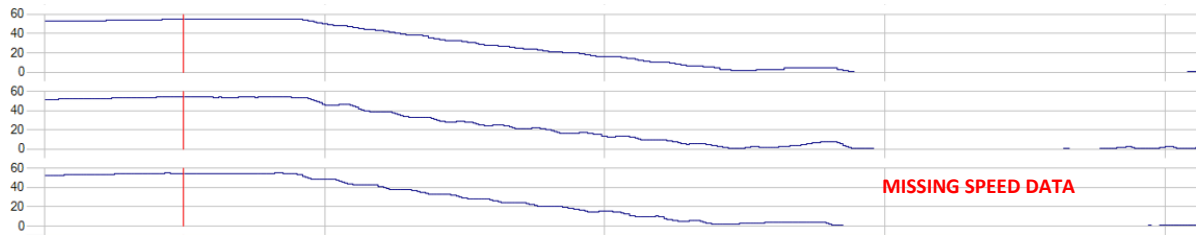
Conclusions

The following conclusions can be derived from this series of re-enactments:

- When entering the SK1-26T track circuit (at the top of the downhill grade where they received a "zero speed" stop command due to a "train ahead" condition) at 55 mph, the test train was not able to brake to zero speed using the Full Service Brake (applied by either the operator [see Test Run #2] or by the signal system [see Test Run #1 and #6]) before entering the SK1-9T track circuit (the limit of the maximum safe braking distance assumed by the wayside signal system). Brake rates for these runs were: Test Run #1 – 1.3 mph/s; Test Run #2 – 1.4 mph/s; and Test Run #6 – 1.37 mph/s (this compares to CTA's standard braking model brake rate of 1.9 mph/s).
- When entering the SK1-26T track circuit at 55 mph, the test train was not able to stop short of the SK1-9T track circuit, when the Full Service Brake was applied by the operator, and when the Track Brake (or full Emergency Brake) was later applied by the operator as the train approached this safe braking distance limit (see Test Runs #3 and #3A). Brake rates for these runs were: Test Run #3 – 1.6 mph/s and Test Run #3A – 1.7 mph/s.
- When operating at 55 mph, all test runs experienced a "slip/slide" condition for a portion of the run on the downhill grade. Dynamic braking under the slip/slide mode appeared to result in a "pulsation effect" where the braking torque cycled between zero and -1500 ft-lbs (see the below excerpt of the ERU from Test Run #1).



- When operating at 55 mph, all of the test runs sensed a zero speed well before the train came to a full stop. This appeared to be caused by the train wheels being "locked up" and "sliding". When the zero speed was sensed, the dynamic braking ceased to function, and the friction brakes activated. One or both of the speed sensors sometimes transitioned back to sensing a higher speed, or disappeared altogether (see the below excerpt of the ERU from Test Run #2).



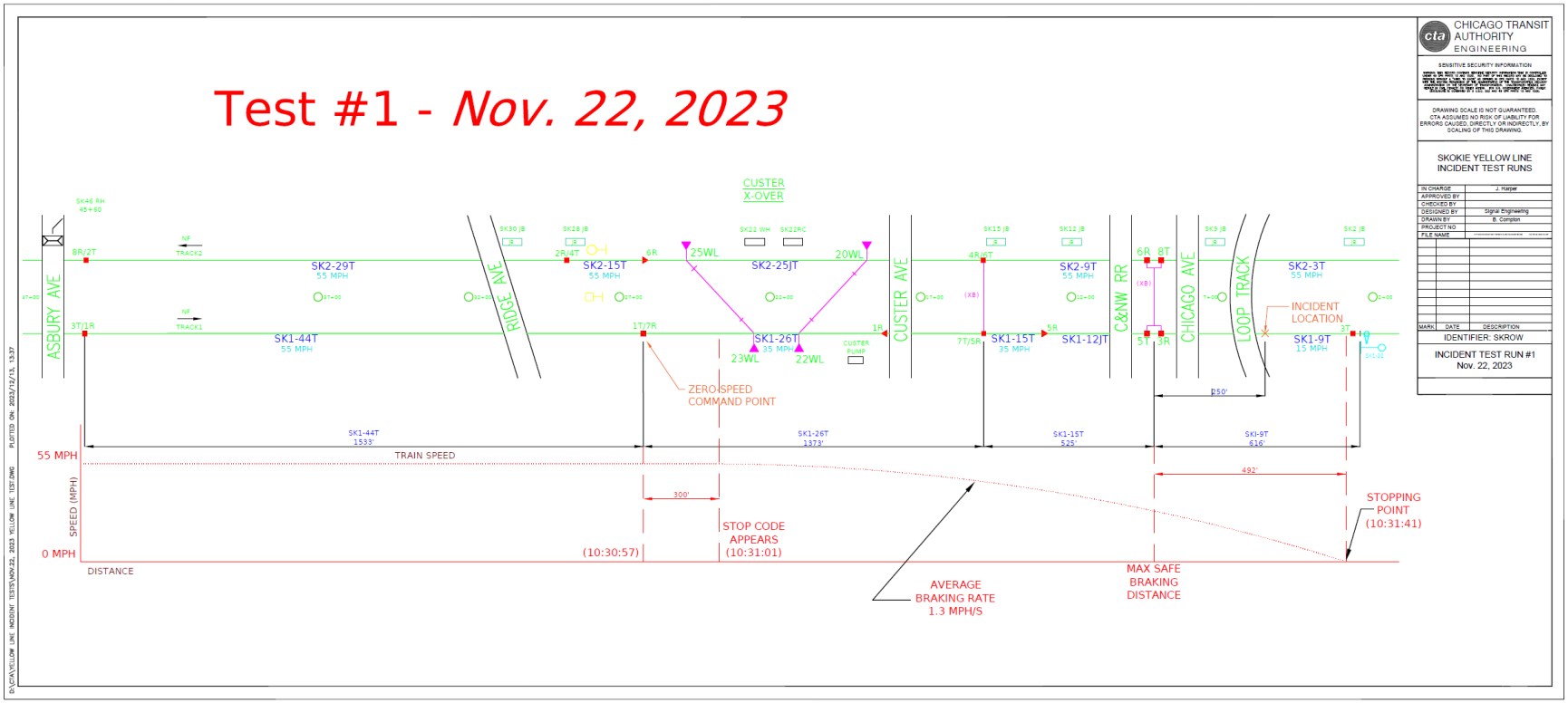
- The use of the Track Brake improved the train's braking distance, allowing the train to come to a stop nearly 215 feet (nearly half the distance) shorter than when only the Full Service Brake was used (see the below excerpt of the ERU from Test Run #3).

- When the maximum allowable speed in approach to the downhill grade was reduced to 35 mph, the test train (see Test Run #4) was able to automatically brake without operator intervention with a large safety margin. The train experienced slip/slide conditions on the downhill grade for roughly 10 seconds when it entered the downhill grade at this reduced speed, and experienced an average brake rate of 2.1 mph/s. When the operator applied the Full Service Brake after receiving the zero speed stop command with a 35 mph approach speed (see Test Run #5), the train stopped with an even greater margin of safety (average brake rate = 2.9 mph/s).
- The test runs indicated that slip/slide conditions appear to significantly affect train braking performance when entering a downhill grade at 55 mph, to the point where brake rates are well below the degraded rate assumed in the signal system design. When entering speeds were reduced to 35 mph, the train was able to brake within the brake rate assumptions used in CTA's standard braking model.

Appendices I – VI

Appendix I: Test Run #1 Analysis

Test Run #1Track Circuit Diagram and Vehicle Response



Test Run #1 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #1		
Criteria	**Time**	**Distance**
Loss of Cab	10:30:57	46871
Stop Code	10:31:01	47171
Zero Speed	10:31:41	48146

Rail vehicle speed at loss of cab: **52 mph**

Total distance from brake application to stopping point: **N/A**

Total time from brake application to stopping point: **N/A**

Test Run #1 ATC Event Log Data Review

ZERO SPEED

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXTSTATION	ROUTE ID	EMTW17	EXTR64	LATERAL G	LONGITUDE G	UERTICAL G	UZERO	BRFB	BRREQ
Page 128 November 22, 2023																											
#	24055	2023-11-22 10:31:41	0	FS D	OK	OK	OK	OK	CS15 Y	75 cpm	1 02	OK	48146	No Station ID	No Station ID		0.0	0.0	0.0	V	B	B
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#	24053	2023-11-22 10:31:41	0	D	OK	OK	OK	OK	CS15 Y	75 cpm	1 02	OK	48146	No Station ID	No Station ID		0.0	0.0	0.0	V	B	B
#	24052	2023-11-22 10:31:41	0	mB D	OK	OK	OK	OK	CS15 Y	75 cpm	1 02	OK	48146	No Station ID	No Station ID		0.0	0.0	0.0	V	B	B
#	24051	2023-11-22 10:31:41	0	D	OK	OK	OK	OK	CS15 Y	75 cpm	1 02	OK	48146	No Station ID	No Station ID		0.0	0.0	0.0	V	B	B
#	24050	2023-11-22 10:31:41	0	MP D	OK	OK	OK	OK	CS15 Y	75 cpm	1 02	OK	48146	No Station ID	No Station ID		0.0	0.0	0.0	V	B	B
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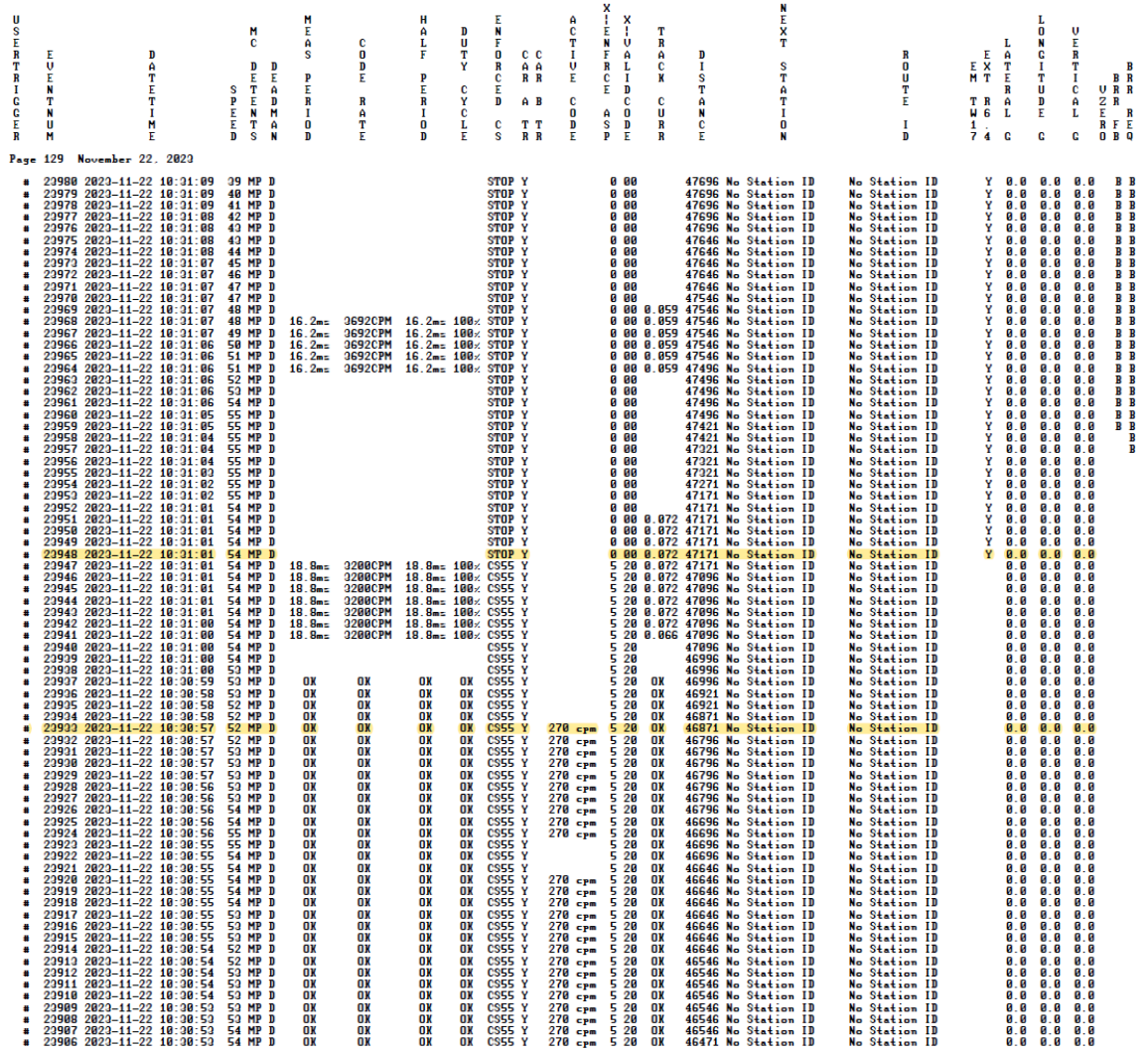
#	24047	2023-11-22 10:31:39	2	MP D	OK	OK	OK	OK	CS15 Y	75 cpm	1 02	OK	48146	No Station ID	No Station ID		0.0	0.0	0.0	V	B	B
#	24046	2023-11-22 10:31:38	1	MP D	OK	OK	OK	OK	CS15 Y	75 cpm	1 02	OK	48146	No Station ID	No Station ID		0.0	0.0	0.0	V	B	B
#	24045	2023-11-22 10:31:30	0	MP D	OK	OK	OK	OK	CS15 Y	75 cpm	1 02	OK	48146	No Station ID	No Station ID		0.0	0.0	0.0	V	B	B
#	24044	2023-11-22 10:31:30	0	MP D	OK	OK	OK	OK	STOP Y		0 00	OK	48146	No Station ID	No Station ID	Y	0.0	0.0	0.0	V	B	B
#	24043	2023-11-22 10:31:30	0	MP D	383.8ms	156CPM	383.8ms	100%	STOP Y		0 00	0.080	48146	No Station ID	No Station ID	Y	0.0	0.0	0.0	V	B	B
#	24042	2023-11-22 10:31:30	0	MP D	383.8ms	156CPM	383.8ms	100%	STOP Y		0 00	0.065	48146	No Station ID	No Station ID	Y	0.0	0.0	0.0	V	B	B
#	24041	2023-11-22 10:31:29	0	MP D					STOP Y		0 00		48146	No Station ID	No Station ID	Y	0.0	0.0	0.0	V	B	B
#	24040	2023-11-22 10:31:29	0	MP D					STOP Y		0 00	0.065	48146	No Station ID	No Station ID	Y	0.0	0.0	0.0	V	B	B
#	24039	2023-11-22 10:31:26	0	MP D					STOP Y		0 00		48146	No Station ID	No Station ID	Y	0.0	0.0	0.0	V	B	B
#	24038	2023-11-22 10:31:26	1	MP D					STOP Y		0 00		48146	No Station ID	No Station ID	Y	0.0	0.0	0.0	V	B	B
#	24037	2023-11-22 10:31:25	2	MP D					STOP Y		0 00		48146	No Station ID	No Station ID	Y	0.0	0.0	0.0	V	B	B
#	24036	2023-11-22 10:31:25	3	MP D					STOP Y		0 00		48146	No Station ID	No Station ID	Y	0.0	0.0	0.0	V	B	B
#	24035	2023-11-22 10:31:25	4	MP D					STOP Y		0 00		48146	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24034	2023-11-22 10:31:25	5	MP D					STOP Y		0 00		48146	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24033	2023-11-22 10:31:25	6	MP D					STOP Y		0 00		48146	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24032	2023-11-22 10:31:25	7	MP D					STOP Y		0 00		48146	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24031	2023-11-22 10:31:23	8	MP D					STOP Y		0 00		48146	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24030	2023-11-22 10:31:22	8	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24029	2023-11-22 10:31:22	7	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24028	2023-11-22 10:31:22	6	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24027	2023-11-22 10:31:21	5	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24026	2023-11-22 10:31:21	4	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24025	2023-11-22 10:31:21	4	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24024	2023-11-22 10:31:21	5	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24023	2023-11-22 10:31:20	6	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24022	2023-11-22 10:31:20	7	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24021	2023-11-22 10:31:19	8	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24020	2023-11-22 10:31:19	9	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24019	2023-11-22 10:31:19	10	MP D					STOP Y		0 00		48121	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24018	2023-11-22 10:31:19	10	MP D					STOP Y		0 00		48071	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24017	2023-11-22 10:31:19	11	MP D					STOP Y		0 00		48071	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24016	2023-11-22 10:31:18	12	MP D					STOP Y		0 00		48071	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24015	2023-11-22 10:31:18	13	MP D					STOP Y		0 00		48071	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24014	2023-11-22 10:31:18	13	MP D					STOP Y		0 00		48046	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24013	2023-11-22 10:31:18	14	MP D					STOP Y		0 00		48046	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24012	2023-11-22 10:31:18	15	MP D					STOP Y		0 00		48046	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24011	2023-11-22 10:31:17	16	MP D					STOP Y		0 00		48046	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24010	2023-11-22 10:31:17	17	MP D					STOP Y		0 00		48046	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24009	2023-11-22 10:31:17	18	MP D					STOP Y		0 00		48046	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24008	2023-11-22 10:31:16	19	MP D					STOP Y		0 00		48046	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24007	2023-11-22 10:31:16	20	MP D					STOP Y		0 00		48046	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24006	2023-11-22 10:31:16	20	MP D					STOP Y		0 00		48021	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24005	2023-11-22 10:31:15	21	MP D					STOP Y		0 00		48021	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24004	2023-11-22 10:31:15	21	MP D					STOP Y		0 00		47971	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24003	2023-11-22 10:31:14	22	MP D					STOP Y		0 00		47971	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24002	2023-11-22 10:31:14	23	MP D					STOP Y		0 00		47971	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24001	2023-11-22 10:31:14	23	MP D					STOP Y		0 00		47946	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	24000	2023-11-22 10:31:14	24	MP D					STOP Y		0 00		47946	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23999	2023-11-22 10:31:13	25	MP D					STOP Y		0 00		47946	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23998	2023-11-22 10:31:13	26	MP D					STOP Y		0 00		47946	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23997	2023-11-22 10:31:13	26	MP D					STOP Y		0 00		47921	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23996	2023-11-22 10:31:13	27	MP D					STOP Y		0 00		47921	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23995	2023-11-22 10:31:13	28	MP D					STOP Y		0 00		47921	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23994	2023-11-22 10:31:12	29	MP D					STOP Y		0 00		47921	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23993	2023-11-22 10:31:12	29	MP D					STOP Y		0 00		47846	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23992	2023-11-22 10:31:12	30	MP D					STOP Y		0 00		47846	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23991	2023-11-22 10:31:12	31	MP D					STOP Y		0 00		47846	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23990	2023-11-22 10:31:12	32	MP D					STOP Y		0 00		47846	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23989	2023-11-22 10:31:11	33	MP D					STOP Y		0 00		47846	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23988	2023-11-22 10:31:11	33	MP D					STOP Y		0 00		47821	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23987	2023-11-22 10:31:10	34	MP D					STOP Y		0 00		47821	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23986	2023-11-22 10:31:10	35	MP D					STOP Y		0 00		47821	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23985	2023-11-22 10:31:10	36	MP D					STOP Y		0 00		47821	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23984	2023-11-22 10:31:10	36	MP D					STOP Y		0 00		47746	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23983	2023-11-22 10:31:10	37	MP D					STOP Y		0 00		47746	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23982	2023-11-22 10:31:09	38	MP D					STOP Y		0 00		47746	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	23981	2023-11-22 10:31:09	38	MP D					STOP Y		0 00		47696	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B

Test Run #1 ATC Event Log Data Review



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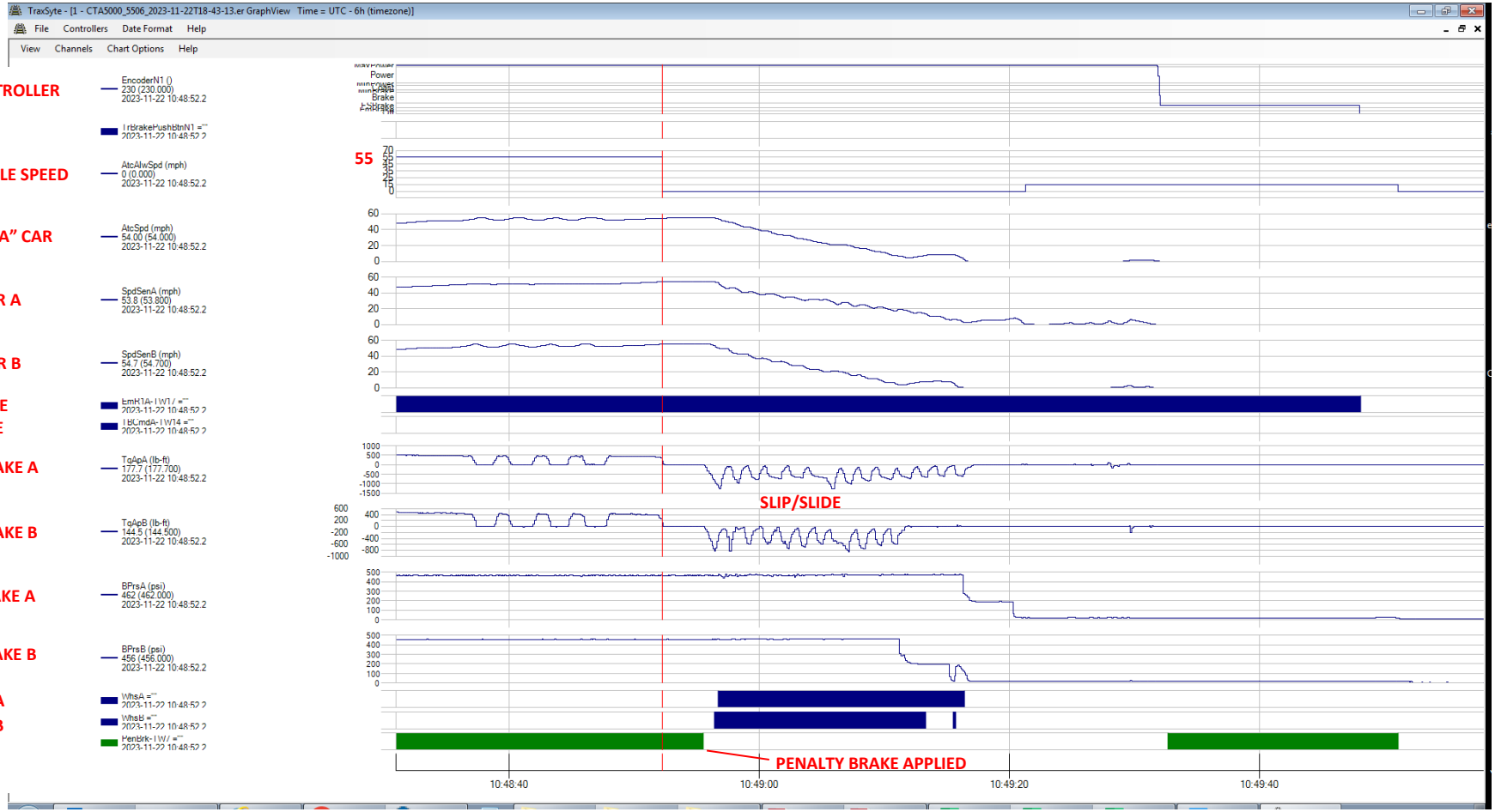
#	USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR AR	CAR TR	ACTIVE CODE	XIENFORCE ASP	XIVALID CODE	TRACK CUR R	DISTANCE	NEXT STATION	ROUTE ID	EMT W1 74	EXT RAL G	LATERAL G	LONGITUDE G	VERTICAL G	VZERO	BRR FB	BRR RQ
#	29980	2023-11-22 10:31:09	39	MP	D						STOP	Y			0	00		47696	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29979	2023-11-22 10:31:09	40	MP	D						STOP	Y			0	00		47696	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29978	2023-11-22 10:31:09	41	MP	D						STOP	Y			0	00		47696	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29977	2023-11-22 10:31:08	42	MP	D						STOP	Y			0	00		47696	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29976	2023-11-22 10:31:08	43	MP	D						STOP	Y			0	00		47696	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29975	2023-11-22 10:31:08	43	MP	D						STOP	Y			0	00		47646	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29974	2023-11-22 10:31:08	44	MP	D						STOP	Y			0	00		47646	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29973	2023-11-22 10:31:07	45	MP	D						STOP	Y			0	00		47646	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29972	2023-11-22 10:31:07	46	MP	D						STOP	Y			0	00		47646	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29971	2023-11-22 10:31:07	47	MP	D						STOP	Y			0	00		47646	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29970	2023-11-22 10:31:07	47	MP	D						STOP	Y			0	00		47546	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29969	2023-11-22 10:31:07	48	MP	D						STOP	Y			0	00	0.059	47546	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29968	2023-11-22 10:31:07	48	MP	D	16.2ms	3692CPM	16.2ms	100%		STOP	Y			0	00	0.059	47546	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29967	2023-11-22 10:31:07	49	MP	D	16.2ms	3692CPM	16.2ms	100%		STOP	Y			0	00	0.059	47546	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29966	2023-11-22 10:31:06	50	MP	D	16.2ms	3692CPM	16.2ms	100%		STOP	Y			0	00	0.059	47546	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29965	2023-11-22 10:31:06	51	MP	D	16.2ms	3692CPM	16.2ms	100%		STOP	Y			0	00	0.059	47546	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29964	2023-11-22 10:31:06	51	MP	D	16.2ms	3692CPM	16.2ms	100%		STOP	Y			0	00	0.059	47496	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29963	2023-11-22 10:31:06	52	MP	D						STOP	Y			0	00		47496	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29962	2023-11-22 10:31:06	53	MP	D						STOP	Y			0	00		47496	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29961	2023-11-22 10:31:06	54	MP	D						STOP	Y			0	00		47496	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29960	2023-11-22 10:31:05	55	MP	D						STOP	Y			0	00		47496	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29959	2023-11-22 10:31:05	55	MP	D						STOP	Y			0	00		47421	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	29958	2023-11-22 10:31:04	55	MP	D						STOP	Y			0	00		47421	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	
#	29957	2023-11-22 10:31:04	55	MP	D						STOP	Y			0	00		47321	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	
#	29956	2023-11-22 10:31:04	55	MP	D						STOP	Y			0	00		47321	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	29955	2023-11-22 10:31:03	55	MP	D						STOP	Y			0	00		47321	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	29954	2023-11-22 10:31:02	55	MP	D						STOP	Y			0	00		47271	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	29953	2023-11-22 10:31:02	55	MP	D						STOP	Y			0	00		47171	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	29952	2023-11-22 10:31:01	54	MP	D						STOP	Y			0	00		47171	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	29951	2023-11-22 10:31:01	54	MP	D						STOP	Y			0	00	0.072	47171	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	29950	2023-11-22 10:31:01	54	MP	D						STOP	Y			0	00	0.072	47171	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	29949	2023-11-22 10:31:01	54	MP	D						STOP	Y			0	00	0.072	47171	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	29948	2023-11-22 10:31:01	54	MP	D						STOP	Y			0	00	0.072	47171	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	29947	2023-11-22 10:31:01	54	MP	D	18.8ms	3200CPM	18.8ms	100%		CS55	Y			5	20	0.072	47171	No Station ID	No Station ID			0.0	0.0	0.0			
#	29946	2023-11-22 10:31:01	54	MP	D	18.8ms	3200CPM	18.8ms	100%		CS55	Y			5	20	0.072	47096	No Station ID	No Station ID			0.0	0.0	0.0			
#	29945	2023-11-22 10:31:01	54	MP	D	18.8ms	3200CPM	18.8ms	100%		CS55	Y			5	20	0.072	47096	No Station ID	No Station ID			0.0	0.0	0.0			
#	29944	2023-11-22 10:31:01	54	MP	D	18.8ms	3200CPM	18.8ms	100%		CS55	Y			5	20	0.072	47096	No Station ID	No Station ID			0.0	0.0	0.0			
#	29943	2023-11-22 10:31:01	54	MP	D	18.8ms	3200CPM	18.8ms	100%		CS55	Y			5	20	0.072	47096	No Station ID	No Station ID			0.0	0.0	0.0			
#	29942	2023-11-22 10:31:00	54	MP	D	18.8ms	3200CPM	18.8ms	100%		CS55	Y			5	20	0.072	47096	No Station ID	No Station ID			0.0	0.0	0.0			
#	29941	2023-11-22 10:31:00	54	MP	D	18.8ms	3200CPM	18.8ms	100%		CS55	Y			5	20	0.066	47096	No Station ID	No Station ID			0.0	0.0	0.0			
#	29940	2023-11-22 10:31:00	54	MP	D						CS55	Y			5	20		47096	No Station ID	No Station ID			0.0	0.0	0.0			
#	29939	2023-11-22 10:31:00	54	MP	D						CS55	Y			5	20		46996	No Station ID	No Station ID			0.0	0.0	0.0			
#	29938	2023-11-22 10:31:00	53	MP	D						CS55	Y			5	20		46996	No Station ID	No Station ID			0.0	0.0	0.0			
#	29937	2023-11-22 10:30:59	53	MP	D	OK	OK	OK	OK		CS55	Y			5	20	OK	46996	No Station ID	No Station ID			0.0	0.0	0.0			
#	29936	2023-11-22 10:30:58	53	MP	D	OK	OK	OK	OK		CS55	Y			5	20	OK	46921	No Station ID	No Station ID			0.0	0.0	0.0			
#	29935	2023-11-22 10:30:58	52	MP	D	OK	OK	OK	OK		CS55	Y			5	20	OK	46921	No Station ID	No Station ID			0.0	0.0	0.0			
#	29934	2023-11-22 10:30:58	52	MP	D	OK	OK	OK	OK		CS55	Y			5	20	OK	46871	No Station ID	No Station ID			0.0	0.0	0.0			
#	29933	2023-11-22 10:30:57	52	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46871	No Station ID	No Station ID			0.0	0.0	0.0			
#	29932	2023-11-22 10:30:57	52	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46796	No Station ID	No Station ID			0.0	0.0	0.0			
#	29931	2023-11-22 10:30:57	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46796	No Station ID	No Station ID			0.0	0.0	0.0			
#	29930	2023-11-22 10:30:57	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46796	No Station ID	No Station ID			0.0	0.0	0.0			
#	29929	2023-11-22 10:30:57	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46796	No Station ID	No Station ID			0.0	0.0	0.0			
#	29928	2023-11-22 10:30:56	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46796	No Station ID	No Station ID			0.0	0.0	0.0			
#	29927	2023-11-22 10:30:56	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46796	No Station ID	No Station ID			0.0	0.0	0.0			
#	29926	2023-11-22 10:30:56	54	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46796	No Station ID	No Station ID			0.0	0.0	0.0			
#	29925	2023-11-22 10:30:56	54	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46696	No Station ID	No Station ID			0.0	0.0	0.0			
#	29924	2023-11-22 10:30:56	54	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46696	No Station ID	No Station ID			0.0	0.0	0.0			
#	29923	2023-11-22 10:30:55	55	MP	D	OK	OK	OK	OK		CS55	Y			5	20	OK	46696	No Station ID	No Station ID			0.0	0.0	0.0			
#	29922	2023-11-22 10:30:55	54	MP	D	OK	OK	OK	OK		CS55	Y			5	20	OK	46696	No Station ID	No Station ID			0.0	0.0	0.0			
#	29921	2023-11-22 10:30:55	54	MP	D	OK	OK	OK	OK		CS55	Y			5	20	OK	46646	No Station ID	No Station ID			0.0	0.0	0.0			
#	29920	2023-11-22 10:30:55	54	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46646	No Station ID	No Station ID			0.0	0.0	0.0			
#	29919	2023-11-22 10:30:55	54	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46646	No Station ID	No Station ID			0.0	0.0	0.0			
#	29918	2023-11-22 10:30:55	54	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46646	No Station ID	No Station ID			0.0	0.0	0.0			
#	29917	2023-11-22 10:30:55	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46646	No Station ID	No Station ID			0.0	0.0	0.0			
#	29916	2023-11-22 10:30:55	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46646	No Station ID	No Station ID			0.0	0.0	0.0			
#	29915	2023-11-22 10:30:55	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46646	No Station ID	No Station ID			0.0	0.0	0.0			
#	29914	2023-11-22 10:30:54	52	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46646	No Station ID	No Station ID			0.0	0.0	0.0			
#	29913	2023-11-22 10:30:54	52	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46546	No Station ID	No Station ID			0.0	0.0	0.0			
#	29912	2023-11-22 10:30:54	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46546	No Station ID	No Station ID			0.0	0.0	0.0			
#	29911	2023-11-22 10:30:54	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46546	No Station ID	No Station ID			0.0	0.0	0.0			
#	29910	2023-11-22 10:30:54	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46546	No Station ID	No Station ID			0.0	0.0	0.0			
#	29909	2023-11-22 10:30:53	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46546	No Station ID	No Station ID			0.0	0.0	0.0			
#	29908	2023-11-22 10:30:53	53	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46546	No Station ID	No Station ID			0.0	0.0	0.0			
#	29907	2023-11-22 10:30:53	54	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46546	No Station ID	No Station ID			0.0	0.0	0.0			
#	29906	2023-11-22 10:30:53	54	MP	D	OK	OK	OK	OK		CS55	Y	270	cpm	5	20	OK	46471	No Station ID	No Station ID			0.0	0.0	0.0			

STOP CODE

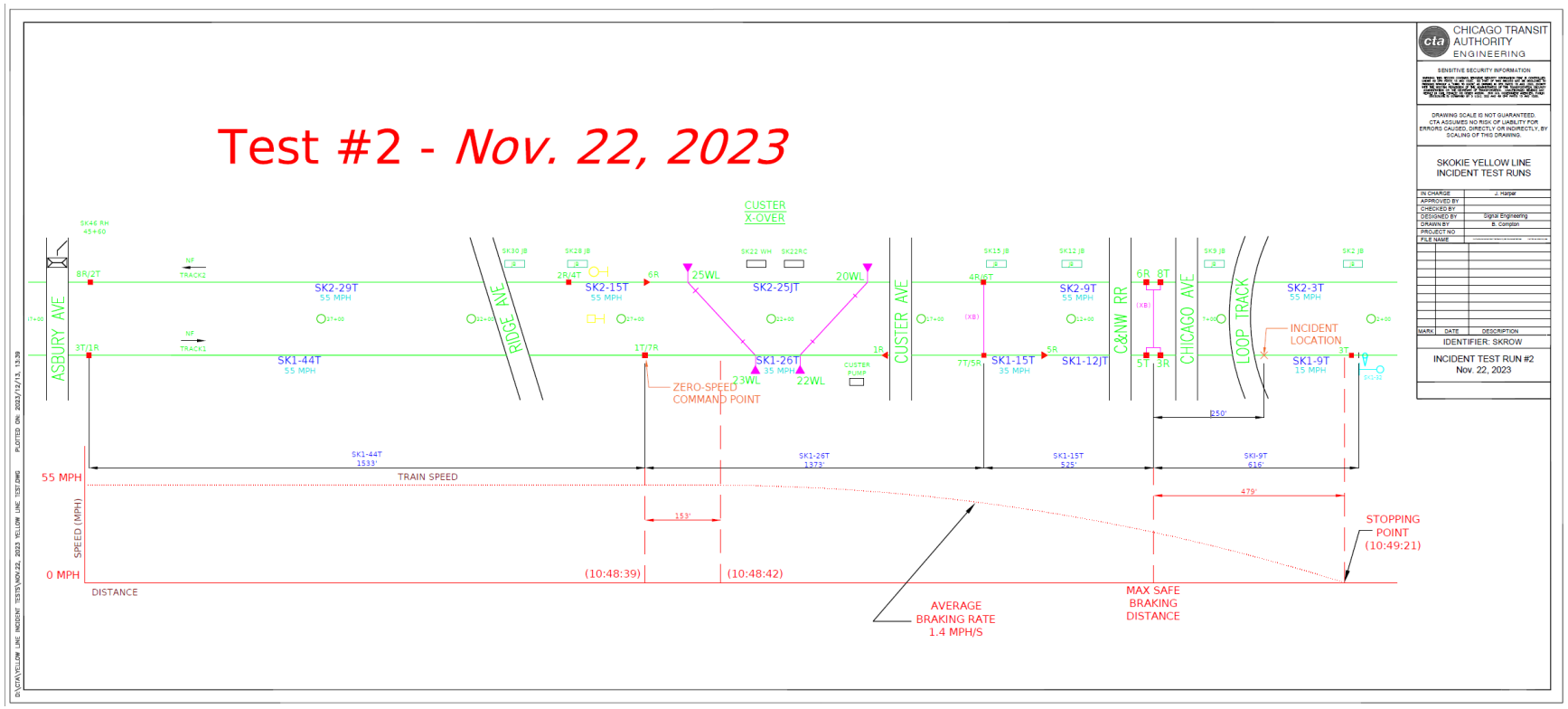
LOSS OF CAB

Test Run #1 ERU Event Log



Appendix II: Test Run #2 Analysis

Test Run #2 Track Circuit Diagram and Vehicle Response



Test Run #2 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #2		
Criteria	**Time**	**Distance**
Loss of Cab	10:48:39	63023
Stop Code	10:48:42	63173
FS Brake	10:48:43	63273
Zero Speed	10:49:21	63998

Rail vehicle speed at loss of cab: **53 mph**

Total distance from brake application to stopping point: **725 feet**

Total time from brake application to stopping point: **38 seconds**

Test Run #2 ATC Event Log Data Review

USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAB TR	ACTIVE CODE	XIENFORCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EM TW17	EXT TR64	LATERAL C	LONGITUDE C	VERTICAL C	U2ERO	BRFB	BREQ
Page 112 November 22, 2023																											
#	25255	2023-11-22 10:52:55	12	CT D						STOP	Y			0	00		64098	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25254	2023-11-22 10:52:55	11	CT D						STOP	Y			0	00		64098	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25253	2023-11-22 10:52:54	11	CT D						STOP	Y			0	00		64073	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25252	2023-11-22 10:52:53	10	CT D						STOP	Y			0	00		64073	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25251	2023-11-22 10:52:53	10	CT D						STOP	Y			0	00		64073	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25250	2023-11-22 10:52:53	10	CT D						STOP	Y			0	00		64073	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25249	2023-11-22 10:52:52	10	CT D						STOP	Y			0	00		64023	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25248	2023-11-22 10:52:51	9	CT D						STOP	Y			0	00		64023	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25247	2023-11-22 10:52:51	9	mB D						STOP	Y			0	00		64023	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25246	2023-11-22 10:52:51	8	mB D						STOP	Y			0	00		64023	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25245	2023-11-22 10:52:50	8	D						STOP	Y			0	00		64023	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25244	2023-11-22 10:52:50	8	mB D						STOP	Y			0	00		64023	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25243	2023-11-22 10:52:50	8	mP D						STOP	Y			0	00		64023	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25242	2023-11-22 10:52:50	8	D						STOP	Y			0	00		64023	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25241	2023-11-22 10:52:50	7	D						STOP	Y			0	00		64023	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25240	2023-11-22 10:52:49	7	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25239	2023-11-22 10:52:49	6	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25238	2023-11-22 10:52:49	6	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25237	2023-11-22 10:52:48	6	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25236	2023-11-22 10:52:48	5	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25235	2023-11-22 10:52:47	4	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	25234	2023-11-22 10:52:46	3	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25233	2023-11-22 10:52:45	2	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25232	2023-11-22 10:52:45	1	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25231	2023-11-22 10:52:44	0	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25230	2023-11-22 10:52:43	0	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25229	2023-11-22 10:52:43	0	mP D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25228	2023-11-22 10:52:43	0	CT D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25227	2023-11-22 10:52:43	0	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25226	2023-11-22 10:52:43	0	D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25225	2023-11-22 10:52:43	0	FS D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25224	2023-11-22 10:52:42	0	FS D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25223	2023-11-22 10:52:42	0	FS D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25222	2023-11-22 10:52:42	0	FS D						STOP	Y			0	00		63998	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25221	2023-11-22 10:52:42	0	FS D						STOP	Y			0	00		00000	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	25220	2023-11-22 10:52:41	0	FS D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	25219	2023-11-22 10:52:40	0	FS D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	25218	2023-11-22 10:52:40	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	25217	2023-11-22 10:52:40	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	25216	2023-11-22 10:52:40	0							STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	25215	2023-11-22 10:52:40	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	25214	2023-11-22 10:52:40	0							STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	25213	2023-11-22 10:52:40	0	mP						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	25212	2023-11-22 10:52:40	0	mP						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	25211	2023-11-22 10:52:40	0	mP						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	25210	2023-11-22 10:52:40	0	mP						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	25209	2023-11-22 10:52:40	0	mP						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	25208	2023-11-22 10:52:40	0	mP						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B
#	25207	2023-11-22 10:52:39	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	25206	2023-11-22 10:52:38	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	25205	2023-11-22 10:52:36	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	25204	2023-11-22 10:52:36	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	25203	2023-11-22 10:52:35	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	25202	2023-11-22 10:52:34	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	25201	2023-11-22 10:52:33	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	25200	2023-11-22 10:52:33	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	25199	2023-11-22 10:52:33	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	25198	2023-11-22 10:52:32	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	25197	2023-11-22 10:52:32	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	25196	2023-11-22 10:52:31	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	25195	2023-11-22 10:52:31	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	25194	2023-11-22 10:52:31	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	25193	2023-11-22 10:52:31	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	25192	2023-11-22 10:49:32	0	OF						CS15				1	02		63998	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	25191	2023-11-22 10:49:31	0	OF		OK	OK	OK	OK	CS15				1	02	OK	63998	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	25190	2023-11-22 10:49:31	0	OF		OK	OK	OK	OK	CS15		75	cpm	1	02	OK	63998	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	25189	2023-11-22 10:49:30	0	OF		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	63998	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	25188	2023-11-22 10:49:30	0	OF		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	63998	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	25187	2023-11-22 10:49:30	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	63998	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	25186	2023-11-22 10:49:21	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	63998	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	25185	2023-11-22 10:49:21	0	FS D		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	63998	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	25184	2023-11-22 10:49:21	1	FS D		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	63998	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	25183	2023-11-22 10:49:20	2	FS D		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	63998	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	25182	2023-11-22 10:49:20	3	FS D		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	63998	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	25181	2023-11-22 10:49:20	4	FS D		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	63998	No Station ID	No Station ID			0.0	0.0	0.0			

ZERO SPEED

Test Run #2 ATC Event Log Data Review

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USER TRICER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAB A	CAB TR	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CUR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXT R64.	LATERAL C	LONGITUDE C	VERTICAL C	UZERO	BRFB	BRREQ
Page 113 November 22, 2023																											
#	25180	2023-11-22 10:49:20	5	FS D	OK	OK	OK	OK	CS15 Y	75 cpm	1	02	OK	63998	No Station ID	No Station ID				0.0	0.0	0.0				
#	25179	2023-11-22 10:49:19	6	FS D	OK	OK	OK	OK	CS15 Y	75 cpm	1	02	OK	63998	No Station ID	No Station ID				0.0	0.0	0.0				
#	25178	2023-11-22 10:49:19	6	FS D	OK	OK	OK	OK	CS15 Y	75 cpm	1	02	OK	63973	No Station ID	No Station ID				0.0	0.0	0.0				
#	25177	2023-11-22 10:49:19	5	FS D	OK	OK	OK	OK	CS15 Y	75 cpm	1	02	OK	63973	No Station ID	No Station ID				0.0	0.0	0.0				
#	25176	2023-11-22 10:49:18	4	FS D	OK	OK	OK	OK	CS15 Y	75 cpm	1	02	OK	63973	No Station ID	No Station ID				0.0	0.0	0.0				
#	25175	2023-11-22 10:49:17	3	FS D	OK	OK	OK	OK	CS15 Y	75 cpm	1	02	OK	63973	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	25174	2023-11-22 10:49:17	2	FS D	OK	OK	OK	OK	CS15 Y	75 cpm	1	02	OK	63973	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	25173	2023-11-22 10:49:17	1	FS D	OK	OK	OK	OK	CS15 Y	75 cpm	1	02	OK	63973	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	25172	2023-11-22 10:49:11	0	FS D	OK	OK	OK	OK	CS15 Y	75 cpm	1	02	OK	63973	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	25171	2023-11-22 10:49:10	0	FS D	796.2ms	75CPM	393.8ms	49%	STOP Y		0	00	0.091	63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25170	2023-11-22 10:49:10	0	FS D	446.2ms	134CPM	43.8ms	9%	STOP Y		0	00	0.091	63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25169	2023-11-22 10:49:10	0	FS D	446.2ms	134CPM	43.8ms	9%	STOP Y		0	00	0.080	63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25168	2023-11-22 10:49:10	0	FS D	446.2ms	134CPM	43.8ms	9%	STOP Y		0	00	0.072	63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25167	2023-11-22 10:49:10	0	FS D	446.2ms	134CPM	43.8ms	9%	STOP Y		0	00	0.065	63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25166	2023-11-22 10:49:10	0	FS D	43.8ms	1371CPM	43.8ms	100%	STOP Y		0	00	0.045	63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25165	2023-11-22 10:49:04	0	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25164	2023-11-22 10:49:04	0	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25163	2023-11-22 10:49:03	0	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25162	2023-11-22 10:49:03	0	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25161	2023-11-22 10:49:03	0	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25160	2023-11-22 10:49:03	1	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25159	2023-11-22 10:49:03	2	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25158	2023-11-22 10:49:03	3	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25157	2023-11-22 10:49:02	4	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25156	2023-11-22 10:49:01	3	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25155	2023-11-22 10:49:01	3	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25154	2023-11-22 10:49:00	3	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25153	2023-11-22 10:48:59	2	FS D					STOP Y		0	00		63973	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25152	2023-11-22 10:48:59	2	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25151	2023-11-22 10:48:59	2	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25150	2023-11-22 10:48:59	3	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0	V			
#	25149	2023-11-22 10:48:59	4	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25148	2023-11-22 10:48:58	5	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25147	2023-11-22 10:48:58	6	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25146	2023-11-22 10:48:57	7	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25145	2023-11-22 10:48:57	8	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25144	2023-11-22 10:48:57	9	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25143	2023-11-22 10:48:57	10	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25142	2023-11-22 10:48:57	10	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25141	2023-11-22 10:48:57	11	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25140	2023-11-22 10:48:56	11	FS D					STOP Y		0	00		63948	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25139	2023-11-22 10:48:56	11	FS D					STOP Y		0	00		63898	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25138	2023-11-22 10:48:56	12	FS D					STOP Y		0	00		63898	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25137	2023-11-22 10:48:56	13	FS D					STOP Y		0	00		63898	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25136	2023-11-22 10:48:55	14	FS D					STOP Y		0	00		63898	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25135	2023-11-22 10:48:55	15	FS D					STOP Y		0	00		63898	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25134	2023-11-22 10:48:55	15	FS D					STOP Y		0	00		63873	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25133	2023-11-22 10:48:54	16	FS D					STOP Y		0	00		63873	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25132	2023-11-22 10:48:54	17	FS D					STOP Y		0	00		63873	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25131	2023-11-22 10:48:54	18	FS D					STOP Y		0	00		63873	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25130	2023-11-22 10:48:54	19	FS D					STOP Y		0	00		63873	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25129	2023-11-22 10:48:53	20	FS D					STOP Y		0	00		63873	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25128	2023-11-22 10:48:53	20	FS D					STOP Y		0	00		63848	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25127	2023-11-22 10:48:53	21	FS D					STOP Y		0	00		63848	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25126	2023-11-22 10:48:53	22	FS D					STOP Y		0	00		63848	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25125	2023-11-22 10:48:53	23	FS D					STOP Y		0	00		63848	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25124	2023-11-22 10:48:52	23	FS D					STOP Y		0	00		63848	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25123	2023-11-22 10:48:52	23	FS D					STOP Y		0	00		63798	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25122	2023-11-22 10:48:52	23	FS D					STOP Y		0	00		63798	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25121	2023-11-22 10:48:52	24	FS D					STOP Y		0	00		63798	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25120	2023-11-22 10:48:51	25	FS D					STOP Y		0	00		63798	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25119	2023-11-22 10:48:51	25	FS D					STOP Y		0	00		63748	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25118	2023-11-22 10:48:51	26	FS D					STOP Y		0	00		63748	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25117	2023-11-22 10:48:51	27	FS D					STOP Y		0	00		63748	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25116	2023-11-22 10:48:50	28	FS D					STOP Y		0	00		63748	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25115	2023-11-22 10:48:50	29	FS D					STOP Y		0	00		63748	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25114	2023-11-22 10:48:50	29	FS D					STOP Y		0	00		63698	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25113	2023-11-22 10:48:50	30	FS D					STOP Y		0	00		63698	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25112	2023-11-22 10:48:50	31	FS D					STOP Y		0	00		63698	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25111	2023-11-22 10:48:49	32	FS D					STOP Y		0	00		63698	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25110	2023-11-22 10:48:49	33	FS D					STOP Y		0	00		63698	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25109	2023-11-22 10:48:49	33	FS D					STOP Y		0	00		63648	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25108	2023-11-22 10:48:49	34	FS D					STOP Y		0	00		63648	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25107	2023-11-22 10:48:49	35	FS D					STOP Y		0	00		63648	No Station ID	No Station ID			Y	0.0	0.0	0.0				
#	25106	2023-11-22 10:48:48	36	FS D					STOP Y		0	00		63648	No Station ID	No Station ID			Y	0.0	0.0	0.0				

Test Run #2 ATC Event Log Data Review

FS BRAKE

STOP CODE

LOSS OF CAB

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MCDETENTS	DEADMAN	MEASPERIOD	CODERATE	HALFPERIOD	DUTYCYCLE	ENFORCED	CARTR	CARTB	ACTIVECODE	XIENFRCEASP	XIVALIDCODE	TRACKCURR	DISTANCE	NEXTSTATION	ROUTEID	EMTW17	EXTR64	LATERALC	LONGITUDEC	VERTICALC	UZERO	BRRFB	BRREQ
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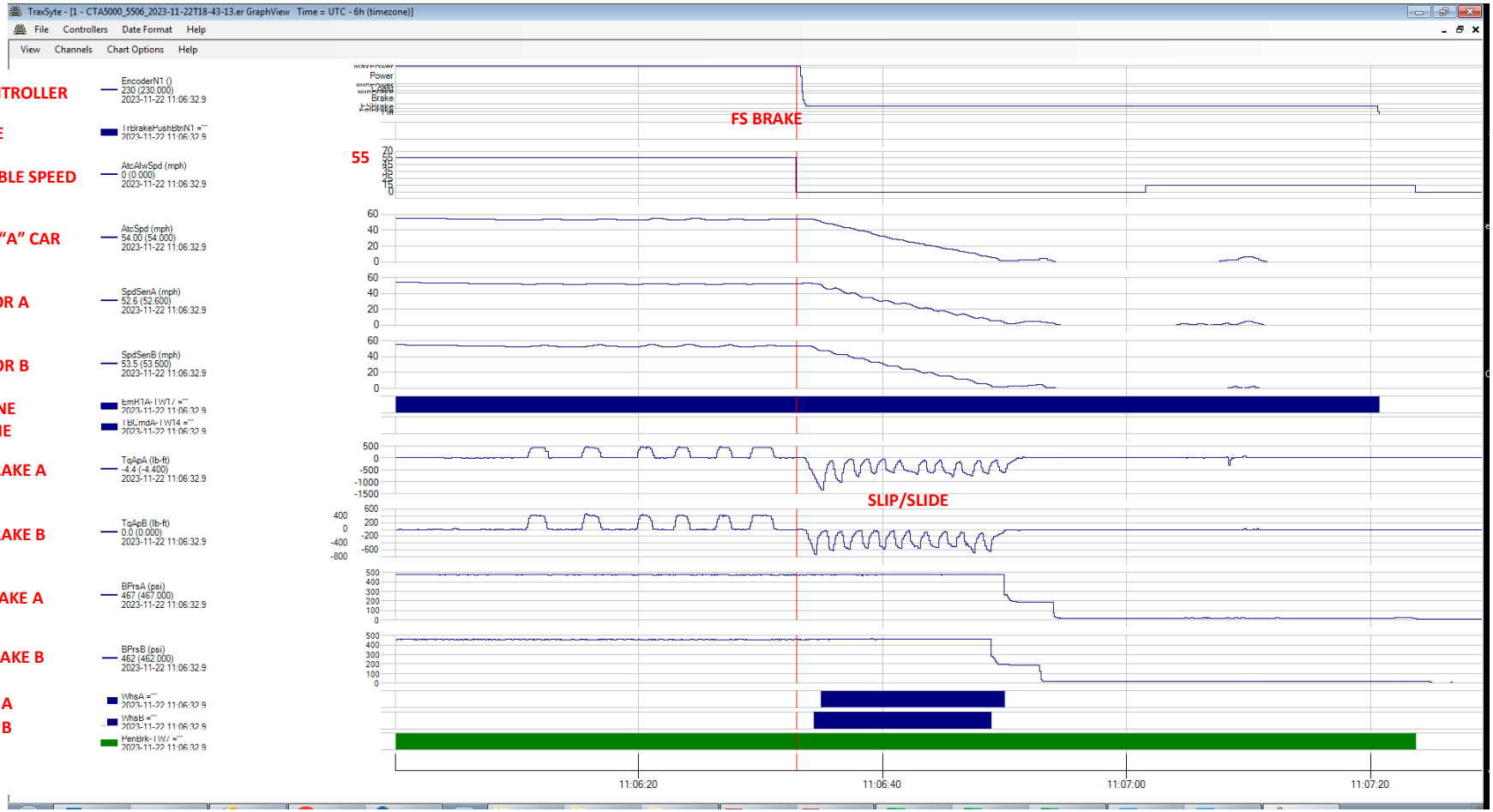
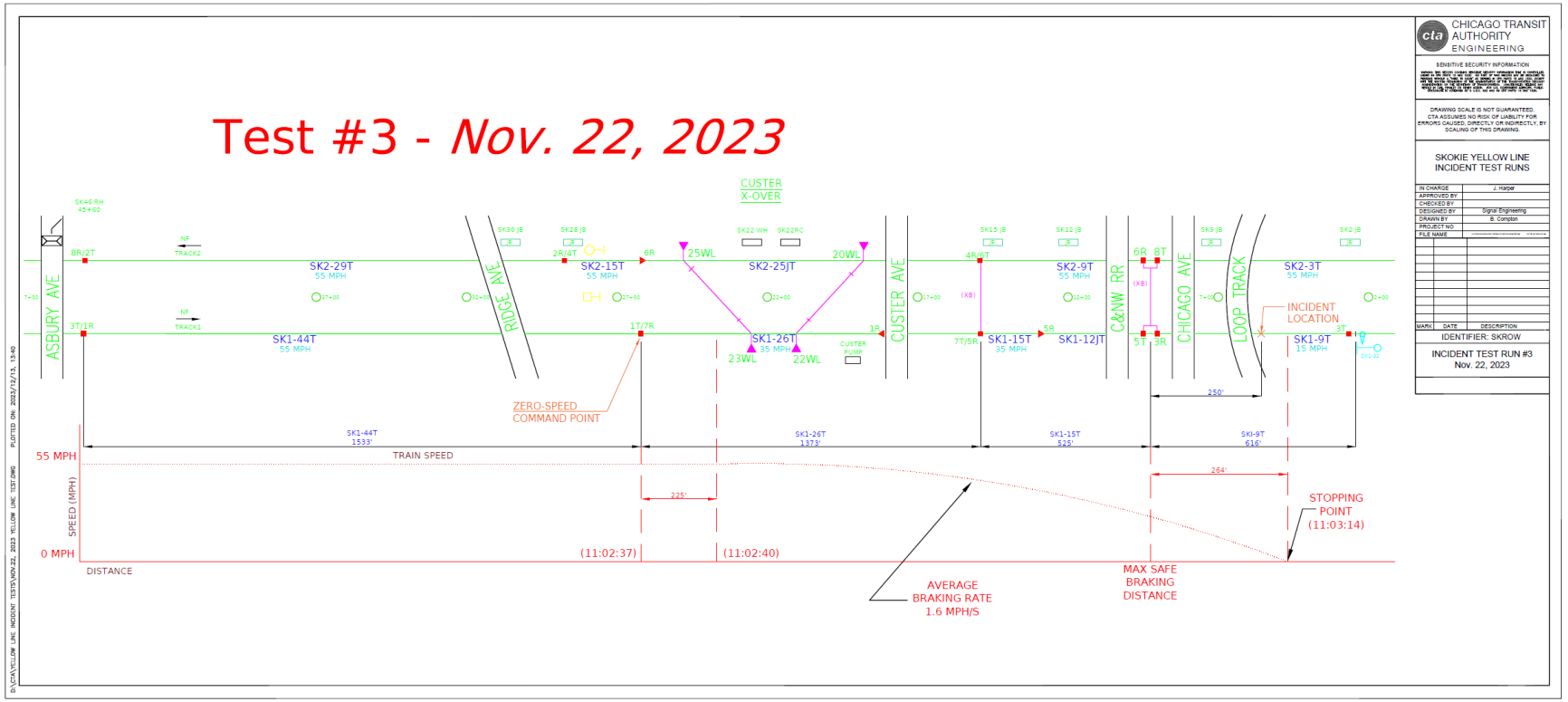
#	25105	2023-11-22 10:48:48	36	FS D						STOP	Y			0	00		63598	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25104	2023-11-22 10:48:48	37	FS D						STOP	Y			0	00		63598	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25103	2023-11-22 10:48:48	37	FS D						STOP	Y			0	00		63598	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25102	2023-11-22 10:48:48	38	FS D						STOP	Y			0	00		63598	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25101	2023-11-22 10:48:48	38	FS D						STOP	Y			0	00		63598	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25100	2023-11-22 10:48:47	39	FS D						STOP	Y			0	00		63598	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25099	2023-11-22 10:48:47	39	FS D						STOP	Y			0	00		63548	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25098	2023-11-22 10:48:47	40	FS D						STOP	Y			0	00		63548	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25097	2023-11-22 10:48:47	41	FS D						STOP	Y			0	00		63548	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25096	2023-11-22 10:48:47	42	FS D						STOP	Y			0	00		63548	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25095	2023-11-22 10:48:46	43	FS D						STOP	Y			0	00		63548	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25094	2023-11-22 10:48:46	43	FS D						STOP	Y			0	00		63473	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25093	2023-11-22 10:48:46	44	FS D						STOP	Y			0	00		63473	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25092	2023-11-22 10:48:46	45	FS D						STOP	Y			0	00		63473	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25091	2023-11-22 10:48:45	46	FS D						STOP	Y			0	00		63473	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25090	2023-11-22 10:48:45	46	FS D						STOP	Y			0	00		63423	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25089	2023-11-22 10:48:45	47	FS D						STOP	Y			0	00		63423	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25088	2023-11-22 10:48:45	48	FS D						STOP	Y			0	00		63423	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25087	2023-11-22 10:48:44	49	FS D						STOP	Y			0	00		63423	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25086	2023-11-22 10:48:44	50	FS D						STOP	Y			0	00		63423	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25085	2023-11-22 10:48:44	50	FS D						STOP	Y			0	00		63348	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25084	2023-11-22 10:48:44	51	FS D						STOP	Y			0	00		63348	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25083	2023-11-22 10:48:44	52	FS D						STOP	Y			0	00		63348	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25082	2023-11-22 10:48:44	52	FS D						STOP	Y			0	00		63348	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25081	2023-11-22 10:48:44	53	FS D						STOP	Y			0	00		63348	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25080	2023-11-22 10:48:44	53	FS D						STOP	Y			0	00		63348	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25079	2023-11-22 10:48:43	54	FS D						STOP	Y			0	00		63348	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25078	2023-11-22 10:48:43	54	FS D						STOP	Y			0	00		63273	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25077	2023-11-22 10:48:43	54	FS D						STOP	Y			0	00		63273	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25076	2023-11-22 10:48:43	54	FS D						STOP	Y			0	00		63273	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25075	2023-11-22 10:48:43	54	D						STOP	Y			0	00		63273	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25074	2023-11-22 10:48:43	54	mB D						STOP	Y			0	00		63273	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25073	2023-11-22 10:48:43	54	CT D						STOP	Y			0	00		63273	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25072	2023-11-22 10:48:43	54	D						STOP	Y			0	00		63273	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25071	2023-11-22 10:48:42	54	MP D						STOP	Y			0	00		63273	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25070	2023-11-22 10:48:42	54	MP D						STOP	Y			0	00		63173	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25069	2023-11-22 10:48:42	54	MP D						STOP	Y			0	00		63173	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25068	2023-11-22 10:48:42	54	MP D						STOP	Y			0	00		63173	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25067	2023-11-22 10:48:42	54	MP D						STOP	Y			0	00		63173	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	25066	2023-11-22 10:48:41	54	MP D						CSSS	Y			5	20		63173	No Station ID	No Station ID		0.0	0.0	0.0				
#	25065	2023-11-22 10:48:41	54	MP D						CSSS	Y			5	20		63123	No Station ID	No Station ID		0.0	0.0	0.0				
#	25064	2023-11-22 10:48:41	54	MP D						CSSS	Y			5	20	0.049	63123	No Station ID	No Station ID		0.0	0.0	0.0				
#	25063	2023-11-22 10:48:40	54	MP D	8.8ms	6857CPM	8.8ms	100%		CSSS	Y			5	20	0.049	63123	No Station ID	No Station ID		0.0	0.0	0.0				
#	25062	2023-11-22 10:48:40	54	MP D	8.8ms	6857CPM	8.8ms	100%		CSSS	Y			5	20	0.049	63023	No Station ID	No Station ID		0.0	0.0	0.0				
#	25061	2023-11-22 10:48:40	54	MP D						CSSS	Y			5	20		63023	No Station ID	No Station ID		0.0	0.0	0.0				
#	25060	2023-11-22 10:48:40	54	MP D						CSSS	Y			5	20		63023	No Station ID	No Station ID		0.0	0.0	0.0				
#	25059	2023-11-22 10:48:40	54	MP D						CSSS	Y			5	20		63023	No Station ID	No Station ID		0.0	0.0	0.0				
#	25058	2023-11-22 10:48:40	54	MP D	OX	OX	OX	OX	CSSS	Y				5	20	OX	63023	No Station ID	No Station ID		0.0	0.0	0.0				
#	25057	2023-11-22 10:48:40	54	MP D	OX	OX	OX	OX	CSSS	Y				5	20	OX	63023	No Station ID	No Station ID		0.0	0.0	0.0				
#	25056	2023-11-22 10:48:40	54	MP D	OX	OX	OX	OX	CSSS	Y				5	20	OX	63023	No Station ID	No Station ID		0.0	0.0	0.0				
#	25055	2023-11-22 10:48:39	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	63023	No Station ID	No Station ID		0.0	0.0	0.0				
#	25054	2023-11-22 10:48:38	52	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62948	No Station ID	No Station ID		0.0	0.0	0.0				
#	25053	2023-11-22 10:48:38	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62898	No Station ID	No Station ID		0.0	0.0	0.0				
#	25052	2023-11-22 10:48:38	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62898	No Station ID	No Station ID		0.0	0.0	0.0				
#	25051	2023-11-22 10:48:38	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62898	No Station ID	No Station ID		0.0	0.0	0.0				
#	25050	2023-11-22 10:48:38	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62898	No Station ID	No Station ID		0.0	0.0	0.0				
#	25049	2023-11-22 10:48:38	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62898	No Station ID	No Station ID		0.0	0.0	0.0				
#	25048	2023-11-22 10:48:37	54	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62898	No Station ID	No Station ID		0.0	0.0	0.0				
#	25047	2023-11-22 10:48:37	54	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62798	No Station ID	No Station ID		0.0	0.0	0.0				
#	25046	2023-11-22 10:48:37	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62798	No Station ID	No Station ID		0.0	0.0	0.0				
#	25045	2023-11-22 10:48:37	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62798	No Station ID	No Station ID		0.0	0.0	0.0				
#	25044	2023-11-22 10:48:36	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62798	No Station ID	No Station ID		0.0	0.0	0.0				
#	25043	2023-11-22 10:48:36	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62798	No Station ID	No Station ID		0.0	0.0	0.0				
#	25042	2023-11-22 10:48:36	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62798	No Station ID	No Station ID		0.0	0.0	0.0				
#	25041	2023-11-22 10:48:35	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62723	No Station ID	No Station ID		0.0	0.0	0.0				
#	25040	2023-11-22 10:48:35	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62723	No Station ID	No Station ID		0.0	0.0	0.0				
#	25039	2023-11-22 10:48:35	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62723	No Station ID	No Station ID		0.0	0.0	0.0				
#	25038	2023-11-22 10:48:35	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62648	No Station ID	No Station ID		0.0	0.0	0.0				
#	25037	2023-11-22 10:48:35	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62648	No Station ID	No Station ID		0.0	0.0	0.0				
#	25036	2023-11-22 10:48:35	53	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62648	No Station ID	No Station ID		0.0	0.0	0.0				
#	25035	2023-11-22 10:48:34	54	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62648	No Station ID	No Station ID		0.0	0.0	0.0				
#	25034	2023-11-22 10:48:34	54	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62598	No Station ID	No Station ID		0.0	0.0	0.0				
#	25033	2023-11-22 10:48:34	55	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62598	No Station ID	No Station ID		0.0	0.0	0.0				
#	25032	2023-11-22 10:48:33	54	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62598	No Station ID	No Station ID		0.0	0.0	0.0				
#	25031	2023-11-22 10:48:33	54	MP D	OX	OX	OX	OX	CSSS	Y	270	cpm		5	20	OX	62498	No Station ID	No Station ID		0.0	0.0	0.0				

Test Run #2 ERU Event Log



Appendix III: Test Run #3 Analysis

Test Run #3 Track Circuit Diagram and Vehicle Response



Test Run #3 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #3		
Criteria	**Time**	**Distance**
Loss of Cab	11:02:37	09162
Stop Code	11:02:40	09387
FS Brake	11:02:41	09462
Zero Speed	11:03:14	10112

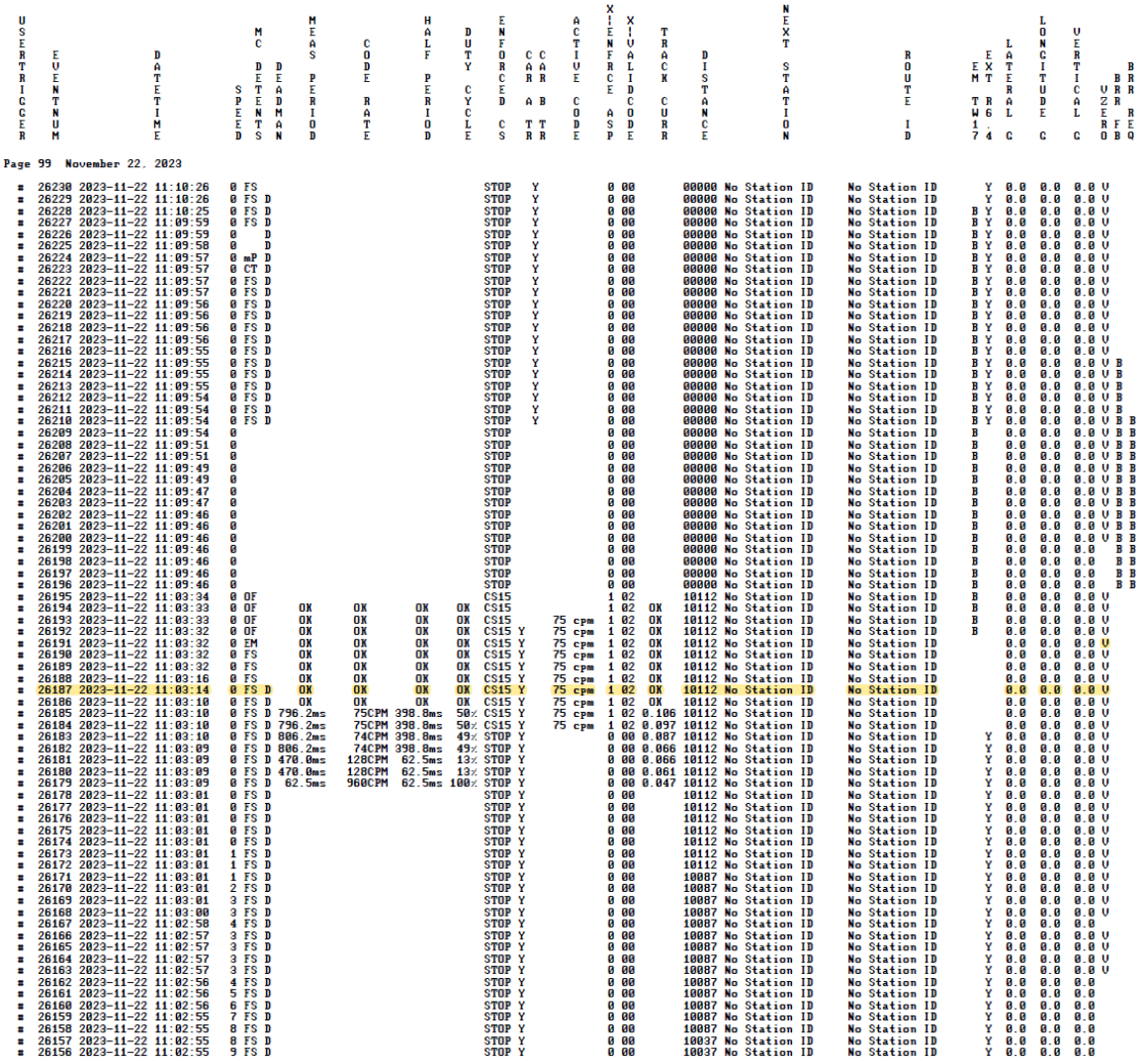
Rail vehicle speed at loss of cab: **53 mph**

Total distance from brake application to stopping point: **650 feet**

Total time from brake application to stopping point: **33 seconds**

Test Run #3 ATC Event Log Data Review

ZERO SPEED



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USER TRICGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAR BT	ACTIVE CODE	XIENFRCE ASP	XIVALDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT1.7	EXT TW6.4	LATERAL C	LONGITUDE C	UERTICAL C	UZERO	BRR FB	RREQ
Page 99 November 22, 2023																											
#	26230	2023-11-22 11:10:26	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26229	2023-11-22 11:10:26	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26228	2023-11-22 11:10:25	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26227	2023-11-22 11:09:59	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26226	2023-11-22 11:09:59	0		D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26225	2023-11-22 11:09:58	0		D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26224	2023-11-22 11:09:57	0	mP	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26223	2023-11-22 11:09:57	0	CT	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26222	2023-11-22 11:09:57	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26221	2023-11-22 11:09:57	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26220	2023-11-22 11:09:56	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26219	2023-11-22 11:09:56	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26218	2023-11-22 11:09:56	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26217	2023-11-22 11:09:56	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26216	2023-11-22 11:09:55	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	26215	2023-11-22 11:09:55	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	26214	2023-11-22 11:09:55	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	26213	2023-11-22 11:09:55	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	26212	2023-11-22 11:09:54	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	26211	2023-11-22 11:09:54	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	26210	2023-11-22 11:09:54	0	FS	D					STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B
#	26209	2023-11-22 11:09:54	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	26208	2023-11-22 11:09:51	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	26207	2023-11-22 11:09:51	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	26206	2023-11-22 11:09:49	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	26205	2023-11-22 11:09:49	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	26204	2023-11-22 11:09:47	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	26203	2023-11-22 11:09:47	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	26202	2023-11-22 11:09:46	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	26201	2023-11-22 11:09:46	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	26200	2023-11-22 11:09:46	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	26199	2023-11-22 11:09:46	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	26198	2023-11-22 11:09:46	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	26197	2023-11-22 11:09:46	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	26196	2023-11-22 11:09:46	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	26195	2023-11-22 11:03:34	0	OF						CS15				1	02		10112	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	26194	2023-11-22 11:03:33	0	OF		OK	OK	OK	OK	CS15				1	02	OK	10112	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	26193	2023-11-22 11:03:33	0	OF		OK	OK	OK	OK	CS15		75	cpm	1	02	OK	10112	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	26192	2023-11-22 11:03:32	0	OF		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	10112	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	26191	2023-11-22 11:03:32	0	EM		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	10112	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	26190	2023-11-22 11:03:32	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	10112	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	26189	2023-11-22 11:03:32	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	10112	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	26188	2023-11-22 11:03:16	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	10112	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	26187	2023-11-22 11:03:14	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	10112	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	26186	2023-11-22 11:03:10	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	10112	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	26185	2023-11-22 11:03:10	0	FS	D	796.2ms	75CPM	398.8ms	50%	CS15	Y	75	cpm	1	02	0.106	10112	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	26184	2023-11-22 11:03:10	0	FS	D	796.2ms	75CPM	398.8ms	50%	CS15	Y	75	cpm	1	02	0.097	10112	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	26183	2023-11-22 11:03:10	0	FS	D	806.2ms	74CPM	398.8ms	49%	STOP	Y			0	00	0.087	10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26182	2023-11-22 11:03:09	0	FS	D	806.2ms	74CPM	398.8ms	49%	STOP	Y			0	00	0.066	10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26181	2023-11-22 11:03:09	0	FS	D	470.0ms	128CPM	62.5ms	13%	STOP	Y			0	00	0.066	10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26180	2023-11-22 11:03:09	0	FS	D	470.0ms	128CPM	62.5ms	13%	STOP	Y			0	00	0.061	10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26179	2023-11-22 11:03:09	0	FS	D	62.5ms	960CPM	62.5ms	100%	STOP	Y			0	00	0.047	10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26178	2023-11-22 11:03:01	0	FS	D					STOP	Y			0	00		10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26177	2023-11-22 11:03:01	0	FS	D					STOP	Y			0	00		10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26176	2023-11-22 11:03:01	0	FS	D					STOP	Y			0	00		10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26175	2023-11-22 11:03:01	0	FS	D					STOP	Y			0	00		10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26174	2023-11-22 11:03:01	0	FS	D					STOP	Y			0	00		10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26173	2023-11-22 11:03:01	1	FS	D					STOP	Y			0	00		10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26172	2023-11-22 11:03:01	1	FS	D					STOP	Y			0	00		10112	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26171	2023-11-22 11:03:01	1	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26170	2023-11-22 11:03:01	2	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26169	2023-11-22 11:03:01	3	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26168	2023-11-22 11:03:00	3	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26167	2023-11-22 11:02:58	4	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26166	2023-11-22 11:02:57	3	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26165	2023-11-22 11:02:57	3	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26164	2023-11-22 11:02:57	3	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26163	2023-11-22 11:02:57	3	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	26162	2023-11-22 11:02:56	4	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26161	2023-11-22 11:02:56	5	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26160	2023-11-22 11:02:56	6	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26159	2023-11-22 11:02:55	7	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26158	2023-11-22 11:02:55	8	FS	D					STOP	Y			0	00		10087	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26157	2023-11-22 11:02:55	8	FS	D					STOP	Y			0	00		10037	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26156	2023-11-22 11:02:55	9	FS	D					STOP	Y			0	00		10037	No Station ID	No Station ID		Y	0.0	0.0	0.0			

Test Run #3 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXTR64	LATERAL G	LONGITUDE G	VERTICAL G	U2ERO	BRRFB	BRREQ
Page 100 November 22, 2023																											
#	26155	2023-11-22 11:02:55	10	FS D						STOP	Y			0	00		10037	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26154	2023-11-22 11:02:54	11	FS D						STOP	Y			0	00		10037	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26153	2023-11-22 11:02:54	12	FS D						STOP	Y			0	00		10037	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26152	2023-11-22 11:02:53	13	FS D						STOP	Y			0	00		10037	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26151	2023-11-22 11:02:53	14	FS D						STOP	Y			0	00		10037	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26150	2023-11-22 11:02:53	14	FS D						STOP	Y			0	00		10012	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26149	2023-11-22 11:02:53	15	FS D						STOP	Y			0	00		10012	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26148	2023-11-22 11:02:53	15	FS D						STOP	Y			0	00		10012	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26147	2023-11-22 11:02:53	16	FS D						STOP	Y			0	00		10012	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26146	2023-11-22 11:02:52	16	FS D						STOP	Y			0	00		10012	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26145	2023-11-22 11:02:52	17	FS D						STOP	Y			0	00		10012	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26144	2023-11-22 11:02:52	17	FS D						STOP	Y			0	00		09987	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26143	2023-11-22 11:02:52	18	FS D						STOP	Y			0	00		09987	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26142	2023-11-22 11:02:51	19	FS D						STOP	Y			0	00		09987	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26141	2023-11-22 11:02:51	20	FS D						STOP	Y			0	00		09987	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26140	2023-11-22 11:02:51	20	FS D						STOP	Y			0	00		09937	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26139	2023-11-22 11:02:51	21	FS D						STOP	Y			0	00		09937	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26138	2023-11-22 11:02:51	22	FS D						STOP	Y			0	00		09937	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26137	2023-11-22 11:02:50	23	FS D						STOP	Y			0	00		09937	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26136	2023-11-22 11:02:50	24	FS D						STOP	Y			0	00		09937	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26135	2023-11-22 11:02:50	24	FS D						STOP	Y			0	00		09912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26134	2023-11-22 11:02:50	25	FS D						STOP	Y			0	00		09912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26133	2023-11-22 11:02:49	26	FS D						STOP	Y			0	00		09912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26132	2023-11-22 11:02:49	27	FS D						STOP	Y			0	00		09912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26131	2023-11-22 11:02:49	27	FS D						STOP	Y			0	00		09887	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26130	2023-11-22 11:02:49	28	FS D						STOP	Y			0	00		09887	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26129	2023-11-22 11:02:49	29	FS D						STOP	Y			0	00		09887	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26128	2023-11-22 11:02:48	29	FS D						STOP	Y			0	00		09887	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26127	2023-11-22 11:02:48	30	FS D						STOP	Y			0	00		09887	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26126	2023-11-22 11:02:48	30	FS D						STOP	Y			0	00		09887	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26125	2023-11-22 11:02:48	30	FS D						STOP	Y			0	00		09862	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26124	2023-11-22 11:02:48	31	FS D						STOP	Y			0	00		09862	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26123	2023-11-22 11:02:48	32	FS D						STOP	Y			0	00		09862	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26122	2023-11-22 11:02:47	33	FS D						STOP	Y			0	00		09862	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26121	2023-11-22 11:02:47	34	FS D						STOP	Y			0	00		09862	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26120	2023-11-22 11:02:47	34	FS D						STOP	Y			0	00		09787	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26119	2023-11-22 11:02:47	35	FS D						STOP	Y			0	00		09787	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26118	2023-11-22 11:02:47	36	FS D						STOP	Y			0	00		09787	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26117	2023-11-22 11:02:46	37	FS D						STOP	Y			0	00		09787	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26116	2023-11-22 11:02:46	38	FS D						STOP	Y			0	00		09787	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26115	2023-11-22 11:02:46	38	FS D						STOP	Y			0	00		09762	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26114	2023-11-22 11:02:46	39	FS D						STOP	Y			0	00		09762	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26113	2023-11-22 11:02:45	40	FS D						STOP	Y			0	00		09762	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26112	2023-11-22 11:02:45	41	FS D						STOP	Y			0	00		09762	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26111	2023-11-22 11:02:45	41	FS D						STOP	Y			0	00		09687	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26110	2023-11-22 11:02:45	42	FS D						STOP	Y			0	00		09687	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26109	2023-11-22 11:02:44	43	FS D						STOP	Y			0	00		09687	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26108	2023-11-22 11:02:44	44	FS D						STOP	Y			0	00		09687	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26107	2023-11-22 11:02:44	44	FS D						STOP	Y			0	00		09687	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26106	2023-11-22 11:02:44	44	FS D						STOP	Y			0	00		09612	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26105	2023-11-22 11:02:44	45	FS D						STOP	Y			0	00		09612	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26104	2023-11-22 11:02:44	45	FS D						STOP	Y			0	00		09612	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26103	2023-11-22 11:02:44	46	FS D						STOP	Y			0	00		09612	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26102	2023-11-22 11:02:44	47	FS D						STOP	Y			0	00		09612	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26101	2023-11-22 11:02:43	48	FS D						STOP	Y			0	00		09612	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26100	2023-11-22 11:02:43	48	FS D						STOP	Y			0	00		09562	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26099	2023-11-22 11:02:43	49	FS D						STOP	Y			0	00		09562	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26098	2023-11-22 11:02:43	50	FS D						STOP	Y			0	00		09562	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26097	2023-11-22 11:02:42	51	FS D						STOP	Y			0	00		09562	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26096	2023-11-22 11:02:42	52	FS D						STOP	Y			0	00		09562	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26095	2023-11-22 11:02:42	52	FS D						STOP	Y			0	00		09562	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26094	2023-11-22 11:02:42	53	FS D						STOP	Y			0	00		09462	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26093	2023-11-22 11:02:41	54	FS D						STOP	Y			0	00		09462	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26092	2023-11-22 11:02:41	54	D						STOP	Y			0	00		09387	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26091	2023-11-22 11:02:41	54	D						STOP	Y			0	00		09387	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26090	2023-11-22 11:02:41	54	D						STOP	Y			0	00		09387	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26089	2023-11-22 11:02:41	54	D						STOP	Y			0	00		09387	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26088	2023-11-22 11:02:40	54	MP D						STOP	Y			0	00		09387	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26087	2023-11-22 11:02:40	54	MP D						STOP	Y			0	00		09387	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26086	2023-11-22 11:02:40	54	MP D						STOP	Y			0	00		09387	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26085	2023-11-22 11:02:40	54	MP D						STOP	Y			0	00		09387	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	26084	2023-11-22 11:02:40	54	MP D						CS55	Y			5	20		09387	No Station ID	No Station ID			0.0	0.0	0.0			
#	26083	2023-11-22 11:02:40	54	MP D						CS55	Y			5	20		09287	No Station ID	No Station ID			0.0	0.0	0.0			
#	26082	2023-11-22 11:02:39	54	MP D	OX	OX	OX	OX	OX	CS55	Y			5	20	OX	09287	No Station ID	No Station ID			0.0	0.0	0.0			
#	26081	2023-11-22 11:02:38	54	MP D	OX	OX	OX	OX	OX	CS55	Y			5	20	OX	09237	No Station ID	No Station ID			0.0	0.0	0.0			

FS BRAKE

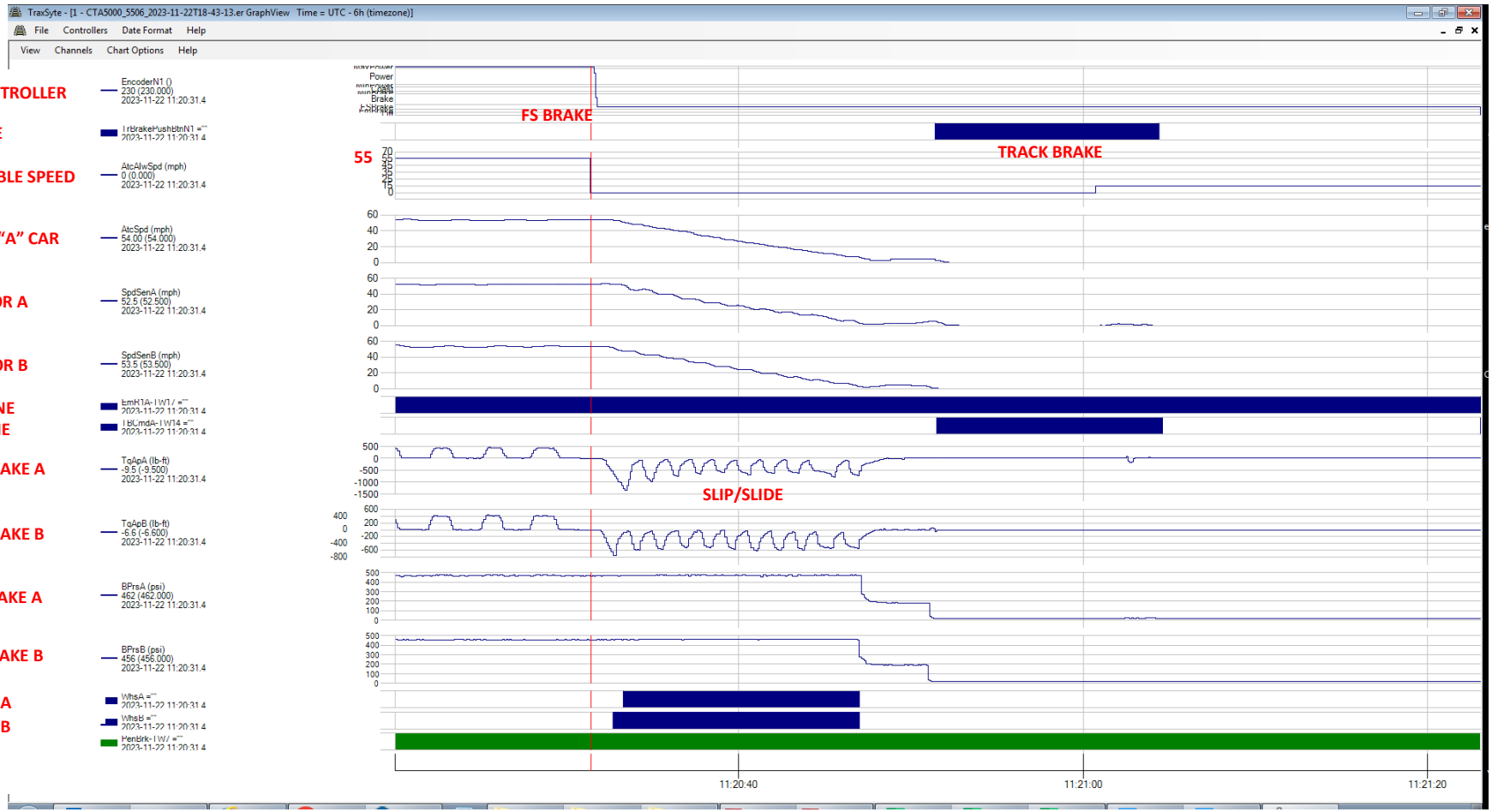
STOP CODE

Test Run #3 ATC Event Log Data Review

LOSS OF CAB

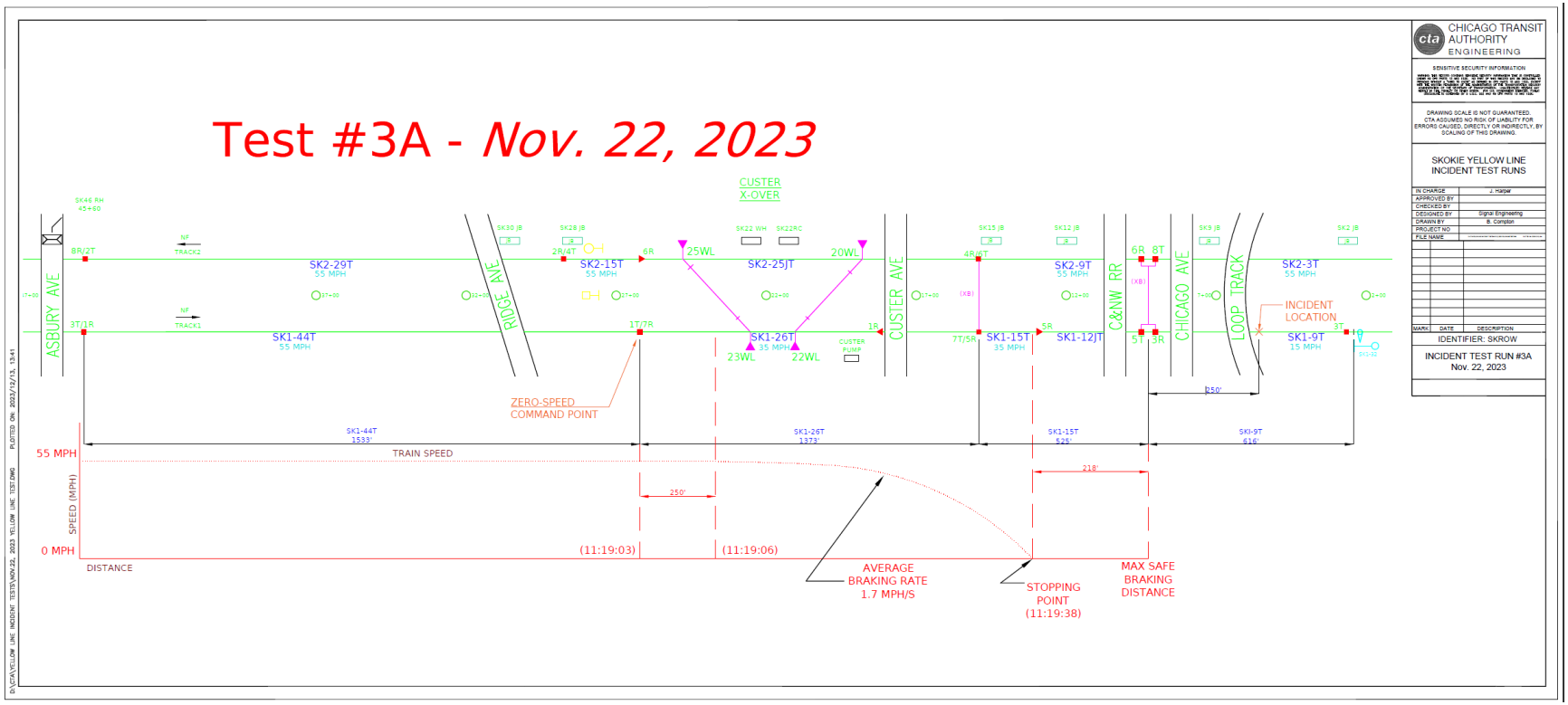
USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAB ATR	CAB BTR	ACTIVE CODE	XIENFORCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMEXTTW17	EXTR64.	LATERAL C	LONGITUDE C	VERTICAL C	UZERO	BRFB	BRREQ
Page 101 November 22, 2023																											
#	26080	2023-11-22 11:02:38	54	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	09237	No Station ID	No Station ID			0.0	0.0	0.0			
#	26079	2023-11-22 11:02:38	54	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	09237	No Station ID	No Station ID			0.0	0.0	0.0			
#	26078	2023-11-22 11:02:38	54	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	09237	No Station ID	No Station ID			0.0	0.0	0.0			
#	26077	2023-11-22 11:02:38	54	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	09237	No Station ID	No Station ID			0.0	0.0	0.0			
#	26076	2023-11-22 11:02:38	54	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	09162	No Station ID	No Station ID			0.0	0.0	0.0			
#	26075	2023-11-22 11:02:37	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	09162	No Station ID	No Station ID			0.0	0.0	0.0			
#	26074	2023-11-22 11:02:37	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	09162	No Station ID	No Station ID			0.0	0.0	0.0			
#	26073	2023-11-22 11:02:37	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	09087	No Station ID	No Station ID			0.0	0.0	0.0			
#	26072	2023-11-22 11:02:37	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	09087	No Station ID	No Station ID			0.0	0.0	0.0			
#	26071	2023-11-22 11:02:37	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	09087	No Station ID	No Station ID			0.0	0.0	0.0			
#	26070	2023-11-22 11:02:37	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	09087	No Station ID	No Station ID			0.0	0.0	0.0			
#	26069	2023-11-22 11:02:37	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	09087	No Station ID	No Station ID			0.0	0.0	0.0			
#	26068	2023-11-22 11:02:36	54	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	09087	No Station ID	No Station ID			0.0	0.0	0.0			
#	26067	2023-11-22 11:02:36	54	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08987	No Station ID	No Station ID			0.0	0.0	0.0			
#	26066	2023-11-22 11:02:35	54	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08987	No Station ID	No Station ID			0.0	0.0	0.0			
#	26065	2023-11-22 11:02:35	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08987	No Station ID	No Station ID			0.0	0.0	0.0			
#	26064	2023-11-22 11:02:35	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08987	No Station ID	No Station ID			0.0	0.0	0.0			
#	26063	2023-11-22 11:02:35	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08987	No Station ID	No Station ID			0.0	0.0	0.0			
#	26062	2023-11-22 11:02:35	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08937	No Station ID	No Station ID			0.0	0.0	0.0			
#	26061	2023-11-22 11:02:35	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08937	No Station ID	No Station ID			0.0	0.0	0.0			
#	26060	2023-11-22 11:02:35	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08937	No Station ID	No Station ID			0.0	0.0	0.0			
#	26059	2023-11-22 11:02:34	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08937	No Station ID	No Station ID			0.0	0.0	0.0			
#	26058	2023-11-22 11:02:34	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08937	No Station ID	No Station ID			0.0	0.0	0.0			
#	26057	2023-11-22 11:02:34	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08862	No Station ID	No Station ID			0.0	0.0	0.0			
#	26056	2023-11-22 11:02:34	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08862	No Station ID	No Station ID			0.0	0.0	0.0			
#	26055	2023-11-22 11:02:34	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08862	No Station ID	No Station ID			0.0	0.0	0.0			
#	26054	2023-11-22 11:02:33	54	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08862	No Station ID	No Station ID			0.0	0.0	0.0			
#	26053	2023-11-22 11:02:32	54	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08762	No Station ID	No Station ID			0.0	0.0	0.0			
#	26052	2023-11-22 11:02:32	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08762	No Station ID	No Station ID			0.0	0.0	0.0			
#	26051	2023-11-22 11:02:32	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08762	No Station ID	No Station ID			0.0	0.0	0.0			
#	26050	2023-11-22 11:02:32	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08762	No Station ID	No Station ID			0.0	0.0	0.0			
#	26049	2023-11-22 11:02:32	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08762	No Station ID	No Station ID			0.0	0.0	0.0			
#	26048	2023-11-22 11:02:32	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08712	No Station ID	No Station ID			0.0	0.0	0.0			
#	26047	2023-11-22 11:02:32	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08712	No Station ID	No Station ID			0.0	0.0	0.0			
#	26046	2023-11-22 11:02:31	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08712	No Station ID	No Station ID			0.0	0.0	0.0			
#	26045	2023-11-22 11:02:31	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08712	No Station ID	No Station ID			0.0	0.0	0.0			
#	26044	2023-11-22 11:02:31	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08637	No Station ID	No Station ID			0.0	0.0	0.0			
#	26043	2023-11-22 11:02:31	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08637	No Station ID	No Station ID			0.0	0.0	0.0			
#	26042	2023-11-22 11:02:31	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08637	No Station ID	No Station ID			0.0	0.0	0.0			
#	26041	2023-11-22 11:02:31	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08637	No Station ID	No Station ID			0.0	0.0	0.0			
#	26040	2023-11-22 11:02:31	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08637	No Station ID	No Station ID			0.0	0.0	0.0			
#	26039	2023-11-22 11:02:30	54	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08637	No Station ID	No Station ID			0.0	0.0	0.0			
#	26038	2023-11-22 11:02:30	54	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08537	No Station ID	No Station ID			0.0	0.0	0.0			
#	26037	2023-11-22 11:02:30	55	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08537	No Station ID	No Station ID			0.0	0.0	0.0			
#	26036	2023-11-22 11:02:29	54	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08537	No Station ID	No Station ID			0.0	0.0	0.0			
#	26035	2023-11-22 11:02:29	54	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08537	No Station ID	No Station ID			0.0	0.0	0.0			
#	26034	2023-11-22 11:02:29	54	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08462	No Station ID	No Station ID			0.0	0.0	0.0			
#	26033	2023-11-22 11:02:29	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08462	No Station ID	No Station ID			0.0	0.0	0.0			
#	26032	2023-11-22 11:02:29	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08462	No Station ID	No Station ID			0.0	0.0	0.0			
#	26031	2023-11-22 11:02:28	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08462	No Station ID	No Station ID			0.0	0.0	0.0			
#	26030	2023-11-22 11:02:28	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08412	No Station ID	No Station ID			0.0	0.0	0.0			
#	26029	2023-11-22 11:02:28	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08412	No Station ID	No Station ID			0.0	0.0	0.0			
#	26028	2023-11-22 11:02:28	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08412	No Station ID	No Station ID			0.0	0.0	0.0			
#	26027	2023-11-22 11:02:28	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08412	No Station ID	No Station ID			0.0	0.0	0.0			
#	26026	2023-11-22 11:02:27	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08412	No Station ID	No Station ID			0.0	0.0	0.0			
#	26025	2023-11-22 11:02:26	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08312	No Station ID	No Station ID			0.0	0.0	0.0			
#	26024	2023-11-22 11:02:26	54	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08312	No Station ID	No Station ID			0.0	0.0	0.0			
#	26023	2023-11-22 11:02:25	54	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08237	No Station ID	No Station ID			0.0	0.0	0.0			
#	26022	2023-11-22 11:02:25	54	MP D						CS55	Y			5	20		08237	No Station ID	No Station ID			0.0	0.0	0.0			
#	26021	2023-11-22 11:02:25	54	MP D						CS55	Y			5	20		08187	No Station ID	No Station ID			0.0	0.0	0.0			
#	26020	2023-11-22 11:02:25	54	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08187	No Station ID	No Station ID			0.0	0.0	0.0			
#	26019	2023-11-22 11:02:25	54	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08187	No Station ID	No Station ID			0.0	0.0	0.0			
#	26018	2023-11-22 11:02:25	54	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08187	No Station ID	No Station ID			0.0	0.0	0.0			
#	26017	2023-11-22 11:02:25	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08187	No Station ID	No Station ID			0.0	0.0	0.0			
#	26016	2023-11-22 11:02:25	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08187	No Station ID	No Station ID			0.0	0.0	0.0			
#	26015	2023-11-22 11:02:24	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08187	No Station ID	No Station ID			0.0	0.0	0.0			
#	26014	2023-11-22 11:02:24	53	MP D		OX	OX	OX	OX	CS55	Y			5	20	OX	08087	No Station ID	No Station ID			0.0	0.0	0.0			
#	26013	2023-11-22 11:02:23	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08087	No Station ID	No Station ID			0.0	0.0	0.0			
#	26012	2023-11-22 11:02:23	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08087	No Station ID	No Station ID			0.0	0.0	0.0			
#	26011	2023-11-22 11:02:23	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08087	No Station ID	No Station ID			0.0	0.0	0.0			
#	26010	2023-11-22 11:02:23	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08012	No Station ID	No Station ID			0.0	0.0	0.0			
#	26009	2023-11-22 11:02:22	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08012	No Station ID	No Station ID			0.0	0.0	0.0			
#	26008	2023-11-22 11:02:22	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	08012	No Station ID	No Station ID			0.0	0.0	0.0			
#	26007	2023-11-22 11:02:21	53	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	07937	No Station ID	No Station ID			0.0	0.0	0.0			
#	26006	2023-11-22 11:02:21	54	MP D		OX	OX	OX	OX	CS55	Y		270 cpm	5	20	OX	07937	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #3 ERU Event Log



Appendix IIIA: Test Run #3A Analysis

Test Run #3A Track Circuit Diagram and Vehicle Response



Test Run #3A ATC Event Log Data Review

ATC Event Log Data Review – Test Run #3A		
Criteria	**Time**	**Distance**
Loss of Cab	11:19:03	20587
Stop Code	11:19:06	20837
FS Brake	11:19:07	20912
Zero Speed	11:19:38	21387

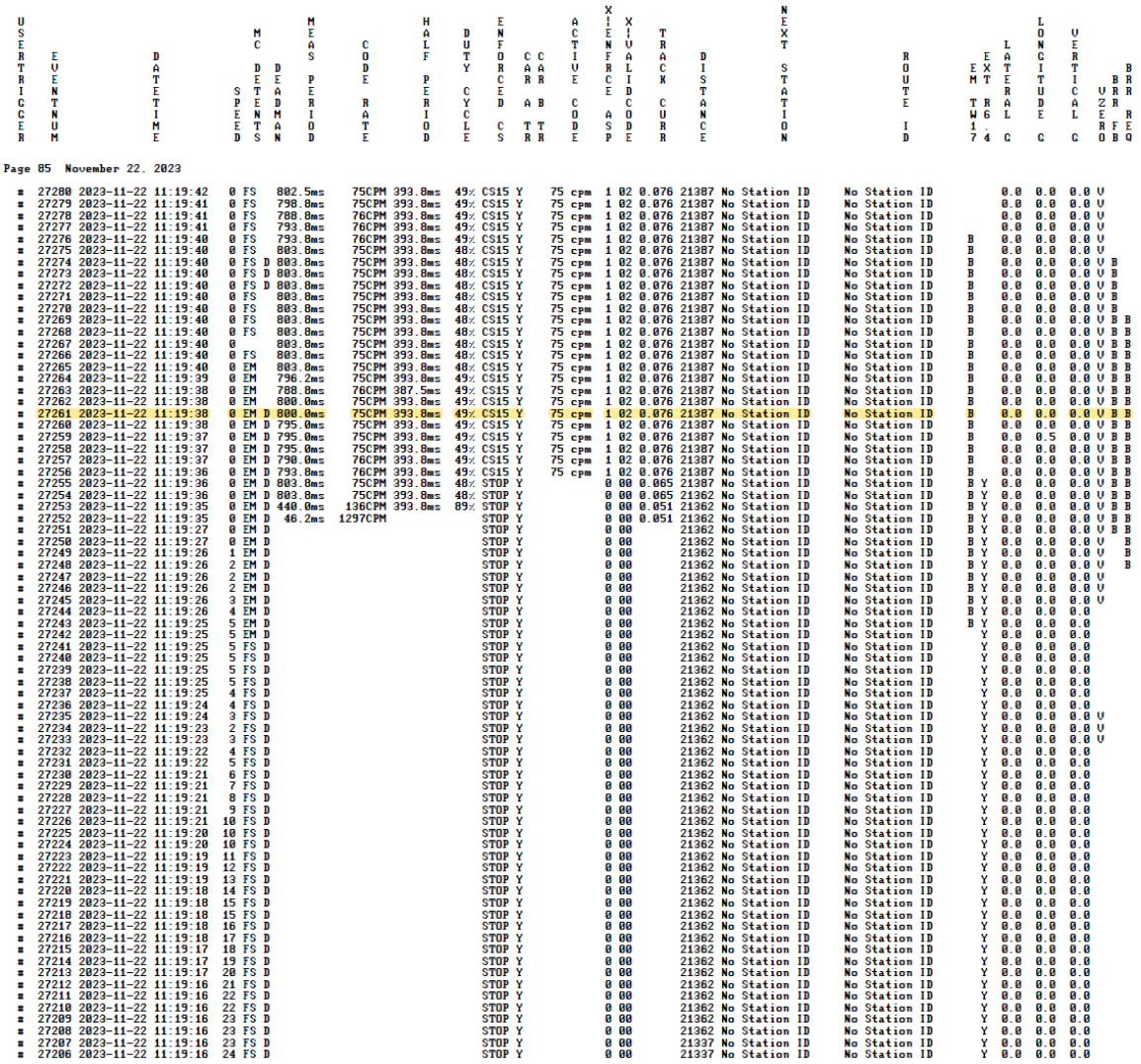
Rail vehicle speed at loss of cab: **54 mph**

Total distance from brake application to stopping point: **475 feet**

Total time from brake application to stopping point: **31 seconds**

Test Run #3A ATC Event Log Data Review

ZERO SPEED



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USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A	CAR B TR	ACTIVE CODE	XIENFACE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW	EXT RG	LATERAL C	LONGITUDE C	VERTICAL C	UZERO	BRRFB	BRREQ
#	27280	2023-11-22 11:19:42	0	FS	802.5ms	75CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID				0.0	0.0	0.0	V		
#	27279	2023-11-22 11:19:41	0	FS	798.8ms	75CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID				0.0	0.0	0.0	V		
#	27278	2023-11-22 11:19:41	0	FS	788.8ms	76CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID				0.0	0.0	0.0	V		
#	27277	2023-11-22 11:19:41	0	FS	793.8ms	76CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID				0.0	0.0	0.0	V		
#	27276	2023-11-22 11:19:40	0	FS	793.8ms	76CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V		
#	27275	2023-11-22 11:19:40	0	FS	803.8ms	75CPM	393.8ms	48%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V		
#	27274	2023-11-22 11:19:40	0	FS	D 803.8ms	75CPM	393.8ms	48%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	
#	27273	2023-11-22 11:19:40	0	FS	D 803.8ms	75CPM	393.8ms	48%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	
#	27272	2023-11-22 11:19:40	0	FS	D 803.8ms	75CPM	393.8ms	48%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	
#	27271	2023-11-22 11:19:40	0	FS	803.8ms	75CPM	393.8ms	48%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	
#	27270	2023-11-22 11:19:40	0	FS	803.8ms	75CPM	393.8ms	48%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	
#	27269	2023-11-22 11:19:40	0	FS	803.8ms	75CPM	393.8ms	48%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27268	2023-11-22 11:19:40	0	FS	803.8ms	75CPM	393.8ms	48%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27267	2023-11-22 11:19:40	0		803.8ms	75CPM	393.8ms	48%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27266	2023-11-22 11:19:40	0	FS	803.8ms	75CPM	393.8ms	48%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27265	2023-11-22 11:19:40	0	EM	803.8ms	75CPM	393.8ms	48%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27264	2023-11-22 11:19:39	0	EM	796.2ms	75CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27263	2023-11-22 11:19:38	0	EM	788.8ms	76CPM	387.5ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27262	2023-11-22 11:19:38	0	EM	800.0ms	75CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27261	2023-11-22 11:19:38	0	EM	D 800.0ms	75CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27260	2023-11-22 11:19:38	0	EM	D 795.0ms	75CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27259	2023-11-22 11:19:37	0	EM	D 795.0ms	75CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.5	0.0	V	B	B
#	27258	2023-11-22 11:19:37	0	EM	D 795.0ms	75CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27257	2023-11-22 11:19:37	0	EM	D 790.0ms	76CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27256	2023-11-22 11:19:36	0	EM	D 793.8ms	76CPM	393.8ms	49%	CS15	Y	75 cpm		1	02	0.076	21387	No Station ID	No Station ID	B			0.0	0.0	0.0	V	B	B
#	27255	2023-11-22 11:19:36	0	EM	D 803.8ms	75CPM	393.8ms	48%	STOP	Y			0	00	0.065	21387	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B
#	27254	2023-11-22 11:19:36	0	EM	D 803.8ms	75CPM	393.8ms	48%	STOP	Y			0	00	0.065	21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B
#	27253	2023-11-22 11:19:35	0	EM	D 440.0ms	136CPM	393.8ms	89%	STOP	Y			0	00	0.051	21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B
#	27252	2023-11-22 11:19:35	0	EM	D 46.2ms	1297CPM			STOP	Y			0	00	0.051	21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B
#	27251	2023-11-22 11:19:27	0	EM	D				STOP	Y			0	00		21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B
#	27250	2023-11-22 11:19:27	0	EM	D				STOP	Y			0	00		21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	27249	2023-11-22 11:19:26	1	EM	D				STOP	Y			0	00		21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	27248	2023-11-22 11:19:26	2	EM	D				STOP	Y			0	00		21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	27247	2023-11-22 11:19:26	2	EM	D				STOP	Y			0	00		21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	27246	2023-11-22 11:19:26	2	EM	D				STOP	Y			0	00		21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	27245	2023-11-22 11:19:26	3	EM	D				STOP	Y			0	00		21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	27244	2023-11-22 11:19:26	4	EM	D				STOP	Y			0	00		21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0			
#	27243	2023-11-22 11:19:25	5	EM	D				STOP	Y			0	00		21362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0			
#	27242	2023-11-22 11:19:25	5	EM	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27241	2023-11-22 11:19:25	5	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27240	2023-11-22 11:19:25	5	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27239	2023-11-22 11:19:25	5	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27238	2023-11-22 11:19:25	5	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27237	2023-11-22 11:19:25	4	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27236	2023-11-22 11:19:24	4	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27235	2023-11-22 11:19:24	3	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	27234	2023-11-22 11:19:23	2	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	27233	2023-11-22 11:19:23	3	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	27232	2023-11-22 11:19:22	4	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27231	2023-11-22 11:19:22	5	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27230	2023-11-22 11:19:21	6	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27229	2023-11-22 11:19:21	7	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27228	2023-11-22 11:19:21	8	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27227	2023-11-22 11:19:21	9	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27226	2023-11-22 11:19:21	10	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27225	2023-11-22 11:19:20	10	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27224	2023-11-22 11:19:20	10	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27223	2023-11-22 11:19:19	11	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27222	2023-11-22 11:19:19	12	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27221	2023-11-22 11:19:19	13	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27220	2023-11-22 11:19:18	14	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27219	2023-11-22 11:19:18	15	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27218	2023-11-22 11:19:18	15	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27217	2023-11-22 11:19:18	16	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27216	2023-11-22 11:19:18	17	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27215	2023-11-22 11:19:17	18	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27214	2023-11-22 11:19:17	19	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27213	2023-11-22 11:19:17	20	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27212	2023-11-22 11:19:16	21	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27211	2023-11-22 11:19:16	22	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27210	2023-11-22 11:19:16	22	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27209	2023-11-22 11:19:16	23	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27208	2023-11-22 11:19:16	23	FS	D				STOP	Y			0	00		21362	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27207	2023-11-22 11:19:16	23	FS	D				STOP	Y			0	00		21337	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27206	2023-11-22 11:19:16	24	FS	D				STOP	Y			0	00		21337	No Station ID	No Station ID		Y	0.0	0.0	0.0			

Test Run #3A ATC Event Log Data Review

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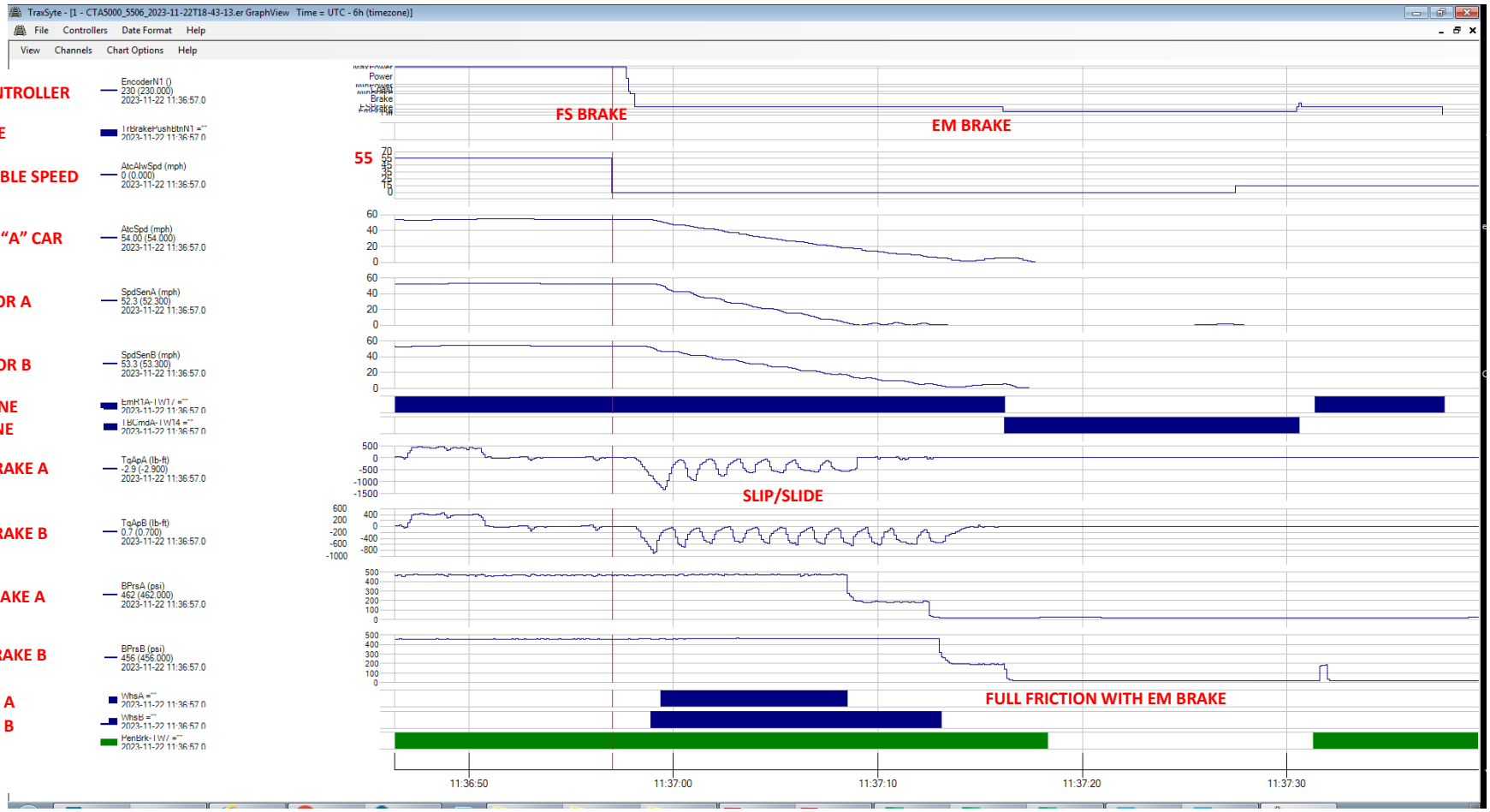
#	USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A TR	CAR B TR	ACTIVE CODE	XINFRCE ASP	XVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW14	EXTR6.4	LATERAL G	LONGITUDE G	VERTICAL G	UVERO	BRRFB	BRREQ
#	27205	2023-11-22 11:19:15	25	FS	D						STOP	Y			0	00		21037	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27204	2023-11-22 11:19:15	26	FS	D						STOP	Y			0	00		21037	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27203	2023-11-22 11:19:15	27	FS	D						STOP	Y			0	00		21037	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27202	2023-11-22 11:19:14	27	FS	D						STOP	Y			0	00		21012	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27201	2023-11-22 11:19:14	28	FS	D						STOP	Y			0	00		21012	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27200	2023-11-22 11:19:14	29	FS	D						STOP	Y			0	00		21012	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27199	2023-11-22 11:19:14	30	FS	D						STOP	Y			0	00		21012	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27198	2023-11-22 11:19:14	30	FS	D						STOP	Y			0	00		21262	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27197	2023-11-22 11:19:13	31	FS	D						STOP	Y			0	00		21262	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27196	2023-11-22 11:19:13	32	FS	D						STOP	Y			0	00		21262	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27195	2023-11-22 11:19:13	33	FS	D						STOP	Y			0	00		21262	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27194	2023-11-22 11:19:13	34	FS	D						STOP	Y			0	00		21262	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27193	2023-11-22 11:19:13	34	FS	D						STOP	Y			0	00		21237	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27192	2023-11-22 11:19:13	35	FS	D						STOP	Y			0	00		21237	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27191	2023-11-22 11:19:12	36	FS	D						STOP	Y			0	00		21237	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27190	2023-11-22 11:19:12	37	FS	D						STOP	Y			0	00		21237	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27189	2023-11-22 11:19:12	37	FS	D						STOP	Y			0	00		21237	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27188	2023-11-22 11:19:12	37	FS	D						STOP	Y			0	00		21162	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27187	2023-11-22 11:19:12	38	FS	D						STOP	Y			0	00	0.049	21162	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27186	2023-11-22 11:19:11	38	FS	D						STOP	Y			0	00	0.049	21162	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27185	2023-11-22 11:19:11	39	FS	D						STOP	Y			0	00	0.049	21162	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27184	2023-11-22 11:19:11	40	FS	D						STOP	Y			0	00	0.049	21162	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27183	2023-11-22 11:19:11	41	FS	D						STOP	Y			0	00	0.049	21162	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27182	2023-11-22 11:19:11	42	FS	D						STOP	Y			0	00	0.049	21162	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27181	2023-11-22 11:19:11	42	FS	D						STOP	Y			0	00	0.049	21112	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27180	2023-11-22 11:19:10	42	FS	D						STOP	Y			0	00		21112	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27179	2023-11-22 11:19:10	43	FS	D						STOP	Y			0	00		21112	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27178	2023-11-22 11:19:10	44	FS	D						STOP	Y			0	00	0.066	21112	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27177	2023-11-22 11:19:10	44	FS	D	27.5ms	2182CPM	27.5ms	100%	STOP	Y				0	00	0.066	21112	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27176	2023-11-22 11:19:10	45	FS	D	27.5ms	2182CPM	27.5ms	100%	STOP	Y				0	00	0.066	21112	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27175	2023-11-22 11:19:10	45	FS	D	27.5ms	2182CPM	27.5ms	100%	STOP	Y				0	00	0.066	21062	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27174	2023-11-22 11:19:10	46	FS	D	27.5ms	2182CPM	27.5ms	100%	STOP	Y				0	00	0.066	21062	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27173	2023-11-22 11:19:09	47	FS	D	27.5ms	2182CPM	27.5ms	100%	STOP	Y				0	00	0.066	21062	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27172	2023-11-22 11:19:09	47	FS	D	27.5ms	2182CPM	27.5ms	100%	STOP	Y				0	00	0.055	21062	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27171	2023-11-22 11:19:09	47	FS	D	27.5ms	2182CPM	27.5ms	100%	STOP	Y				0	00	0.060	21062	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27170	2023-11-22 11:19:09	47	FS	D						STOP	Y			0	00		21062	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27169	2023-11-22 11:19:09	48	FS	D						STOP	Y			0	00	0.100	21062	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27168	2023-11-22 11:19:09	48	FS	D	370.0ms	162CPM	40.0ms	10%	STOP	Y				0	00	0.100	21062	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27167	2023-11-22 11:19:09	48	FS	D	370.0ms	162CPM	40.0ms	10%	STOP	Y				0	00	0.100	20962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27166	2023-11-22 11:19:09	49	FS	D	370.0ms	162CPM	40.0ms	10%	STOP	Y				0	00	0.100	20962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27165	2023-11-22 11:19:08	50	FS	D	370.0ms	162CPM	40.0ms	10%	STOP	Y				0	00	0.100	20962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27164	2023-11-22 11:19:08	51	FS	D	370.0ms	162CPM	40.0ms	10%	STOP	Y				0	00	0.100	20962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27163	2023-11-22 11:19:08	52	FS	D	370.0ms	162CPM	40.0ms	10%	STOP	Y				0	00	0.097	20962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27162	2023-11-22 11:19:08	53	FS	D	370.0ms	162CPM	40.0ms	10%	STOP	Y				0	00	0.097	20962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27161	2023-11-22 11:19:08	54	FS	D	370.0ms	162CPM	40.0ms	10%	STOP	Y				0	00	0.100	20962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27160	2023-11-22 11:19:08	54	FS	D	276.2ms	217CPM	33.8ms	12%	STOP	Y				0	00	0.100	20962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27159	2023-11-22 11:19:08	54	FS	D	276.2ms	217CPM	33.8ms	12%	STOP	Y				0	00	0.100	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27158	2023-11-22 11:19:07	54	FS	D	276.2ms	217CPM	33.8ms	12%	STOP	Y				0	00	0.100	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27157	2023-11-22 11:19:07	54	FS	D	96.2ms	623CPM	45.0ms	46%	STOP	Y				0	00	0.087	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27156	2023-11-22 11:19:07	54	FS	D	96.2ms	623CPM	45.0ms	46%	STOP	Y				0	00	0.087	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27155	2023-11-22 11:19:07	54		D	96.2ms	623CPM	45.0ms	46%	STOP	Y				0	00	0.087	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27154	2023-11-22 11:19:07	54	mB	D	96.2ms	623CPM	45.0ms	46%	STOP	Y				0	00	0.087	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27153	2023-11-22 11:19:07	54	mB	D	107.5ms	558CPM	72.5ms	67%	STOP	Y				0	00	0.093	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27152	2023-11-22 11:19:07	54	CT	D	107.5ms	558CPM	72.5ms	67%	STOP	Y				0	00	0.093	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27151	2023-11-22 11:19:07	54	CT	D	522.5ms	115CPM			STOP	Y				0	00	0.082	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27150	2023-11-22 11:19:07	54		D	522.5ms	115CPM			STOP	Y				0	00	0.082	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27149	2023-11-22 11:19:07	54		D	522.5ms	115CPM			STOP	Y				0	00	0.082	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27148	2023-11-22 11:19:07	54		D					STOP	Y				0	00	0.076	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27147	2023-11-22 11:19:07	54	MP	D					STOP	Y				0	00	0.076	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27146	2023-11-22 11:19:07	54	MP	D					STOP	Y				0	00	0.055	20912	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27145	2023-11-22 11:19:06	54	MP	D					STOP	Y				0	00	0.055	20837	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27144	2023-11-22 11:19:06	54	MP	D					STOP	Y				0	00		20837	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27143	2023-11-22 11:19:06	54	MP	D					STOP	Y				0	00		20837	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27142	2023-11-22 11:19:06	54	MP	D					STOP	Y				0	00		20837	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27141	2023-11-22 11:19:06	54	MP	D					STOP	Y				0	00		20837	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	27140	2023-11-22 11:19:06	54	MP	D					CS55	Y				5	20		20837	No Station ID	No Station ID			0.0	0.0	0.0			
#	27139	2023-11-22 11:19:05	54	MP	D					CS55	Y				5	20		20737	No Station ID	No Station ID			0.0	0.0	0.0			
#	27138	2023-11-22 11:19:05	54	MP	D					CS55	Y				5	20		20687	No Station ID	No Station ID			0.0	0.0	0.0			
#	27137	2023-11-22 11:19:04	54	MP	D	OX	OX	OX	OX	CS55	Y				5	20	OX	20687	No Station ID	No Station ID			0.0	0.0	0.0			
#	27136	2023-11-22 11:19:02	54	MP	D	OX	OX	OX	OX	CS55	Y				5	20	OX	20587	No Station ID	No Station ID			0.0	0.0	0.0			
#	27135	2023-11-22 11:19:03	54	MP	D	OX	OX	OX	OX	CS55	Y	270	cpm		5	20	OX	20587	No Station ID	No Station ID			0.0	0.0	0.0			
#	27134	2023-11-22 11:19:02	54	MP	D	OX	OX	OX	OX	CS55	Y	270	cpm		5	20	OX	20512	No Station ID	No Station ID			0.0	0.0	0.0			
#	27133	2023-11-22 11:19:02	55	MP	D	OX	OX	OX	OX	CS55	Y	270	cpm		5	20	OX	20512	No Station ID	No Station ID			0.0	0.0	0.0			
#	27132	2023-11-22 11:19:01	55	MP	D	OX	OX	OX	OX	CS55	Y	270	cpm		5	20	OX	20437	No Station ID	No Station ID			0.0	0.0	0.0			
#	27131	2023-11-22 11:19:01	55	MP	D	OX	OX	OX	OX	CS55	Y	270	cpm		5	20	OX	20337	No Station ID	No Station ID			0.0	0.0	0.0			

FS BRAKE

STOP CODE

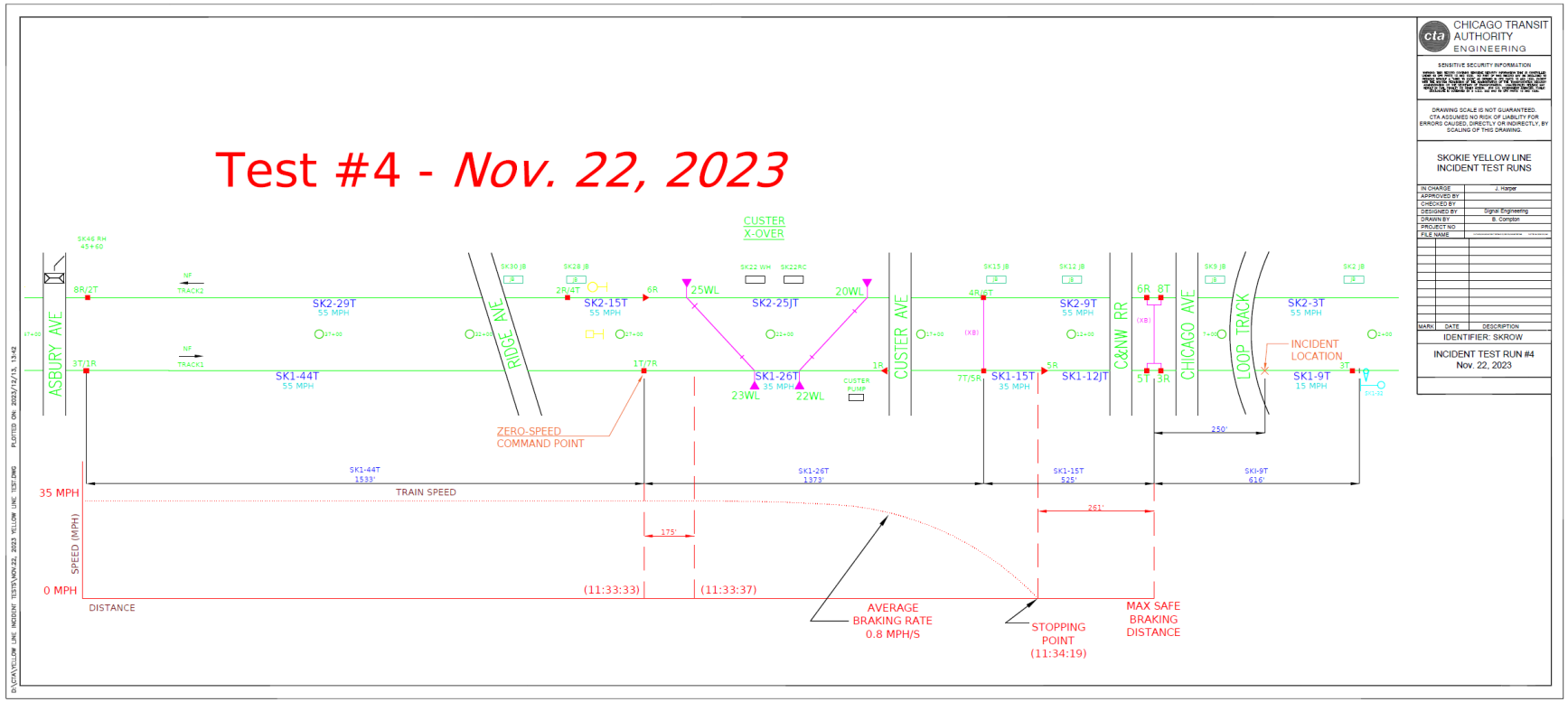
LOSS OF CAB

Test Run #3A ERU Event Log



Appendix IV: Test Run #4 Analysis

Test Run #4 Track Circuit Diagram and Vehicle Response



Test Run #4 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #4		
Criteria	**Time**	**Distance**
Loss of Cab	11:33:33	31787
Stop Code	11:33:37	31962
Zero Speed	11:34:19	32362

Rail vehicle speed at loss of cab: **33 mph**

Total distance from brake application to stopping point: **N/A**

Total time from brake application to stopping point: **N/A**

Test Run #4 ATC Event Log Data Review

ZERO SPEED

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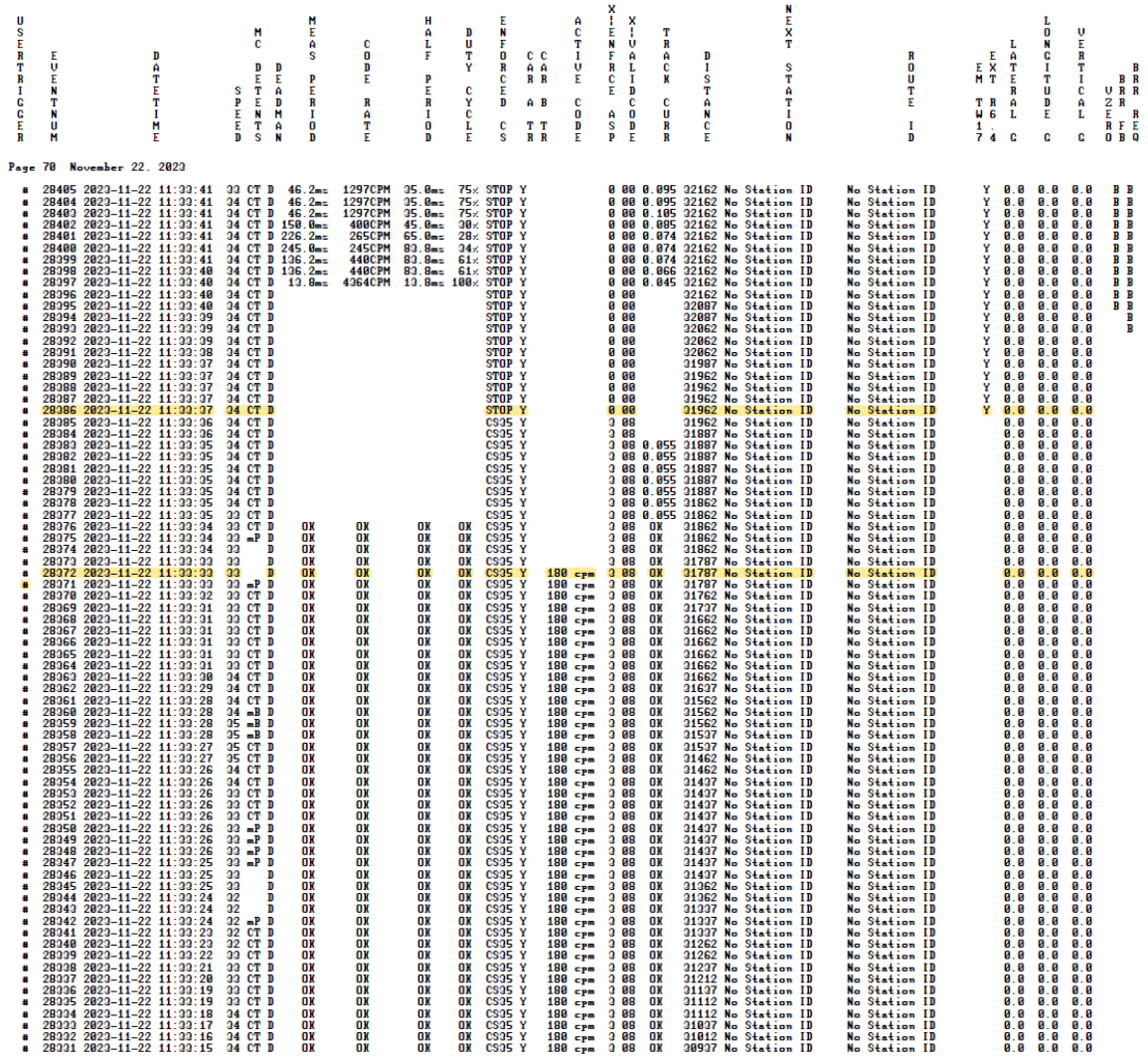
USER TRICGER	EVENNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAR BR	ACTIVE CODE	XIENFRC ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW14	EXT R6.4	LATERAL G	LONGITUDE G	UERTICAL G	UZERO	BRFB	BRREQ
#	28480	2023-11-22 11:38:55	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	28479	2023-11-22 11:38:53	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	28478	2023-11-22 11:38:53	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	28477	2023-11-22 11:38:51	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	28476	2023-11-22 11:38:51	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	28475	2023-11-22 11:38:51	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	28474	2023-11-22 11:38:50	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	28473	2023-11-22 11:38:50	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	28472	2023-11-22 11:38:50	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	28471	2023-11-22 11:38:50	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	28470	2023-11-22 11:38:50	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	28469	2023-11-22 11:38:50	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	28468	2023-11-22 11:35:22	0	OF						STOP				0	00		32362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	28467	2023-11-22 11:35:21	0	OF						STOP	Y			0	00		32362	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	28466	2023-11-22 11:35:21	0	OF						STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	28465	2023-11-22 11:35:21	0	EM						STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	28464	2023-11-22 11:35:21	0	FS						STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	28463	2023-11-22 11:34:23	0	FS						STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	28462	2023-11-22 11:34:19	0	FS						STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	28461	2023-11-22 11:34:19	0	FS	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	28460	2023-11-22 11:34:19	0	FS	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	28459	2023-11-22 11:34:19	0	FS	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	28458	2023-11-22 11:34:19	0	FS	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	28457	2023-11-22 11:34:19	0	FS	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	28456	2023-11-22 11:34:19	0	FS	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	28455	2023-11-22 11:34:19	0	FS	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	28454	2023-11-22 11:34:19	0		D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	28453	2023-11-22 11:34:19	0	mB	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	28452	2023-11-22 11:33:53	0	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	28451	2023-11-22 11:33:52	1	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	28450	2023-11-22 11:33:52	2	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	28449	2023-11-22 11:33:52	3	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	28448	2023-11-22 11:33:52	4	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28447	2023-11-22 11:33:51	5	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28446	2023-11-22 11:33:50	6	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28445	2023-11-22 11:33:49	5	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28444	2023-11-22 11:33:48	4	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28443	2023-11-22 11:33:48	4	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28442	2023-11-22 11:33:47	5	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28441	2023-11-22 11:33:47	6	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28440	2023-11-22 11:33:47	7	CT	D					STOP	Y			0	00		32362	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28439	2023-11-22 11:33:47	7	CT	D					STOP	Y			0	00		32312	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28438	2023-11-22 11:33:46	8	CT	D					STOP	Y			0	00		32312	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28437	2023-11-22 11:33:46	9	CT	D					STOP	Y			0	00		32312	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28436	2023-11-22 11:33:46	10	CT	D					STOP	Y			0	00		32312	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28435	2023-11-22 11:33:46	11	CT	D					STOP	Y			0	00		32312	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28434	2023-11-22 11:33:46	12	CT	D					STOP	Y			0	00		32312	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28433	2023-11-22 11:33:45	13	CT	D					STOP	Y			0	00		32312	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28432	2023-11-22 11:33:45	13	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32312	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28431	2023-11-22 11:33:45	14	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32312	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28430	2023-11-22 11:33:45	14	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32287	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28429	2023-11-22 11:33:45	15	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32287	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28428	2023-11-22 11:33:45	16	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32287	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28427	2023-11-22 11:33:44	17	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32287	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28426	2023-11-22 11:33:44	18	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32287	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28425	2023-11-22 11:33:44	18	CT	D	353.8ms	170CPM	15.0ms	4%	STOP	Y			0	00	0.110	32287	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28424	2023-11-22 11:33:44	19	CT	D	15.0ms	4000CPM	15.0ms	100%	STOP	Y			0	00	0.061	32287	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28423	2023-11-22 11:33:44	19	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32287	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28422	2023-11-22 11:33:43	20	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32287	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28421	2023-11-22 11:33:43	21	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32287	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28420	2023-11-22 11:33:43	22	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32287	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28419	2023-11-22 11:33:43	22	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32262	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28418	2023-11-22 11:33:43	23	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32262	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28417	2023-11-22 11:33:43	24	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32262	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28416	2023-11-22 11:33:42	25	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32262	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28415	2023-11-22 11:33:42	26	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32262	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28414	2023-11-22 11:33:42	26	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32187	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28413	2023-11-22 11:33:42	27	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32187	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28412	2023-11-22 11:33:42	28	CT	D	OK	OK	OK	OK	STOP	Y			0	00	OK	32187	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28411	2023-11-22 11:33:42	29	CT	D	243.8ms	246CPM	42.5ms	17%	STOP	Y			0	00	0.110	32187	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28410	2023-11-22 11:33:42	30	CT	D	243.8ms	246CPM	42.5ms	17%	STOP	Y			0	00	0.110	32187	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28409	2023-11-22 11:33:41	31	CT	D	398.8ms	150CPM	35.0ms	8%	STOP	Y			0	00	0.110	32187	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28408	2023-11-22 11:33:41	32	CT	D	398.8ms	150CPM	35.0ms	8%	STOP	Y			0	00	0.110	32187	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28407	2023-11-22 11:33:41	33	CT	D	46.2ms	1297CPM	35.0ms	75%	STOP	Y			0	00	0.110	32187	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28406	2023-11-22 11:33:41	33	CT	D	46.2ms	1297CPM	35.0ms	75%	STOP	Y			0	00	0.095	32187	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B

Test Run #4 ATC Event Log Data Review



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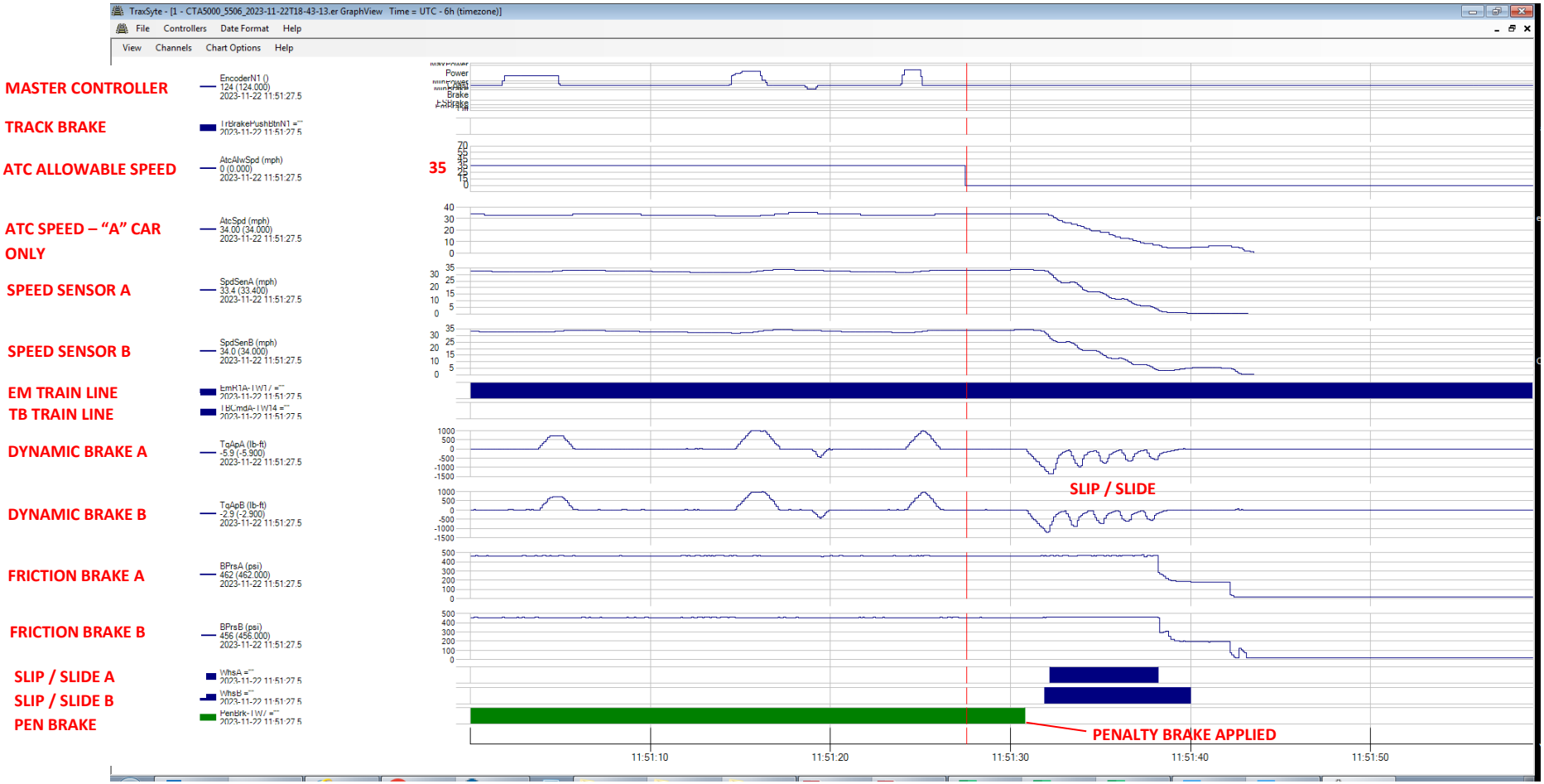
USERTRIGGER	EVENTNUM	DATETIME	MC SPEED	MC DETENTS	MC DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW14	EXT TR6	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BREQ
#	28405	2023-11-22 11:33:41	33	CT D		46.2ms	1297CPM	35.0ms	75%	STOP	Y			0	00	0.095	32162	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28404	2023-11-22 11:33:41	34	CT D		46.2ms	1297CPM	35.0ms	75%	STOP	Y			0	00	0.095	32162	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28403	2023-11-22 11:33:41	34	CT D		46.2ms	1297CPM	35.0ms	75%	STOP	Y			0	00	0.105	32162	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28402	2023-11-22 11:33:41	34	CT D		150.0ms	400CPM	45.0ms	30%	STOP	Y			0	00	0.085	32162	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28401	2023-11-22 11:33:41	34	CT D		226.2ms	265CPM	65.0ms	28%	STOP	Y			0	00	0.074	32162	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28400	2023-11-22 11:33:41	34	CT D		245.0ms	245CPM	83.8ms	34%	STOP	Y			0	00	0.074	32162	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28399	2023-11-22 11:33:41	34	CT D		136.2ms	440CPM	83.8ms	61%	STOP	Y			0	00	0.074	32162	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28398	2023-11-22 11:33:40	34	CT D		136.2ms	440CPM	83.8ms	61%	STOP	Y			0	00	0.066	32162	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28397	2023-11-22 11:33:40	34	CT D		13.8ms	4364CPM	13.8ms	100%	STOP	Y			0	00	0.045	32162	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28396	2023-11-22 11:33:40	34	CT D						STOP	Y			0	00		32162	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28395	2023-11-22 11:33:40	34	CT D						STOP	Y			0	00		32087	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	28394	2023-11-22 11:33:39	34	CT D						STOP	Y			0	00		32087	No Station ID	No Station ID		Y	0.0	0.0	0.0			B
#	28393	2023-11-22 11:33:39	34	CT D						STOP	Y			0	00		32062	No Station ID	No Station ID		Y	0.0	0.0	0.0			B
#	28392	2023-11-22 11:33:39	34	CT D						STOP	Y			0	00		32062	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	28391	2023-11-22 11:33:38	34	CT D						STOP	Y			0	00		32062	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	28390	2023-11-22 11:33:37	34	CT D						STOP	Y			0	00		31987	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	28389	2023-11-22 11:33:37	34	CT D						STOP	Y			0	00		31962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	28388	2023-11-22 11:33:37	34	CT D						STOP	Y			0	00		31962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	28387	2023-11-22 11:33:37	34	CT D						STOP	Y			0	00		31962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	28386	2023-11-22 11:33:37	34	CT D						STOP	Y			0	00		31962	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	28385	2023-11-22 11:33:36	34	CT D						CS35	Y			3	08		31962	No Station ID	No Station ID			0.0	0.0	0.0			
#	28384	2023-11-22 11:33:36	34	CT D						CS35	Y			3	08		31887	No Station ID	No Station ID			0.0	0.0	0.0			
#	28383	2023-11-22 11:33:35	34	CT D						CS35	Y			3	08	0.055	31887	No Station ID	No Station ID			0.0	0.0	0.0			
#	28382	2023-11-22 11:33:35	34	CT D						CS35	Y			3	08	0.055	31887	No Station ID	No Station ID			0.0	0.0	0.0			
#	28381	2023-11-22 11:33:35	34	CT D						CS35	Y			3	08	0.055	31887	No Station ID	No Station ID			0.0	0.0	0.0			
#	28380	2023-11-22 11:33:35	34	CT D						CS35	Y			3	08	0.055	31887	No Station ID	No Station ID			0.0	0.0	0.0			
#	28379	2023-11-22 11:33:35	34	CT D						CS35	Y			3	08	0.055	31887	No Station ID	No Station ID			0.0	0.0	0.0			
#	28378	2023-11-22 11:33:35	34	CT D						CS35	Y			3	08	0.055	31862	No Station ID	No Station ID			0.0	0.0	0.0			
#	28377	2023-11-22 11:33:35	33	CT D						CS35	Y			3	08	0.055	31862	No Station ID	No Station ID			0.0	0.0	0.0			
#	28376	2023-11-22 11:33:34	33	CT D		0X	0X	0X	0X	CS35	Y			3	08	0X	31862	No Station ID	No Station ID			0.0	0.0	0.0			
#	28375	2023-11-22 11:33:34	33	mP D		0X	0X	0X	0X	CS35	Y			3	08	0X	31862	No Station ID	No Station ID			0.0	0.0	0.0			
#	28374	2023-11-22 11:33:34	33	D		0X	0X	0X	0X	CS35	Y			3	08	0X	31862	No Station ID	No Station ID			0.0	0.0	0.0			
#	28373	2023-11-22 11:33:33	33	D		0X	0X	0X	0X	CS35	Y			3	08	0X	31787	No Station ID	No Station ID			0.0	0.0	0.0			
#	28372	2023-11-22 11:33:33	33	D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31787	No Station ID	No Station ID			0.0	0.0	0.0			
#	28371	2023-11-22 11:33:33	33	mP D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31787	No Station ID	No Station ID			0.0	0.0	0.0			
#	28370	2023-11-22 11:33:32	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31762	No Station ID	No Station ID			0.0	0.0	0.0			
#	28369	2023-11-22 11:33:31	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31737	No Station ID	No Station ID			0.0	0.0	0.0			
#	28368	2023-11-22 11:33:31	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31662	No Station ID	No Station ID			0.0	0.0	0.0			
#	28367	2023-11-22 11:33:31	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31662	No Station ID	No Station ID			0.0	0.0	0.0			
#	28366	2023-11-22 11:33:31	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31662	No Station ID	No Station ID			0.0	0.0	0.0			
#	28365	2023-11-22 11:33:31	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31662	No Station ID	No Station ID			0.0	0.0	0.0			
#	28364	2023-11-22 11:33:31	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31662	No Station ID	No Station ID			0.0	0.0	0.0			
#	28363	2023-11-22 11:33:30	34	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31662	No Station ID	No Station ID			0.0	0.0	0.0			
#	28362	2023-11-22 11:33:29	34	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31637	No Station ID	No Station ID			0.0	0.0	0.0			
#	28361	2023-11-22 11:33:28	34	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31562	No Station ID	No Station ID			0.0	0.0	0.0			
#	28360	2023-11-22 11:33:28	34	mB D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31562	No Station ID	No Station ID			0.0	0.0	0.0			
#	28359	2023-11-22 11:33:28	35	mB D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31562	No Station ID	No Station ID			0.0	0.0	0.0			
#	28358	2023-11-22 11:33:28	35	mB D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31537	No Station ID	No Station ID			0.0	0.0	0.0			
#	28357	2023-11-22 11:33:27	35	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31537	No Station ID	No Station ID			0.0	0.0	0.0			
#	28356	2023-11-22 11:33:27	35	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31462	No Station ID	No Station ID			0.0	0.0	0.0			
#	28355	2023-11-22 11:33:26	34	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31462	No Station ID	No Station ID			0.0	0.0	0.0			
#	28354	2023-11-22 11:33:26	34	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31437	No Station ID	No Station ID			0.0	0.0	0.0			
#	28353	2023-11-22 11:33:26	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31437	No Station ID	No Station ID			0.0	0.0	0.0			
#	28352	2023-11-22 11:33:26	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31437	No Station ID	No Station ID			0.0	0.0	0.0			
#	28351	2023-11-22 11:33:26	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31437	No Station ID	No Station ID			0.0	0.0	0.0			
#	28350	2023-11-22 11:33:26	33	mP D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31437	No Station ID	No Station ID			0.0	0.0	0.0			
#	28349	2023-11-22 11:33:26	33	mP D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31437	No Station ID	No Station ID			0.0	0.0	0.0			
#	28348	2023-11-22 11:33:26	33	mP D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31437	No Station ID	No Station ID			0.0	0.0	0.0			
#	28347	2023-11-22 11:33:25	33	mP D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31437	No Station ID	No Station ID			0.0	0.0	0.0			
#	28346	2023-11-22 11:33:25	33	D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31437	No Station ID	No Station ID			0.0	0.0	0.0			
#	28345	2023-11-22 11:33:25	33	D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31362	No Station ID	No Station ID			0.0	0.0	0.0			
#	28344	2023-11-22 11:33:24	32	D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31362	No Station ID	No Station ID			0.0	0.0	0.0			
#	28343	2023-11-22 11:33:24	32	D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31337	No Station ID	No Station ID			0.0	0.0	0.0			
#	28342	2023-11-22 11:33:24	32	mP D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31337	No Station ID	No Station ID			0.0	0.0	0.0			
#	28341	2023-11-22 11:33:23	32	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31337	No Station ID	No Station ID			0.0	0.0	0.0			
#	28340	2023-11-22 11:33:23	32	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31262	No Station ID	No Station ID			0.0	0.0	0.0			
#	28339	2023-11-22 11:33:22	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31262	No Station ID	No Station ID			0.0	0.0	0.0			
#	28338	2023-11-22 11:33:21	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31237	No Station ID	No Station ID			0.0	0.0	0.0			
#	28337	2023-11-22 11:33:20	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31212	No Station ID	No Station ID			0.0	0.0	0.0			
#	28336	2023-11-22 11:33:19	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31137	No Station ID	No Station ID			0.0	0.0	0.0			
#	28335	2023-11-22 11:33:19	33	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31112	No Station ID	No Station ID			0.0	0.0	0.0			
#	28334	2023-11-22 11:33:18	34	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31112	No Station ID	No Station ID			0.0	0.0	0.0			
#	28333	2023-11-22 11:33:17	34	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31037	No Station ID	No Station ID			0.0	0.0	0.0			
#	28332	2023-11-22 11:33:16	34	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	31012	No Station ID	No Station ID			0.0	0.0	0.0			
#	28331	2023-11-22 11:33:15	34	CT D		0X	0X	0X	0X	CS35	Y	180	cpm	3	08	0X	30937	No Station ID	No Station ID			0.0	0.0	0.0			

STOP CODE

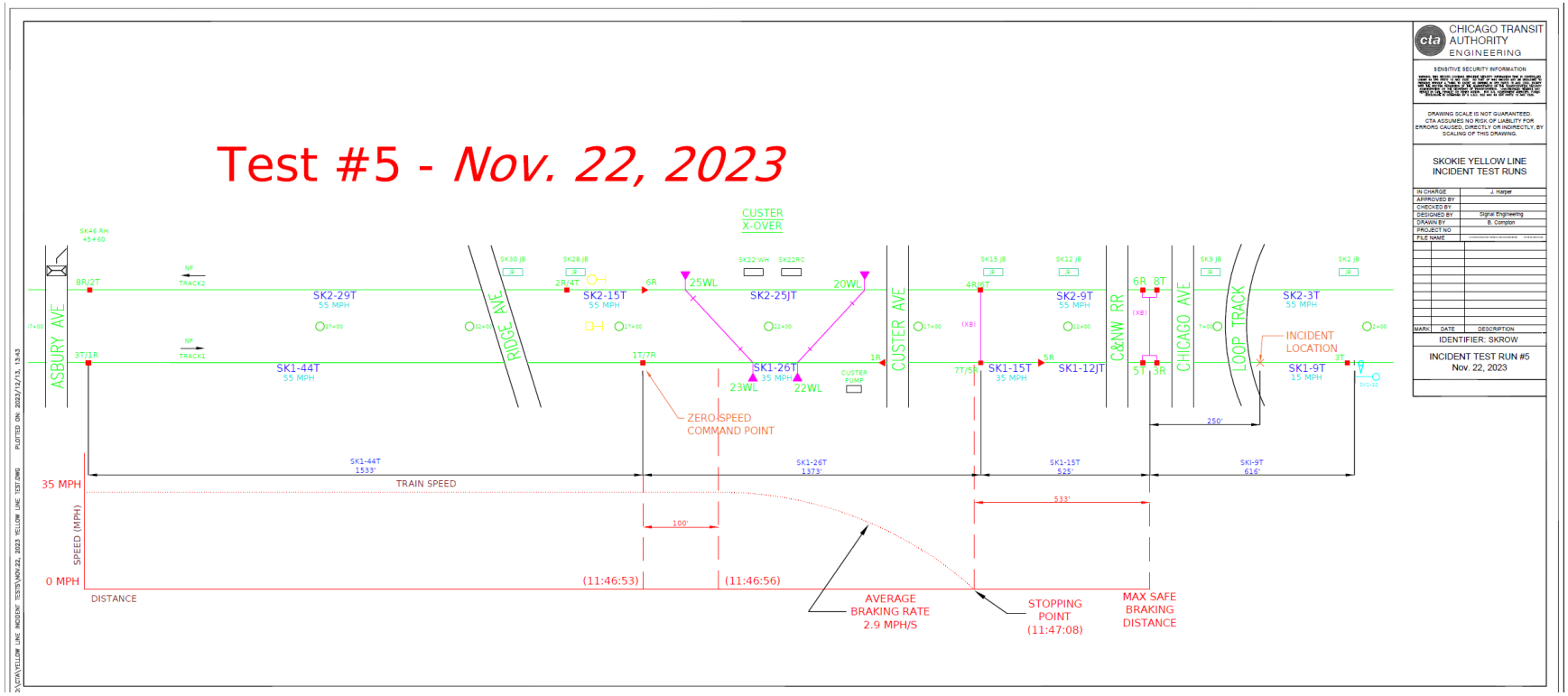
LOSS OF CAB

Test Run #4 ERU Event Log



Appendix V: Test Run #5 Analysis

Test Run #5 Track Circuit Diagram and Vehicle Response



Test Run #5 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #5		
Criteria	**Time**	**Distance**
Loss of Cab	11:46:53	41612
Stop Code	11:46:56	41712
FS Brake	11:46:56	41737
Zero Speed	11:47:08	42037

Rail vehicle speed at loss of cab: **35 mph**

Total distance from brake application to stopping point: **300 feet**

Total time from brake application to stopping point: **12 seconds**

Test Run #5 ATC Event Log Data Review

ZERO SPEED

FS BRAKE

STOP CODE

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USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFORCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXT R64.	LATERAL C	LONGITUDE C	UVERTICAL C	UZERO	BRREF	BRREQ
# 29380	2023-11-22	11:47:08	0	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29379	2023-11-22	11:47:08	0	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29378	2023-11-22	11:47:08	0	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29377	2023-11-22	11:47:08	0	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29376	2023-11-22	11:47:08	1	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29375	2023-11-22	11:47:07	2	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29374	2023-11-22	11:47:06	1	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29373	2023-11-22	11:47:06	1	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29372	2023-11-22	11:47:05	2	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29371	2023-11-22	11:47:05	2	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29370	2023-11-22	11:47:05	2	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29369	2023-11-22	11:47:05	3	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
# 29368	2023-11-22	11:47:05	4	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29367	2023-11-22	11:47:04	5	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29366	2023-11-22	11:47:04	6	FS D						STOP	Y			0	00		42037	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29365	2023-11-22	11:47:04	6	FS D						STOP	Y			0	00	0.059	42037	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29364	2023-11-22	11:47:04	6	FS D	227.5ms	264CPM	42.5ms	18%		STOP	Y			0	00	0.059	42037	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29363	2023-11-22	11:47:04	7	FS D	227.5ms	264CPM	42.5ms	18%		STOP	Y			0	00	0.059	42037	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29362	2023-11-22	11:47:04	7	FS D	227.5ms	264CPM	42.5ms	18%		STOP	Y			0	00	0.059	42012	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29361	2023-11-22	11:47:04	8	FS D	227.5ms	264CPM	42.5ms	18%		STOP	Y			0	00	0.059	42012	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29360	2023-11-22	11:47:03	9	FS D	227.5ms	264CPM	42.5ms	18%		STOP	Y			0	00	0.053	42012	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29359	2023-11-22	11:47:03	9	FS D	227.5ms	264CPM	42.5ms	18%		STOP	Y			0	00	0.047	42012	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29358	2023-11-22	11:47:03	10	FS D						STOP	Y			0	00	0.047	42012	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29357	2023-11-22	11:47:03	10	FS D						STOP	Y			0	00	0.097	42012	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29356	2023-11-22	11:47:03	10	FS D	183.8ms	327CPM	51.2ms	27%		STOP	Y			0	00	0.097	42012	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29355	2023-11-22	11:47:03	10	FS D	183.8ms	327CPM	51.2ms	27%		STOP	Y			0	00	0.097	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29354	2023-11-22	11:47:03	11	FS D	183.8ms	327CPM	51.2ms	27%		STOP	Y			0	00	0.097	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29353	2023-11-22	11:47:02	12	FS D	183.8ms	327CPM	51.2ms	27%		STOP	Y			0	00	0.097	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29352	2023-11-22	11:47:02	13	FS D	183.8ms	327CPM	51.2ms	27%		STOP	Y			0	00	0.085	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29351	2023-11-22	11:47:02	14	FS D	183.8ms	327CPM	51.2ms	27%		STOP	Y			0	00	0.085	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29350	2023-11-22	11:47:02	14	FS D	188.8ms	318CPM	56.2ms	29%		STOP	Y			0	00	0.085	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29349	2023-11-22	11:47:02	15	FS D	100.0ms	600CPM	56.2ms	56%		STOP	Y			0	00	0.085	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29348	2023-11-22	11:47:02	15	FS D	115.0ms	522CPM	71.2ms	61%		STOP	Y			0	00	0.085	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29347	2023-11-22	11:47:02	15	FS D	920.0ms	65CPM				STOP	Y			0	00	0.074	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29346	2023-11-22	11:47:01	15	FS D						STOP	Y			0	00	0.061	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29345	2023-11-22	11:47:01	15	FS D						STOP	Y			0	00	0.061	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29344	2023-11-22	11:47:01	16	FS D						STOP	Y			0	00	0.061	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29343	2023-11-22	11:47:01	16	FS D						STOP	Y			0	00	0.061	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29342	2023-11-22	11:47:01	17	FS D						STOP	Y			0	00	0.061	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29341	2023-11-22	11:47:01	18	FS D						STOP	Y			0	00	0.053	41962	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29340	2023-11-22	11:47:01	18	FS D						STOP	Y			0	00	0.053	41937	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29339	2023-11-22	11:47:01	19	FS D						STOP	Y			0	00		41937	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29338	2023-11-22	11:47:00	20	FS D						STOP	Y			0	00		41937	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29337	2023-11-22	11:47:00	21	FS D						STOP	Y			0	00		41937	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29336	2023-11-22	11:47:00	21	FS D						STOP	Y			0	00		41912	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29335	2023-11-22	11:47:00	22	FS D						STOP	Y			0	00		41912	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29334	2023-11-22	11:47:00	23	FS D						STOP	Y			0	00		41912	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29333	2023-11-22	11:46:59	24	FS D						STOP	Y			0	00		41912	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29332	2023-11-22	11:46:59	25	FS D						STOP	Y			0	00		41912	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29331	2023-11-22	11:46:59	26	FS D						STOP	Y			0	00		41912	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29330	2023-11-22	11:46:58	26	FS D						STOP	Y			0	00		41837	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29329	2023-11-22	11:46:58	27	FS D						STOP	Y			0	00		41837	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29328	2023-11-22	11:46:58	28	FS D						STOP	Y			0	00		41837	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29327	2023-11-22	11:46:58	29	FS D						STOP	Y			0	00		41837	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29326	2023-11-22	11:46:58	30	FS D						STOP	Y			0	00		41837	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29325	2023-11-22	11:46:58	31	FS D						STOP	Y			0	00		41837	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29324	2023-11-22	11:46:58	31	FS D						STOP	Y			0	00		41812	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29323	2023-11-22	11:46:58	32	FS D						STOP	Y			0	00		41812	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29322	2023-11-22	11:46:58	33	FS D						STOP	Y			0	00		41812	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29321	2023-11-22	11:46:57	34	FS D						STOP	Y			0	00		41812	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29320	2023-11-22	11:46:57	34	FS D						STOP	Y			0	00		41812	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29319	2023-11-22	11:46:57	34	FS D						STOP	Y			0	00		41737	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29318	2023-11-22	11:46:57	34	FS D						STOP	Y			0	00		41737	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29317	2023-11-22	11:46:56	35	FS D						STOP	Y			0	00		41737	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29316	2023-11-22	11:46:56	35	FS D						STOP	Y			0	00		41737	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29315	2023-11-22	11:46:56	35	FS D						STOP	Y			0	00		41737	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29314	2023-11-22	11:46:56	35	mB D						STOP	Y			0	00		41737	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29313	2023-11-22	11:46:56	35	CT D						STOP	Y			0	00		41737	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29312	2023-11-22	11:46:56	35	CT D						STOP	Y			0	00		41712	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29311	2023-11-22	11:46:56	35	CT D						STOP	Y			0	00		41712	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29310	2023-11-22	11:46:56	35	CT D						STOP	Y			0	00		41712	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29309	2023-11-22	11:46:56	35	CT D						STOP	Y			0	00		41712	No Station ID	No Station ID	Y	0.0	0.0	0.0			
# 29308	2023-11-22	11:46:55	35	CT D						CS35	Y			3	08		41712	No Station ID	No Station ID		0.0	0.0	0.0			
# 29307	2023-11-22	11:46:54	35	CT D						CS35	Y			3	08		41637	No Station ID	No Station ID		0.0	0.0	0.0			
# 29306	2023-11-22	11:46:54	35	CT D						CS35	Y			3	08		41612	No Station ID	No Station ID		0.0	0.0	0.0			

Test Run #5 ATC Event Log Data Review

LOSS OF CAB

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USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A TR	CAR B TR	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CUR R	DISTANCE	NEXT STATION	ROUTE ID	EMTW14	EXT R6.4	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BRREQ
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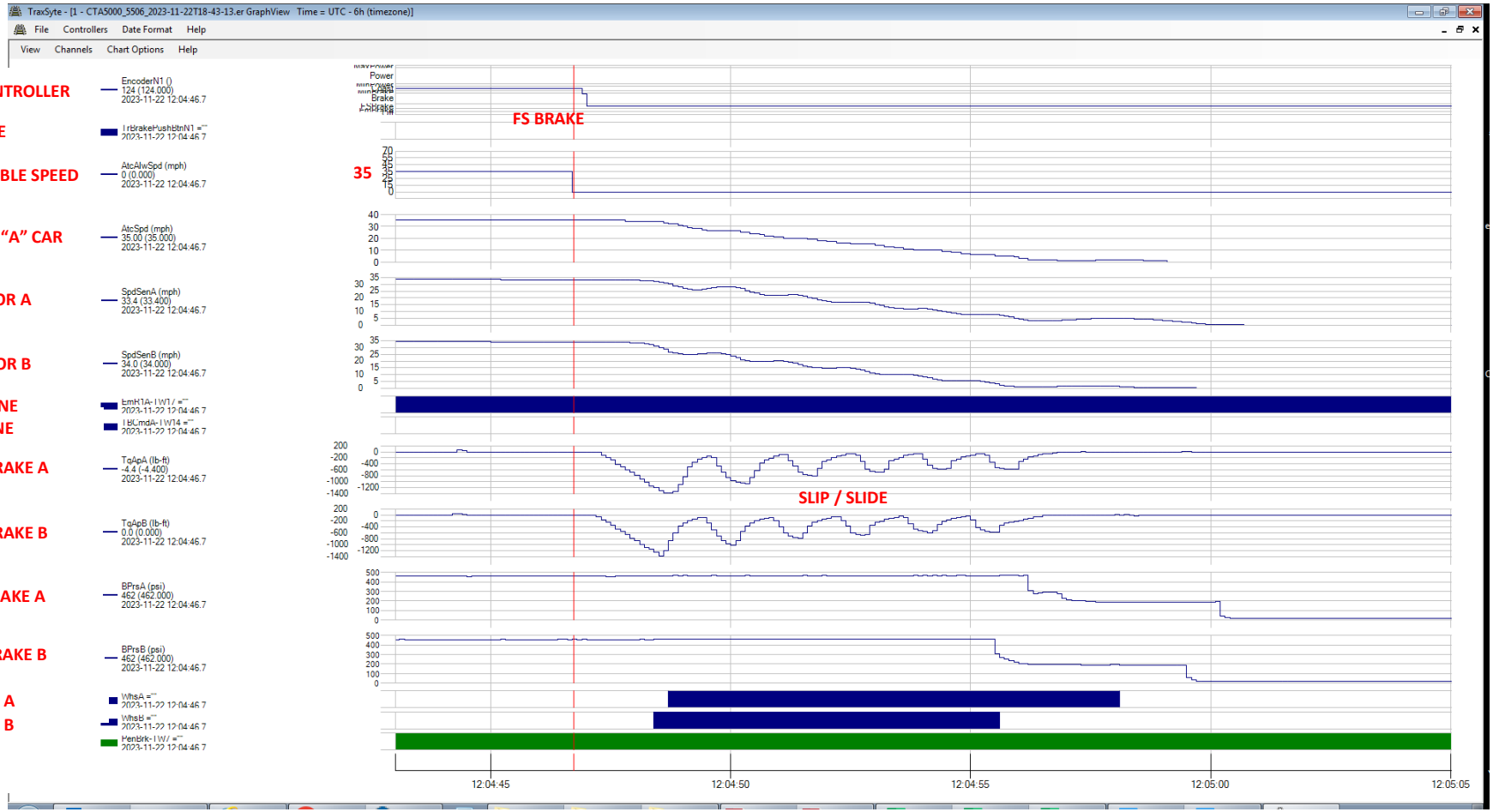
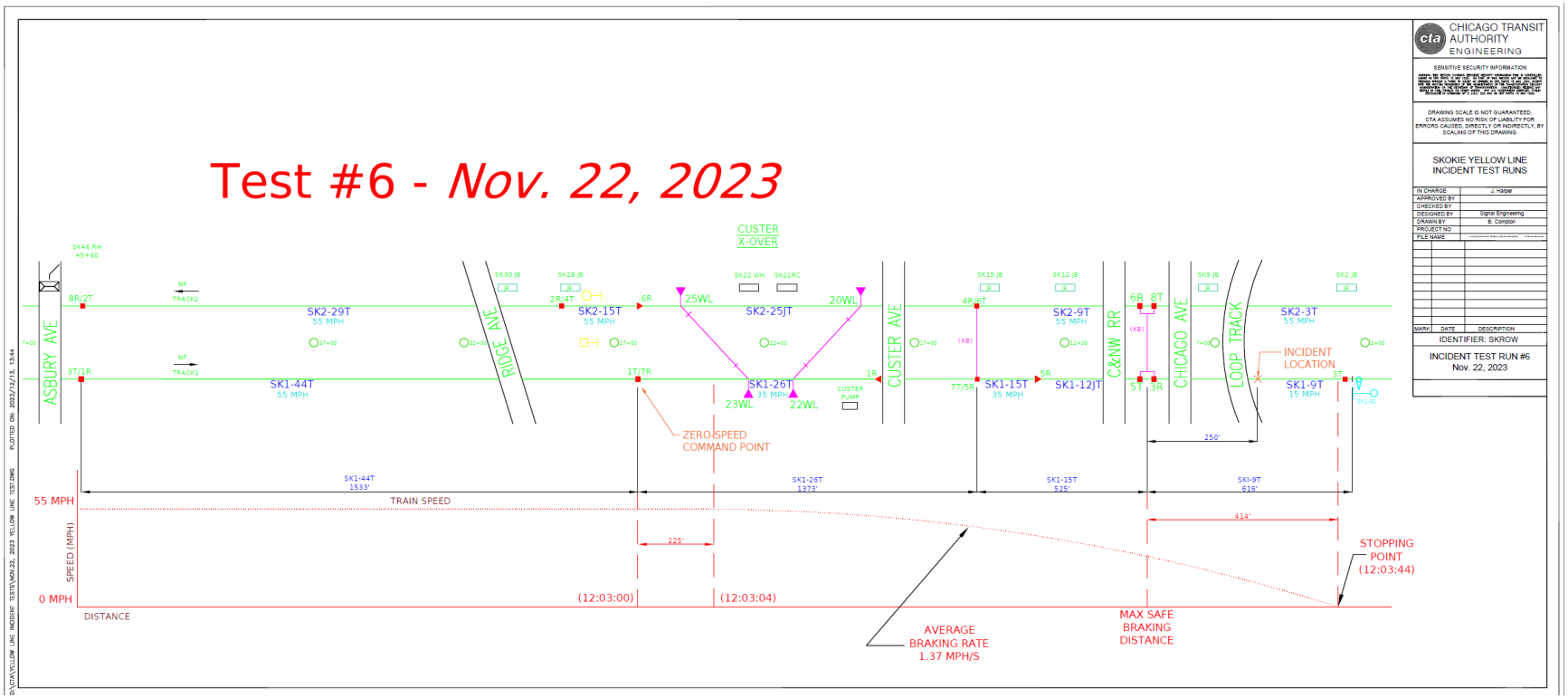
#	29305	2023-11-22 11:46:53	35	CT D		OK	OK	OK	OK	CS35 Y				3	08	OK	41612	No Station ID	No Station ID			0.0	0.0	0.0			
#	29304	2023-11-22 11:46:53	35	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41612	No Station ID	No Station ID			0.0	0.0	0.0			
#	29303	2023-11-22 11:46:52	35	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41537	No Station ID	No Station ID			0.0	0.0	0.0			
#	29302	2023-11-22 11:46:52	35	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41512	No Station ID	No Station ID			0.0	0.0	0.0			
#	29301	2023-11-22 11:46:51	35	mP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41512	No Station ID	No Station ID			0.0	0.0	0.0			
#	29300	2023-11-22 11:46:51	35	mP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41437	No Station ID	No Station ID			0.0	0.0	0.0			
#	29299	2023-11-22 11:46:50	34	mP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41437	No Station ID	No Station ID			0.0	0.0	0.0			
#	29298	2023-11-22 11:46:50	34	mP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41437	No Station ID	No Station ID			0.0	0.0	0.0			
#	29297	2023-11-22 11:46:50	34	mP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41437	No Station ID	No Station ID			0.0	0.0	0.0			
#	29296	2023-11-22 11:46:50	34	mP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41437	No Station ID	No Station ID			0.0	0.0	0.0			
#	29295	2023-11-22 11:46:50	34	mP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41437	No Station ID	No Station ID			0.0	0.0	0.0			
#	29294	2023-11-22 11:46:50	34	mP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41412	No Station ID	No Station ID			0.0	0.0	0.0			
#	29293	2023-11-22 11:46:50	33	mP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41412	No Station ID	No Station ID			0.0	0.0	0.0			
#	29292	2023-11-22 11:46:50	33	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41412	No Station ID	No Station ID			0.0	0.0	0.0			
#	29291	2023-11-22 11:46:49	33	MP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41412	No Station ID	No Station ID			0.0	0.0	0.0			
#	29290	2023-11-22 11:46:49	32	MP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41412	No Station ID	No Station ID			0.0	0.0	0.0			
#	29289	2023-11-22 11:46:48	32	MP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41387	No Station ID	No Station ID			0.0	0.0	0.0			
#	29288	2023-11-22 11:46:47	32	MP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41312	No Station ID	No Station ID			0.0	0.0	0.0			
#	29287	2023-11-22 11:46:46	32	MP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41287	No Station ID	No Station ID			0.0	0.0	0.0			
#	29286	2023-11-22 11:46:46	33	MP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41287	No Station ID	No Station ID			0.0	0.0	0.0			
#	29285	2023-11-22 11:46:46	33	MP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41212	No Station ID	No Station ID			0.0	0.0	0.0			
#	29284	2023-11-22 11:46:46	33	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41212	No Station ID	No Station ID			0.0	0.0	0.0			
#	29283	2023-11-22 11:46:45	33	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41212	No Station ID	No Station ID			0.0	0.0	0.0			
#	29282	2023-11-22 11:46:45	33	mB D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41212	No Station ID	No Station ID			0.0	0.0	0.0			
#	29281	2023-11-22 11:46:44	33	mB D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41187	No Station ID	No Station ID			0.0	0.0	0.0			
#	29280	2023-11-22 11:46:44	32	mB D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41187	No Station ID	No Station ID			0.0	0.0	0.0			
#	29279	2023-11-22 11:46:44	31	mB D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41187	No Station ID	No Station ID			0.0	0.0	0.0			
#	29278	2023-11-22 11:46:44	31	mB D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41162	No Station ID	No Station ID			0.0	0.0	0.0			
#	29277	2023-11-22 11:46:44	31	mB D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41162	No Station ID	No Station ID			0.0	0.0	0.0			
#	29276	2023-11-22 11:46:44	31	mB D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41162	No Station ID	No Station ID			0.0	0.0	0.0			
#	29275	2023-11-22 11:46:44	31	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41162	No Station ID	No Station ID			0.0	0.0	0.0			
#	29274	2023-11-22 11:46:43	31	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41162	No Station ID	No Station ID			0.0	0.0	0.0			
#	29273	2023-11-22 11:46:43	30	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41162	No Station ID	No Station ID			0.0	0.0	0.0			
#	29272	2023-11-22 11:46:43	30	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41087	No Station ID	No Station ID			0.0	0.0	0.0			
#	29271	2023-11-22 11:46:42	29	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41087	No Station ID	No Station ID			0.0	0.0	0.0			
#	29270	2023-11-22 11:46:42	28	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41087	No Station ID	No Station ID			0.0	0.0	0.0			
#	29269	2023-11-22 11:46:42	28	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41062	No Station ID	No Station ID			0.0	0.0	0.0			
#	29268	2023-11-22 11:46:41	27	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41062	No Station ID	No Station ID			0.0	0.0	0.0			
#	29267	2023-11-22 11:46:40	27	D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41012	No Station ID	No Station ID			0.0	0.0	0.0			
#	29266	2023-11-22 11:46:40	27	mP D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41012	No Station ID	No Station ID			0.0	0.0	0.0			
#	29265	2023-11-22 11:46:40	27	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	41012	No Station ID	No Station ID			0.0	0.0	0.0			
#	29264	2023-11-22 11:46:39	27	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40987	No Station ID	No Station ID			0.0	0.0	0.0			
#	29263	2023-11-22 11:46:38	27	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40912	No Station ID	No Station ID			0.0	0.0	0.0			
#	29262	2023-11-22 11:46:37	27	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40887	No Station ID	No Station ID			0.0	0.0	0.0			
#	29261	2023-11-22 11:46:37	28	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40887	No Station ID	No Station ID			0.0	0.0	0.0			
#	29260	2023-11-22 11:46:36	28	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40862	No Station ID	No Station ID			0.0	0.0	0.0			
#	29259	2023-11-22 11:46:35	28	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40812	No Station ID	No Station ID			0.0	0.0	0.0			
#	29258	2023-11-22 11:46:34	28	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40787	No Station ID	No Station ID			0.0	0.0	0.0			
#	29257	2023-11-22 11:46:33	28	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40712	No Station ID	No Station ID			0.0	0.0	0.0			
#	29256	2023-11-22 11:46:33	28	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40687	No Station ID	No Station ID			0.0	0.0	0.0			
#	29255	2023-11-22 11:46:32	29	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40687	No Station ID	No Station ID			0.0	0.0	0.0			
#	29254	2023-11-22 11:46:31	29	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40662	No Station ID	No Station ID			0.0	0.0	0.0			
#	29253	2023-11-22 11:46:30	29	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40637	No Station ID	No Station ID			0.0	0.0	0.0			
#	29252	2023-11-22 11:46:29	29	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40562	No Station ID	No Station ID			0.0	0.0	0.0			
#	29251	2023-11-22 11:46:28	29	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40537	No Station ID	No Station ID			0.0	0.0	0.0			
#	29250	2023-11-22 11:46:28	29	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40487	No Station ID	No Station ID			0.0	0.0	0.0			
#	29249	2023-11-22 11:46:27	30	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40487	No Station ID	No Station ID			0.0	0.0	0.0			
#	29248	2023-11-22 11:46:26	30	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40462	No Station ID	No Station ID			0.0	0.0	0.0			
#	29247	2023-11-22 11:46:25	30	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40387	No Station ID	No Station ID			0.0	0.0	0.0			
#	29246	2023-11-22 11:46:24	30	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40362	No Station ID	No Station ID			0.0	0.0	0.0			
#	29245	2023-11-22 11:46:23	30	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40337	No Station ID	No Station ID			0.0	0.0	0.0			
#	29244	2023-11-22 11:46:23	31	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40337	No Station ID	No Station ID			0.0	0.0	0.0			
#	29243	2023-11-22 11:46:22	31	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40262	No Station ID	No Station ID			0.0	0.0	0.0			
#	29242	2023-11-22 11:46:21	31	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40237	No Station ID	No Station ID			0.0	0.0	0.0			
#	29241	2023-11-22 11:46:20	31	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40162	No Station ID	No Station ID			0.0	0.0	0.0			
#	29240	2023-11-22 11:46:19	31	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40137	No Station ID	No Station ID			0.0	0.0	0.0			
#	29239	2023-11-22 11:46:19	32	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40137	No Station ID	No Station ID			0.0	0.0	0.0			
#	29238	2023-11-22 11:46:18	32	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40112	No Station ID	No Station ID			0.0	0.0	0.0			
#	29237	2023-11-22 11:46:18	32	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40037	No Station ID	No Station ID			0.0	0.0	0.0			
#	29236	2023-11-22 11:46:17	32	CT D		OK	OK	OK	OK	CS35 Y				3	08	OK	40037	No Station ID	No Station ID			0.0	0.0	0.0			
#	29235	2023-11-22 11:46:16	32	CT D		OK	OK	OK	OK	CS35 Y				3	08	OK	40012	No Station ID	No Station ID			0.0	0.0	0.0			
#	29234	2023-11-22 11:46:16	32	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	40012	No Station ID	No Station ID			0.0	0.0	0.0			
#	29233	2023-11-22 11:46:15	32	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	39962	No Station ID	No Station ID			0.0	0.0	0.0			
#	29232	2023-11-22 11:46:14	32	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	39912	No Station ID	No Station ID			0.0	0.0	0.0			
#	29231	2023-11-22 11:46:14	33	CT D		OK	OK	OK	OK	CS35 Y	180	cpm		3	08	OK	39912	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #5 ERU Event Log



Appendix VI: Test Run #6 Analysis

Test Run #6 Track Circuit Diagram and Vehicle Response



Test Run #6 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #6		
Criteria	**Time**	**Distance**
Loss of Cab	12:03:00	48585
Stop Code	12:03:04	48810
Zero Speed	12:03:44	49835

Rail vehicle speed at loss of cab: **53 mph**

Total distance from brake application to stopping point: **N/A**

Total time from brake application to stopping point: **N/A**

Test Run #6 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXTR6.4	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BRREQ
Page 44 November 22, 2023																											
#	30355	2023-11-22 12:08:13	11	CT D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50160	No Station ID	No Station ID				0.0	0.0	0.0				
#	30354	2023-11-22 12:08:13	11	mP D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50160	No Station ID	No Station ID				0.0	0.0	0.0				
#	30353	2023-11-22 12:08:13	10	mP D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50160	No Station ID	No Station ID				0.0	0.0	0.0				
#	30352	2023-11-22 12:08:11	10	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50160	No Station ID	No Station ID				0.0	0.0	0.0				
#	30351	2023-11-22 12:08:11	9	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50160	No Station ID	No Station ID				0.0	0.0	0.0				
#	30350	2023-11-22 12:08:10	9	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50135	No Station ID	No Station ID				0.0	0.0	0.0				
#	30349	2023-11-22 12:08:09	8	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50135	No Station ID	No Station ID				0.0	0.0	0.0				
#	30348	2023-11-22 12:08:08	7	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50135	No Station ID	No Station ID				0.0	0.0	0.0				
#	30347	2023-11-22 12:08:07	7	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50085	No Station ID	No Station ID				0.0	0.0	0.0				
#	30346	2023-11-22 12:08:06	7	CT D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50085	No Station ID	No Station ID				0.0	0.0	0.0				
#	30345	2023-11-22 12:08:05	8	CT D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50085	No Station ID	No Station ID				0.0	0.0	0.0				
#	30344	2023-11-22 12:08:04	8	CT D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50060	No Station ID	No Station ID				0.0	0.0	0.0				
#	30343	2023-11-22 12:08:03	9	CT D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50060	No Station ID	No Station ID				0.0	0.0	0.0				
#	30342	2023-11-22 12:08:02	9	CT D		OK	OK	OK	OK	CS15 Y			1 02	OK	50060	No Station ID	No Station ID				0.0	0.0	0.0				
#	30341	2023-11-22 12:08:02	9	CT D		OK	OK	OK	OK	CS15 Y			1 02	OK	50035	No Station ID	No Station ID				0.0	0.0	0.0				
#	30340	2023-11-22 12:08:01	10	CT D		OK	OK	OK	OK	CS15 Y			1 02	OK	50035	No Station ID	No Station ID				0.0	0.0	0.0				
#	30339	2023-11-22 12:08:00	10	CT D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50035	No Station ID	No Station ID				0.0	0.0	0.0				
#	30338	2023-11-22 12:08:00	9	CT D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	50035	No Station ID	No Station ID				0.0	0.0	0.0				
#	30337	2023-11-22 12:08:00	9	CT D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49985	No Station ID	No Station ID				0.0	0.0	0.0				
#	30336	2023-11-22 12:08:00	9	mP D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49985	No Station ID	No Station ID				0.0	0.0	0.0				
#	30335	2023-11-22 12:08:00	9	mP D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49985	No Station ID	No Station ID				0.0	0.0	0.0				
#	30334	2023-11-22 12:07:59	9	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49985	No Station ID	No Station ID				0.0	0.0	0.0				
#	30333	2023-11-22 12:07:58	8	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49985	No Station ID	No Station ID				0.0	0.0	0.0				
#	30332	2023-11-22 12:07:57	7	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49985	No Station ID	No Station ID				0.0	0.0	0.0				
#	30331	2023-11-22 12:07:57	7	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49960	No Station ID	No Station ID				0.0	0.0	0.0				
#	30330	2023-11-22 12:07:56	6	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49960	No Station ID	No Station ID				0.0	0.0	0.0				
#	30329	2023-11-22 12:07:54	5	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49960	No Station ID	No Station ID				0.0	0.0	0.0				
#	30328	2023-11-22 12:07:53	4	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49960	No Station ID	No Station ID				0.0	0.0	0.0				
#	30327	2023-11-22 12:07:53	3	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49960	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30326	2023-11-22 12:07:52	3	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49935	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30325	2023-11-22 12:07:51	3	D		OK	OK	OK	OK	CS15 Y			1 02	OK	49935	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30324	2023-11-22 12:07:50	4	D		OK	OK	OK	OK	CS15 Y			1 02	OK	49935	No Station ID	No Station ID				0.0	0.0	0.0				
#	30323	2023-11-22 12:07:50	4	D						CS15 Y			1 02		49935	No Station ID	No Station ID				0.0	0.0	0.0				
#	30322	2023-11-22 12:07:49	4	D		OK	OK	OK	OK	CS15 Y			1 02	OK	49935	No Station ID	No Station ID				0.0	0.0	0.0				
#	30321	2023-11-22 12:07:48	4	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49935	No Station ID	No Station ID				0.0	0.0	0.0				
#	30320	2023-11-22 12:07:48	5	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49935	No Station ID	No Station ID				0.0	0.0	0.0				
#	30319	2023-11-22 12:07:48	5	mP D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49935	No Station ID	No Station ID				0.0	0.0	0.0				
#	30318	2023-11-22 12:07:47	5	CT D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49935	No Station ID	No Station ID				0.0	0.0	0.0				
#	30317	2023-11-22 12:07:47	5	CT D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49910	No Station ID	No Station ID				0.0	0.0	0.0				
#	30316	2023-11-22 12:07:46	6	CT D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49910	No Station ID	No Station ID				0.0	0.0	0.0				
#	30315	2023-11-22 12:07:45	6	mP D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49910	No Station ID	No Station ID				0.0	0.0	0.0				
#	30314	2023-11-22 12:07:43	6	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49910	No Station ID	No Station ID				0.0	0.0	0.0				
#	30313	2023-11-22 12:07:43	5	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49910	No Station ID	No Station ID				0.0	0.0	0.0				
#	30312	2023-11-22 12:07:41	5	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49860	No Station ID	No Station ID				0.0	0.0	0.0				
#	30311	2023-11-22 12:07:39	4	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49860	No Station ID	No Station ID				0.0	0.0	0.0				
#	30310	2023-11-22 12:07:38	3	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49860	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30309	2023-11-22 12:07:36	3	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30308	2023-11-22 12:07:34	2	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30307	2023-11-22 12:07:32	1	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30306	2023-11-22 12:07:29	0	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30305	2023-11-22 12:07:29	0	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30304	2023-11-22 12:07:29	0	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30303	2023-11-22 12:07:28	0	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30302	2023-11-22 12:07:28	0	mP D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30301	2023-11-22 12:07:28	0	mB D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30300	2023-11-22 12:07:28	0	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30299	2023-11-22 12:07:28	0	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30298	2023-11-22 12:07:27	0	FS D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30297	2023-11-22 12:07:26	0	FS D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30296	2023-11-22 12:07:24	0	FS		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30295	2023-11-22 12:06:18	0	FS		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30294	2023-11-22 12:04:13	0	FS		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30293	2023-11-22 12:03:45	0	FS		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30292	2023-11-22 12:03:45	0	FS		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30291	2023-11-22 12:03:45	0	FS		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30290	2023-11-22 12:03:45	0	FS		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30289	2023-11-22 12:03:44	0	FS		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30288	2023-11-22 12:03:44	0	FS D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V			
#	30287	2023-11-22 12:03:44	0	FS D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V	B		
#	30286	2023-11-22 12:03:44	0	FS D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V	B		
#	30285	2023-11-22 12:03:44	0	FS D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V	B		
#	30284	2023-11-22 12:03:44	0	FS D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V	B	B	
#	30283	2023-11-22 12:03:44	0	FS D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V	B	B	
#	30282	2023-11-22 12:03:44	0	D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V	B	B	
#	30281	2023-11-22 12:03:44	0	mB D		OK	OK	OK	OK	CS15 Y		75 cpm	1 02	OK	49835	No Station ID	No Station ID				0.0	0.0	0.0	V	B	B	

ZERO SPEED

Test Run #6 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCOD	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW14	EXTR6.4	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BREQ
Page 45 November 22, 2023																											
#	30280	2023-11-22 12:03:44	0	CT D		OX	OX	OX	OX	CS15 Y			75 cpm	1	02	OX	49835	No Station ID	No Station ID			0.0	0.0	0.0	V	B	B
#	30279	2023-11-22 12:03:44	0	mP D		OX	OX	OX	OX	CS15 Y			75 cpm	1	02	OX	49835	No Station ID	No Station ID			0.0	0.0	0.0	V	B	B
#	30278	2023-11-22 12:03:44	0	D		OX	OX	OX	OX	CS15 Y			75 cpm	1	02	OX	49835	No Station ID	No Station ID			0.0	0.0	0.0	V	B	B
#	30277	2023-11-22 12:03:44	0	MP D		OX	OX	OX	OX	CS15 Y			75 cpm	1	02	OX	49835	No Station ID	No Station ID			0.0	0.0	0.0	V	B	B
#	30276	2023-11-22 12:03:43	0	MP D		OX	OX	OX	OX	CS15 Y			75 cpm	1	02	OX	49835	No Station ID	No Station ID			0.0	0.0	0.0	V	B	B
#	30275	2023-11-22 12:03:42	1	MP D		OX	OX	OX	OX	CS15 Y			75 cpm	1	02	OX	49835	No Station ID	No Station ID			0.0	0.0	0.0	V	B	B
#	30274	2023-11-22 12:03:40	2	MP D		OX	OX	OX	OX	CS15 Y			75 cpm	1	02	OX	49835	No Station ID	No Station ID			0.0	0.0	0.0	V	B	B
#	30273	2023-11-22 12:03:40	1	MP D		OX	OX	OX	OX	CS15 Y			75 cpm	1	02	OX	49835	No Station ID	No Station ID			0.0	0.0	0.0	V	B	B
#	30272	2023-11-22 12:03:34	0	MP D		OX	OX	OX	OX	CS15 Y			75 cpm	1	02	OX	49835	No Station ID	No Station ID			0.0	0.0	0.0	V	B	B
#	30271	2023-11-22 12:03:34	0	MP D		OX	OX	OX	OX	STOP Y				0	00	OX	49835	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30270	2023-11-22 12:03:34	0	MP D	481.2ms	125CPM	400.0ms	83%	STOP Y					0	00	0.106	49835	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30269	2023-11-22 12:03:34	0	MP D	481.2ms	125CPM	400.0ms	83%	STOP Y					0	00	0.066	49835	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30268	2023-11-22 12:03:34	0	MP D	81.2ms	738CPM			STOP Y					0	00	0.066	49835	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30267	2023-11-22 12:03:33	0	MP D	81.2ms	738CPM			STOP Y					0	00	0.061	49835	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30266	2023-11-22 12:03:33	0	MP D	81.2ms	738CPM			STOP Y					0	00	0.053	49835	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30265	2023-11-22 12:03:33	0	MP D					STOP Y					0	00	0.053	49835	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30264	2023-11-22 12:03:28	0	MP D					STOP Y					0	00		49835	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30263	2023-11-22 12:03:28	1	MP D					STOP Y					0	00		49835	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30262	2023-11-22 12:03:28	2	MP D					STOP Y					0	00		49835	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30261	2023-11-22 12:03:27	3	MP D					STOP Y					0	00		49835	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30260	2023-11-22 12:03:27	4	MP D					STOP Y					0	00		49835	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30259	2023-11-22 12:03:25	4	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30258	2023-11-22 12:03:24	3	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30257	2023-11-22 12:03:24	2	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30256	2023-11-22 12:03:23	3	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30255	2023-11-22 12:03:23	3	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0	V	B	B
#	30254	2023-11-22 12:03:23	4	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30253	2023-11-22 12:03:23	5	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30252	2023-11-22 12:03:22	6	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30251	2023-11-22 12:03:22	7	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30250	2023-11-22 12:03:22	8	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30249	2023-11-22 12:03:21	9	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30248	2023-11-22 12:03:21	10	MP D					STOP Y					0	00		49810	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30247	2023-11-22 12:03:21	10	MP D					STOP Y					0	00		49760	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30246	2023-11-22 12:03:20	11	MP D					STOP Y					0	00		49760	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30245	2023-11-22 12:03:20	12	MP D					STOP Y					0	00		49760	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30244	2023-11-22 12:03:20	13	MP D					STOP Y					0	00		49760	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30243	2023-11-22 12:03:20	14	MP D					STOP Y					0	00		49760	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30242	2023-11-22 12:03:20	15	MP D					STOP Y					0	00		49760	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30241	2023-11-22 12:03:19	16	MP D					STOP Y					0	00		49760	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30240	2023-11-22 12:03:19	16	MP D					STOP Y					0	00		49735	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30239	2023-11-22 12:03:19	17	MP D					STOP Y					0	00		49735	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30238	2023-11-22 12:03:18	18	MP D					STOP Y					0	00		49735	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30237	2023-11-22 12:03:18	19	MP D					STOP Y					0	00		49735	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30236	2023-11-22 12:03:18	20	MP D					STOP Y					0	00		49735	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30235	2023-11-22 12:03:18	20	MP D					STOP Y					0	00		49710	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30234	2023-11-22 12:03:17	21	MP D					STOP Y					0	00		49710	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30233	2023-11-22 12:03:17	21	MP D					STOP Y					0	00		49660	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30232	2023-11-22 12:03:17	22	MP D					STOP Y					0	00		49660	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30231	2023-11-22 12:03:17	23	MP D					STOP Y					0	00		49660	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30230	2023-11-22 12:03:16	24	MP D					STOP Y					0	00		49660	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30229	2023-11-22 12:03:16	25	MP D					STOP Y					0	00		49660	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30228	2023-11-22 12:03:16	25	MP D					STOP Y					0	00		49635	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30227	2023-11-22 12:03:16	26	MP D					STOP Y					0	00		49635	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30226	2023-11-22 12:03:15	27	MP D					STOP Y					0	00		49635	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30225	2023-11-22 12:03:15	28	MP D					STOP Y					0	00		49635	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30224	2023-11-22 12:03:15	28	MP D					STOP Y					0	00		49610	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30223	2023-11-22 12:03:15	29	MP D					STOP Y					0	00		49610	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30222	2023-11-22 12:03:14	30	MP D					STOP Y					0	00		49610	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30221	2023-11-22 12:03:14	31	MP D					STOP Y					0	00		49610	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30220	2023-11-22 12:03:14	32	MP D					STOP Y					0	00		49610	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30219	2023-11-22 12:03:14	32	MP D					STOP Y					0	00		49535	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30218	2023-11-22 12:03:13	33	MP D					STOP Y					0	00		49535	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30217	2023-11-22 12:03:13	34	MP D					STOP Y					0	00		49535	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30216	2023-11-22 12:03:13	35	MP D					STOP Y					0	00		49535	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30215	2023-11-22 12:03:13	35	MP D					STOP Y					0	00		49510	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30214	2023-11-22 12:03:13	36	MP D					STOP Y					0	00		49510	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30213	2023-11-22 12:03:13	37	MP D					STOP Y					0	00		49510	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30212	2023-11-22 12:03:12	38	MP D					STOP Y					0	00		49510	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30211	2023-11-22 12:03:12	38	MP D					STOP Y					0	00		49435	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30210	2023-11-22 12:03:12	39	MP D					STOP Y					0	00		49435	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30209	2023-11-22 12:03:12	39	MP D					STOP Y					0	00	0.061	49435	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30208	2023-11-22 12:03:12	40	MP D					STOP Y					0	00	0.061	49435	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30207	2023-11-22 12:03:11	41	MP D					STOP Y					0	00	0.061	49435	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B
#	30206	2023-11-22 12:03:11	42	MP D					STOP Y					0	00	0.061	49435	No Station ID	No Station ID	Y		0.0	0.0	0.0		B	B

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USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A	CAR B	ACTIVE CODE	XIENFORCE ASP	XVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EM TW 1.74	EXT TR 6.	LATERAL C	LONGITUDE C	UERTICAL C	UZERO	BRFB	BREQ
#	30205	2023-11-22 12:03:11	43	MP D						STOP	Y			0	00	0.061	49435	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30204	2023-11-22 12:03:11	43	MP D						STOP	Y			0	00	0.061	49385	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30203	2023-11-22 12:03:10	44	MP D						STOP	Y			0	00		49385	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30202	2023-11-22 12:03:10	45	MP D						STOP	Y			0	00		49385	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30201	2023-11-22 12:03:10	46	MP D						STOP	Y			0	00		49385	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30200	2023-11-22 12:03:10	46	MP D						STOP	Y			0	00		49310	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30199	2023-11-22 12:03:10	47	MP D						STOP	Y			0	00		49310	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30198	2023-11-22 12:03:09	48	MP D						STOP	Y			0	00		49310	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30197	2023-11-22 12:03:09	49	MP D						STOP	Y			0	00	0.082	49310	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30196	2023-11-22 12:03:09	49	MP D	453.8ms	132CPM	46.2ms	10%	STOP	Y				0	00	0.082	49310	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30195	2023-11-22 12:03:09	50	MP D	453.8ms	132CPM	46.2ms	10%	STOP	Y				0	00	0.082	49310	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30194	2023-11-22 12:03:09	50	MP D	453.8ms	132CPM	46.2ms	10%	STOP	Y				0	00	0.082	49235	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30193	2023-11-22 12:03:09	51	MP D	453.8ms	132CPM	46.2ms	10%	STOP	Y				0	00	0.082	49235	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30192	2023-11-22 12:03:09	52	MP D	453.8ms	132CPM	46.2ms	10%	STOP	Y				0	00	0.082	49235	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30191	2023-11-22 12:03:08	53	MP D	453.8ms	132CPM	46.2ms	10%	STOP	Y				0	00	0.082	49235	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30190	2023-11-22 12:03:08	54	MP D	453.8ms	132CPM	46.2ms	10%	STOP	Y				0	00	0.082	49235	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30189	2023-11-22 12:03:08	54	MP D	501.2ms	120CPM	93.8ms	18%	STOP	Y				0	00	0.082	49235	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30188	2023-11-22 12:03:08	55	MP D	540.0ms	111CPM	93.8ms	17%	STOP	Y				0	00	0.082	49235	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30187	2023-11-22 12:03:08	55	MP D	540.0ms	111CPM	93.8ms	17%	STOP	Y				0	00	0.082	49135	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30186	2023-11-22 12:03:08	55	MP D	515.0ms	117CPM	68.8ms	13%	STOP	Y				0	00	0.057	49135	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30185	2023-11-22 12:03:07	55	MP D	68.8ms	873CPM	68.8ms	100%	STOP	Y				0	00	0.045	49135	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30184	2023-11-22 12:03:07	55	MP D						STOP	Y			0	00	0.045	49135	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30183	2023-11-22 12:03:07	55	MP D						STOP	Y			0	00		49135	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	30182	2023-11-22 12:03:07	55	MP D						STOP	Y			0	00		49135	No Station ID	No Station ID		Y	0.0	0.0	0.0			B
#	30181	2023-11-22 12:03:07	55	MP D						STOP	Y			0	00		49085	No Station ID	No Station ID		Y	0.0	0.0	0.0			B
#	30180	2023-11-22 12:03:07	55	MP D						STOP	Y			0	00		49085	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30179	2023-11-22 12:03:06	55	MP D						STOP	Y			0	00		49085	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30178	2023-11-22 12:03:06	55	MP D						STOP	Y			0	00		49010	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30177	2023-11-22 12:03:05	55	MP D						STOP	Y			0	00	0.095	49010	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30176	2023-11-22 12:03:05	55	MP D	196.2ms	306CPM	66.2ms	33%	STOP	Y				0	00	0.095	49010	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30175	2023-11-22 12:03:04	55	MP D	196.2ms	306CPM	66.2ms	33%	STOP	Y				0	00	0.095	48910	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30174	2023-11-22 12:03:04	55	MP D	66.2ms	906CPM	66.2ms	100%	STOP	Y				0	00	0.095	48910	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30173	2023-11-22 12:03:04	55	MP D	66.2ms	906CPM	66.2ms	100%	STOP	Y				0	00	0.074	48910	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30172	2023-11-22 12:03:04	55	MP D	OK	OK	OK	OK	STOP	Y				0	00	OK	48910	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30171	2023-11-22 12:03:04	55	MP D	OK	OK	OK	OK	STOP	Y				0	00	OK	48810	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30170	2023-11-22 12:03:04	55	MP D	OK	OK	OK	OK	STOP	Y				0	00	OK	48810	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30169	2023-11-22 12:03:04	55	MP D	OK	OK	OK	OK	STOP	Y				0	00	OK	48810	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30168	2023-11-22 12:03:04	55	MP D	OK	OK	OK	OK	STOP	Y				0	00	OK	48810	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	30167	2023-11-22 12:03:03	55	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48810	No Station ID	No Station ID			0.0	0.0	0.0			
#	30166	2023-11-22 12:03:03	55	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48810	No Station ID	No Station ID			0.0	0.0	0.0			
#	30165	2023-11-22 12:03:03	55	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48810	No Station ID	No Station ID			0.0	0.0	0.0			
#	30164	2023-11-22 12:03:03	55	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48810	No Station ID	No Station ID			0.0	0.0	0.0			
#	30163	2023-11-22 12:03:03	55	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48810	No Station ID	No Station ID			0.0	0.0	0.0			
#	30162	2023-11-22 12:03:03	54	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48810	No Station ID	No Station ID			0.0	0.0	0.0			
#	30161	2023-11-22 12:03:02	54	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48760	No Station ID	No Station ID			0.0	0.0	0.0			
#	30160	2023-11-22 12:03:01	54	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48685	No Station ID	No Station ID			0.0	0.0	0.0			
#	30159	2023-11-22 12:03:01	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48685	No Station ID	No Station ID			0.0	0.0	0.0			
#	30158	2023-11-22 12:03:01	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48585	No Station ID	No Station ID			0.0	0.0	0.0			
#	30157	2023-11-22 12:03:00	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48585	No Station ID	No Station ID			0.0	0.0	0.0			
#	30156	2023-11-22 12:03:00	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48585	No Station ID	No Station ID			0.0	0.0	0.0			
#	30155	2023-11-22 12:02:59	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	48510	No Station ID	No Station ID			0.0	0.0	0.0			
#	30154	2023-11-22 12:02:59	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48510	No Station ID	No Station ID			0.0	0.0	0.0			
#	30153	2023-11-22 12:02:59	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48460	No Station ID	No Station ID			0.0	0.0	0.0			
#	30152	2023-11-22 12:02:59	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48460	No Station ID	No Station ID			0.0	0.0	0.0			
#	30151	2023-11-22 12:02:59	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48460	No Station ID	No Station ID			0.0	0.0	0.0			
#	30150	2023-11-22 12:02:59	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48460	No Station ID	No Station ID			0.0	0.0	0.0			
#	30149	2023-11-22 12:02:58	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48460	No Station ID	No Station ID			0.0	0.0	0.0			
#	30148	2023-11-22 12:02:57	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48360	No Station ID	No Station ID			0.0	0.0	0.0			
#	30147	2023-11-22 12:02:57	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48285	No Station ID	No Station ID			0.0	0.0	0.0			
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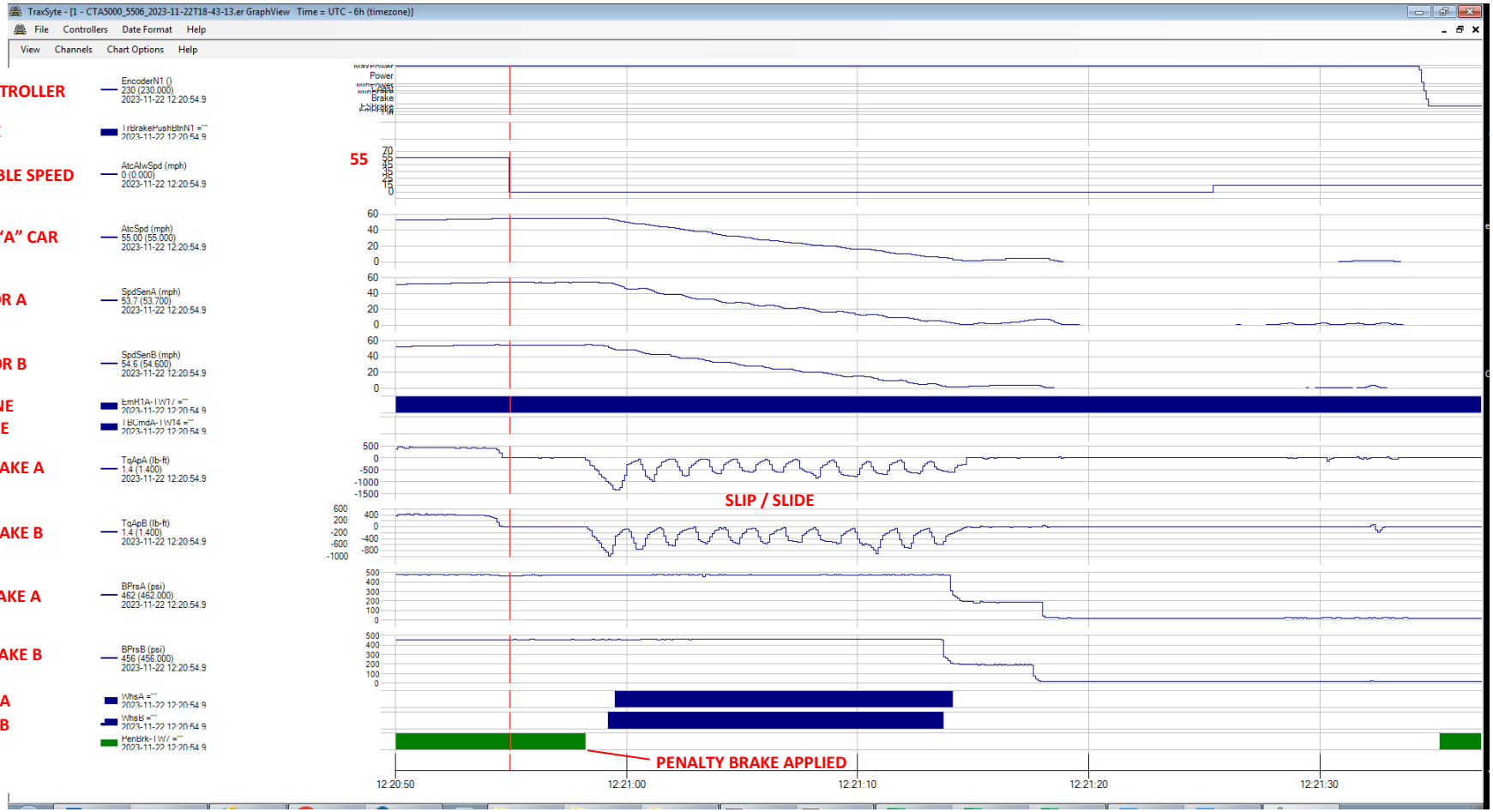
#	30145	2023-11-22 12:02:55	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48185	No Station ID	No Station ID			0.0	0.0	0.0			
#	30144	2023-11-22 12:02:54	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48135	No Station ID	No Station ID			0.0	0.0	0.0			
#	30143	2023-11-22 12:02:53	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48060	No Station ID	No Station ID			0.0	0.0	0.0			
#	30142	2023-11-22 12:02:53	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	48060	No Station ID	No Station ID			0.0	0.0	0.0			
#	30141	2023-11-22 12:02:52	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	47960	No Station ID	No Station ID			0.0	0.0	0.0			
#	30140	2023-11-22 12:02:51	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	47885	No Station ID	No Station ID			0.0	0.0	0.0			
#	30139	2023-11-22 12:02:50	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	47810	No Station ID	No Station ID			0.0	0.0	0.0			
#	30138	2023-11-22 12:02:50	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	47735	No Station ID	No Station ID			0.0	0.0	0.0			
#	30137	2023-11-22 12:02:50	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	47735	No Station ID	No Station ID			0.0	0.0	0.0			
#	30136	2023-11-22 12:02:50	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	47735	No Station ID	No Station ID			0.0	0.0	0.0			
#	30135	2023-11-22 12:02:50	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	47735	No Station ID	No Station ID			0.0	0.0	0.0			
#	30134	2023-11-22 12:02:49	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	47735	No Station ID	No Station ID			0.0	0.0	0.0			
#	30133	2023-11-22 12:02:49	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	47735	No Station ID	No Station ID			0.0	0.0	0.0			
#	30132	2023-11-22 12:02:48	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	47660	No Station ID	No Station ID			0.0	0.0	0.0			
#	30131	2023-11-22 12:02:48	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	47660	No Station ID	No Station ID			0.0	0.0	0.0			

STOP CODE

LOSS OF CAB

Test Run #6 ERU Event Log



CHICAGO TRANSIT AUTHORITY

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MEMO:

DATE: December 15, 2023

TO: Nancy-Ellen Zusman, CTA Chief Safety and Security Officer

FROM: James Harper, Chief Engineer Infrastructure

RE: November 16, 2023 Collision on Yellow Line Between Revenue Train and Snow Fighter
Results of Post-Incident Re-Enactment #3 and Mitigation Efforts Using Test Trains

Event Synopsis

On Thursday, November 16, 2023, at approximately 10:30 hours in the morning, Chicago Transit Authority (CTA) Yellow Line Run #593 was operating as a two-car consist (lead car 5600) on a normal round trip towards Howard Terminal. As the train approached Howard Terminal in the southbound direction, it struck maintenance vehicle S500, a non-revenue, diesel powered locomotive used to remove snow from the tracks (also known as a Snow Fighter). There were six CTA employees onboard the Snow Fighter and 31 passengers and crew onboard the revenue train.

Test Train Re-Enactments

Test Train Re-Enactment #3 (November 27, 2023)

This section provides a report on the efforts by CTA on November 27, 2023 to re-enact the collision conditions using a test train and using simulated occupancy of the section of track that the Snow Fighter was occupying at the time of the incident.

Re-Enactment #3 was performed for the following reasons:

- Attempt to demonstrate the effects of slippery rail on the overall braking capabilities of the train.
- Attempt to demonstrate how the train reacts to the presence of a train ahead by simulating the presence of a train in the section of track that the Snow Fighter was occupying.
- Attempt to understand how the slip/slide system on the trains can affect train braking performance.
- Attempt to understand how the train reacts to a slip/slide condition without operator intervention and how this may affect overall braking performance.
- Attempt to understand if cleaning rails can affect train braking performance.

The test train (head car 5505) was staged at the Skokie-Dempster Station at approximately 1000 hours on Monday, November 27, 2023. The re-enactment was supported by staff from CTA Signal Maintenance and CTA Track Maintenance.

In addition, the following CTA participants participated in the review:

- Jim Harper, CTA Chief Engineer
- Carrie Wagener, CTA First Deputy Chief Engineer
- Cody Krezinski, CTA Engineer III – Civil / Track
- Brent Frey, CTA Signal Engineer I
- Kevin Carney, CTA Transit System Safety Officer
- Grant Macey, CTA Chief Rail Equipment Engineer
- Chris Hegarty, CTA General Manager, Rail Engineering & Instruction
- CTA Train Operator
- CTA Rail Operations Supervisor

The signal system track circuits involved in the incident, and in re-enactment tests, are shown in Figure 1 below. The figure includes a note where the zero speed command is received when a train occupies the track circuit that was occupied by the Snow Fighter at the time of the incident (SKI-9T track circuit). The figure also shows the length of each track circuit involved and the location of the accident relative to the start of the SK1-9T track circuit.

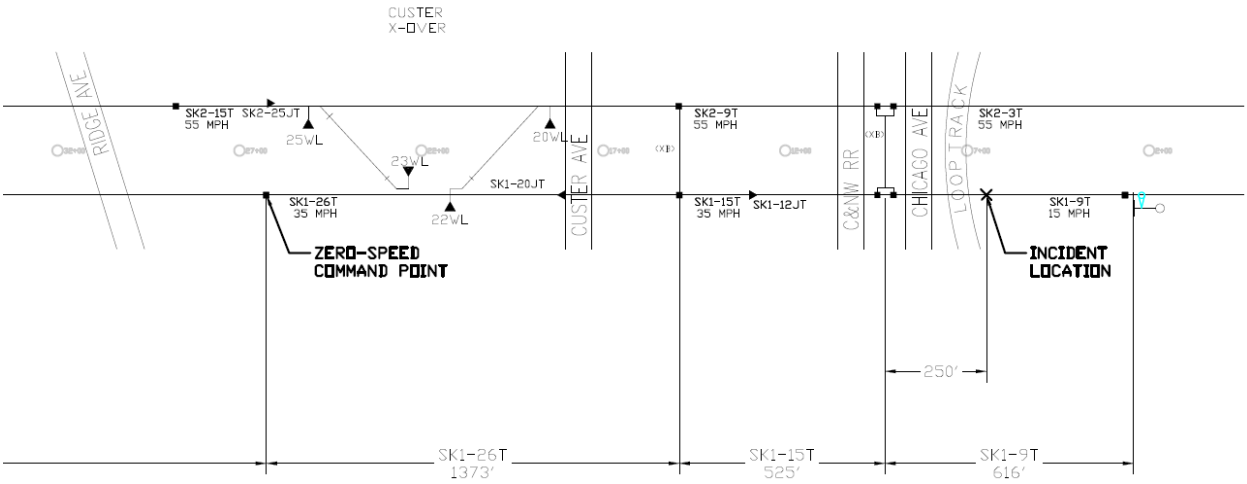


***Figure #1**: Track Circuits involved in the November 16, 2023 Accident*

All temporary slow zones implemented after the accident were removed at the start of the test to simulate the conditions under which the incident train operated. A total of 13 test runs were conducted as part of Figure 2 below provides a tabulation of all 13 test run results.

Test Date	11/27/2023
Test Time	10:00
General Conditions	25F, Clear
Test Trainset	5505-5506
For all runs:	Freshly power-washed rails
Notes:	Simulated Location of Snow Fighter was 250' beyond entrance to 9T (any stopping distance beyond 9T greater than 250' (+) (shown in red implies collision)
	Simulated location of Snow Fighter was done using a track shunt at collision location.
	Cells shown in green indicate train stopped safely short of the 9T track circuit ahead

Test Run Number	Simulated occupancy of 9T	Max Speed (mph)	Distance to full stop before (-)/beyond (+) entrance to 9T (feet)	Average Brake Rate (mph/s)	Collision with Simulated Snow Fighter?	Comments
1	Y	55	-236	1.8	N	No Operator Intervention; Train automatically deployed penalty brake after entering 26T and reaction time ran.
2	Y	55	168	1.6	N	Operator reacted to steady red audible and used full service brake, no track brake.
2, Take 2	Y	55	293	1.6	Y	Operator reacted to steady red audible and used full service brake, no track brake.
3	Y	55	-454	2.3	N	Operator reacted to steady red audible and used full service brake, track brake deployed early in braking event prior to reaching point where simulated snow fighter could be seen.
3, Take 2	Y	55	50	1.5	N	Operator reacted to steady red audible and used full service brake, track brake deployed when simulated snow fighter position came into view.
3A	Y	55	53	1.8	N	Operator reacted to steady red audible and used full service brake, transitioned to "full emergency" position when simulated snow fighter position came into view.
4	Y	35	-518	1.8	N	No Operator Intervention; Train automatically deployed penalty brake after entering 26T and reaction time ran.
5	Y	35	-628	1.9	N	Operator reacted to steady red audible and used full service brake, no track brake
6	Y	55	257	1.4	Y	No Operator Intervention; Train automatically deployed penalty brake after entering 26T and reaction time ran (repeat of Run #1).
7	Y	55	532	1.0	Y	No Operator Intervention; Train automatically deployed penalty brake after entering 26T and reaction time ran. Vehicle Engineering modified the slip/slide software to introduce track brake during slip/slide condition.
8	Y	55	-81	1.4	N	No Operator Intervention; Train automatically deployed penalty brake after entering 26T and reaction time ran. Vehicle Engineering modified the slip/slide software to introduce track brake during slip/slide condition.
9	Y	55	453	0.9	Y	No Operator Intervention; train automatically deployed penalty brake after entering 26T and reaction time ran. Vehicle Engineering modified the slip/slide software to introduce track brake during slip/slide condition.
10	Y	55	-49	1.3	N	No Operator Intervention; train automatically deployed penalty brake after entering 26T and reaction time ran. Vehicle Engineering modified the slip/slide software to introduce track brake during slip/slide condition.

SK1 track segments, towards Howard: 44T-26T-15T-9T
"Zero-speed command point (26T bond)" is transition between 44T and 26T, before Custer x-over

***Figure #2**: Results of November 27, 2023 Re-Enactment #3 Test Runs*

All test runs were set up with a simulated train in the section of track that contained the Snow Fighter (the SK1-9T track circuit). The simulation was performed by forcing the track circuit into an occupied state using control equipment in the signal bungalow. The expectation for the test runs was that the train would reach a speed of approximately 35 or 55 mph and would react to a zero-speed (stop code) cab command at the start of the SK1-26T track circuit at the top of the downhill grade (as designed). The rails were previously power washed to determine if cleaning would have an effect on brake rates. In addition, the Vehicle Engineering team modified the slip/slide software to introduce the Track Brake during slip/slide conditions for the final four test runs. Data from test train 5505 for all test runs was recovered and analyzed as part of this review. ATC data and ERU data for each run is found in Appendices I – X.

Test Runs #1 – 10 (November 27, 2023)

Test Run #1: No Operator Intervention | 55 mph

Test Run #1 was performed with a simulated train in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it reached before receiving a red cab signal stop code as seen in Figure 3 below. The operator of the train did not apply a braking application (the operator retained the master controller in the propulsion position) and the train received a penalty brake after entering SK1-26T as a result. The train came to a complete stop (see Figure 4 below) roughly 236 feet ahead of the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter and met the maximum safe braking distance. The train experienced roughly nine seconds of slip/slide conditions and the average brake rate was approximately 1.8 mph/s.

***Figure #3**: Test Run #1 – Speed when stop code command was received from signal system*

***Figure #4**: Test Run #1 – Location where train came to a stop*

Test Run #2: Full Service Brake | 55 mph

Test Run #2 was performed with a simulated train in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it nearly reached before receiving a red cab signal stop code as seen in Figure 5 below. The operator of the train immediately applied the Full Service Brake. The train came to a complete stop (see Figure 6 below) roughly 168 feet beyond the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter, but still violated the maximum safe braking distance assumed by the wayside signal system. The train experienced roughly 16 seconds of slip/slide conditions and the average brake rate was approximately 1.6 mph/s.

***Figure #5**: Test Run #2 – Speed when stop code command was received from signal system*

***Figure #6**: Test Run #2 – Location where train came to a stop*

Test Run #2, Take 2: Full Service Brake | 55 mph

Test Run #2, Take 2, was performed with a simulated train in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it reached before receiving a red cab signal stop code as seen in Figure 7 below. The operator of the train immediately applied the Full Service Brake. The train came to a complete stop (see Figure 8 below) roughly 298 feet beyond the entrance of SK1-9T, which would have resulted in a collision with the simulated Snow Fighter. The train experienced roughly 16 seconds of slip/slide conditions and the average brake rate was approximately 1.58 mph/s.

***Figure #7**: Test Run #2-Take 2 – Speed when stop code command was received from signal system*

***Figure #8**: Test Run #2-Take 2 – Location where train came to a stop*

Test Run #3: Full Service Brake & Track Brake| 55 mph

Test Run #3 was performed with a simulated train in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it nearly reached before receiving a red cab signal stop code as seen in Figure 9 below. The operator of the train immediately applied the Full Service Brake and deployed the Track Brake ahead of when the simulated Snow Fighter came into view. The train came to a complete stop (see Figure 10 below) roughly 454 feet ahead of the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter and met the maximum safe braking distance. The train experienced roughly 10 seconds of slip/slide conditions and the average brake rate was approximately 2.3 mph/s.

***Figure #9**: Test Run #3 – Speed when stop code command was received from signal system*

***Figure #10**: Test Run #3 – Location where train came to a stop*

Test Run #3, Take 2: Full Service Brake & Track Brake | 55 mph

Test Run #3, Take 2, was performed with a simulated train in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it reached before receiving a red cab signal stop code as seen in Figure 11 below. The operator of the train immediately applied the Full Service Brake and deployed the Track Brake when the simulated Snow Fighter came into view. The train came to a complete stop (see Figure 12 below) roughly 50 feet beyond the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter, but still violated the maximum safe braking distance assumed by the wayside signal system. The train experienced roughly 19 seconds of slip/slide conditions and the average brake rate was approximately 1.54 mph/s.

***Figure #11**: Test Run #3-Take 2 – Speed when stop code command was received from signal*

***Figure #12**: Test Run #3-Take 2 – Location where train came to a stop*

Test Run #3A: Full Service Brake & Emergency | 55 mph

Test Run #3A was performed with a simulated train in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it reached before receiving a red cab signal stop code as seen in Figure 13 below. The operator of the train immediately applied the Full Service Brake and entered Emergency when the simulated Snow Fighter came into view. The train came to a complete stop (see Figure 14 below) roughly 53 feet beyond the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter, but still violated the maximum safe braking distance assumed by the wayside signal system. The train experienced roughly 17 seconds of slip/slide conditions and the average brake rate was approximately 1.83 mph/s.

***Figure #13**: Test Run #3A – Speed when stop code command was received from signal system*

***Figure #14**: Test Run #3A – Location where train came to a stop*

Test Run #4: No Operator Intervention | 35 mph

Test Run #4 was performed with a simulated train in the SK1-9T track circuit. The train was given a maximum allowable speed of 35 mph, which it reached before receiving a red cab signal stop code as seen in Figure 15 below. The operator of the train did not apply a braking application (the operator retained the master controller in the propulsion position) and the train received a penalty brake after entering SK1-26T as a result. The train came to a complete stop (see Figure 16 below) roughly 518 feet ahead of the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter and met the maximum safe braking distance. The train experienced roughly nine seconds of slip/slide conditions and the average brake rate was approximately 1.83 mph/s.

***Figure #15**: Test Run #4 – Speed when stop code command was received from signal system*

***Figure #16**: Test Run #4 – Location where train came to a stop*

Test Run #5: Full Service Brake | 35 mph

Test Run #5 was performed with a simulated train in the SK1-9T track circuit. The train was given a maximum allowable speed of 35 mph, which it nearly reached before receiving a red cab signal stop code as seen in Figure 17 below. The operator of the train immediately applied the Full Service Brake. The train came to a complete stop (see Figure 18 below) roughly 628 feet ahead of the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter and met the maximum safe braking distance. The train experienced roughly eight seconds of slip/slide conditions and the average brake rate was approximately 1.94 mph/s.

***Figure #17**: Test Run #5 – Speed when stop code command was received from signal system*

***Figure #18**: Test Run #5 – Location where train came to a stop*

Test Run #6: No Operator Intervention | 55 mph

Test Run #6 was a repeat of Test Run #1 and was performed with a simulated train in the SK1-9T track circuit. The train was given a maximum allowable speed of 55 mph, which it reached before receiving a red cab signal stop code as seen in Figure 19 below. The operator of the train did not apply a braking application (the operator retained the master controller in the propulsion position) and the train received a penalty brake after entering SK1-26T as a result. The train came to a complete stop (see Figure 20 below) roughly 257 feet beyond the entrance of SK1-9T, which would have resulted in a collision with the simulated Snow Fighter. The train experienced roughly 13 seconds of slip/slide conditions and the average brake rate was approximately 1.38 mph/s.

***Figure #19**: Test Run #6 – Speed when stop code command was received from signal system*

***Figure #20**: Test Run #6 – Location where train came to a stop*

Test Run #7: No Operator Intervention and Modified Slip/Slide Software | 55 mph

Test Run #7 was performed with a simulated train in the SK1-9T track circuit. Vehicle Engineering modified the slip/slide software to introduce track braking during slip/slide detection. The train was given a maximum allowable speed of 55 mph, which it reached before receiving a red cab signal stop code as seen in Figure 21 below. The operator of the train did not apply a braking application (the operator retained the master controller in the propulsion position) and the train received a penalty brake after entering SK1-26T as a result. The train came to a complete stop (see Figure 22 below) roughly 532 feet beyond the entrance of SK1-9T, which would have resulted in a collision with the simulated Snow Fighter. The train experienced roughly 14 seconds of slip/slide conditions and the average brake rate was approximately 0.98 mph/s.

***Figure #21**: Test Run #7 – Speed when stop code command was received from signal system*

***Figure #22**: Test Run #7 – Location where train came to a stop*

Test Run #8: No Operator Intervention and Modified Slip/Slide Software | 55 mph

Test Run #8 was performed with a simulated train in the SK1-9T track circuit. Vehicle Engineering modified the slip/slide software to introduce track braking during slip/slide detection. The train was given a maximum allowable speed of 55 mph, which it reached before receiving a red cab signal stop code as seen in Figure 23 below. The operator of the train did not apply a braking application (the operator retained the master controller in the propulsion position) and the train received a penalty brake after entering SK1-26T as a result. The train came to a complete stop (see Figure 24 below) roughly 81feet ahead of the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter and met the maximum safe braking distance. The train experienced roughly 11 seconds of slip/slide conditions and the average brake rate was approximately 1.37 mph/s.

***Figure #23**: Test Run #8 – Speed when stop code command was received from signal system*

***Figure #24**: Test Run #8 – Location where train came to a stop*

Test Run #9: No Operator Intervention and Modified Slip/Slide Software | 55 mph

Test Run #9 was performed with a simulated train in the SK1-9T track circuit. Vehicle Engineering modified the slip/slide software to introduce track braking during slip/slide detection. The train was given a maximum allowable speed of 55 mph, which it nearly reached before receiving a red cab signal stop code as seen in Figure 25 below. The operator of the train did not apply a braking application (the operator retained the master controller in the propulsion position) and the train received a penalty brake after entering SK1-26T as a result. The train came to a complete stop (see Figure 26 below) roughly 453 feet beyond the entrance of SK1-9T, which would have resulted in a collision with the simulated Snow Fighter. The train experienced roughly 10 seconds of slip/slide conditions and the average brake rate was approximately 0.88 mph/s.

***Figure #25**: Test Run #9 – Speed when stop code command was received from signal system*

***Figure #26**: Test Run #9 – Location where train came to a stop*

Test Run #10: No Operator Intervention and Modified Slip/Slide Software | 55 mph

Test Run #10 was performed with a simulated train in the SK1-9T track circuit. Vehicle Engineering modified the slip/slide software to introduce track braking during slip/slide detection. The train was given a maximum allowable speed of 55 mph, which it reached before receiving a red cab signal stop code as seen in Figure 27 below. The operator of the train did not apply a braking application (the operator retained the master controller in the propulsion position) and the train received a penalty brake after entering SK1-26T as a result. The train came to a complete stop (see Figure 28 below) roughly 49 feet ahead of the entrance of SK1-9T, which would have avoided a collision with the simulated Snow Fighter and met the maximum safe braking distance. The train experienced roughly 11 seconds of slip/slide conditions and the average brake rate was approximately 1.25 mph/s.

***Figure #27**: Test Run #10 – Speed when stop code command was received from signal system*

***Figure #28**: Test Run #10 – Location where train came to a stop*

Conclusions

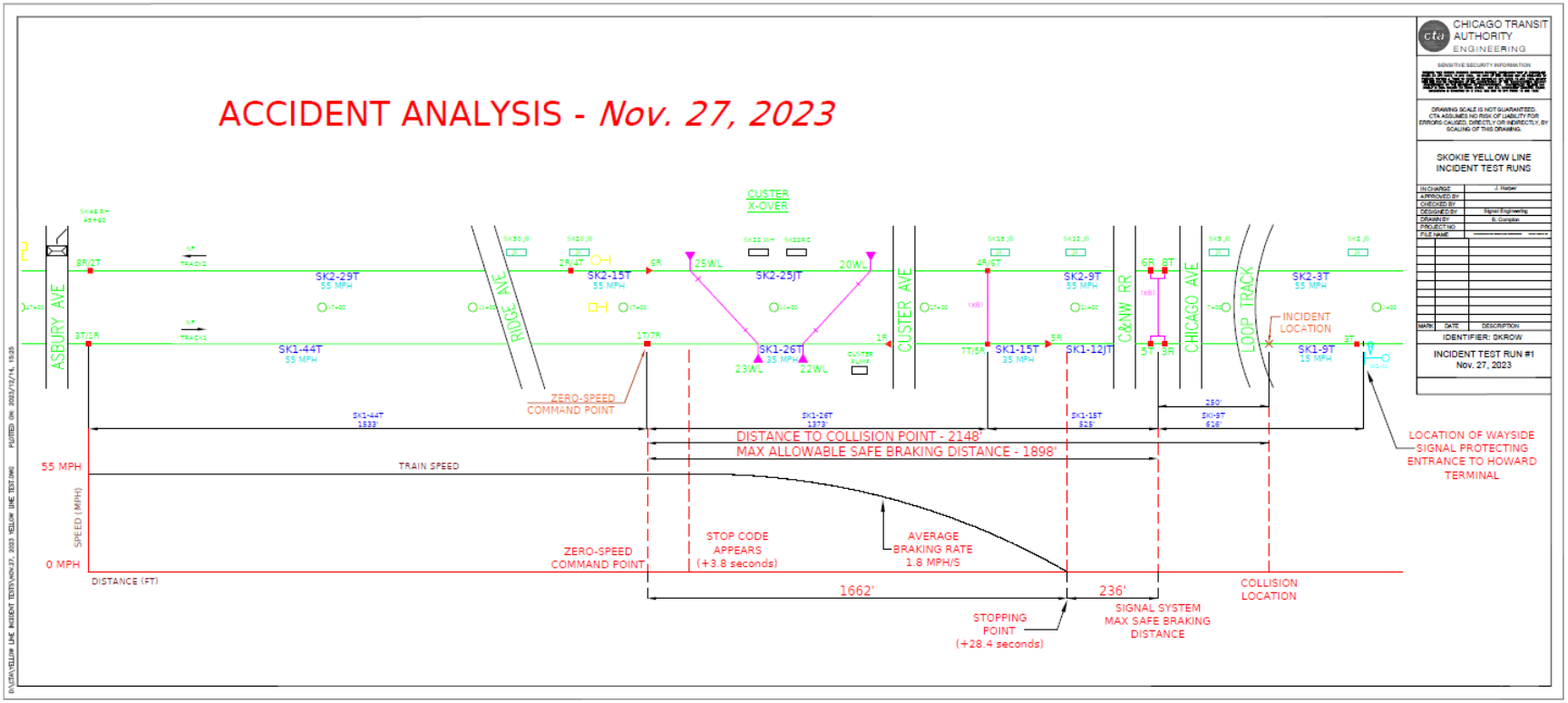
The following conclusions can be derived from this series of re-enactments:

- When entering the SK1-26T track circuit (at the top of the downhill grade where they received a zero speed stop command due to a "train ahead" condition) at 55 mph, the test train was not able to consistently brake to zero speed using the Full Service Brake (see Test Run #2 and #2, Take 2) before entering the SK1-9T track circuit (the limit of the maximum safe braking distance assumed by the wayside signal system). Brake rates for these runs were: Test Run #2 – 1.6 mph/s; Test Run #2, Take 2 – 1.58 mph/s (compared to CTA's standard braking model brake rate of 1.9 mph/s).
- When the maximum allowable speed in approach to the downhill grade was reduced to 35 mph, the test train was able to automatically brake without operator intervention with a large safety margin (see Test Run #4). The train experienced slip/slide conditions on the downhill grade for roughly nine seconds when it entered the downhill grade at this reduced speed, and experienced an average brake rate of 1.83 mph/s. When the operator applied the Full Service Brake after receiving the zero speed stop command with a 35 mph approach speed (see Test Run #5), the train stopped with an even greater margin of safety, with average brake rate of 1.94 mph/s.
- The test runs indicated that slip/slide conditions appear to significantly affect train braking performance when entering a downhill grade at 55 mph, to the point where brake rates are well below the degraded rate assumed in the signal system design. When entering speeds were reduced to 35 mph, the train was able to brake within the brake rate assumptions used in CTA's standard braking model.
- Prior to running Day 3 of re-enactments, the running rails on the downhill grade were cleaned to remove foreign organic material (leaves) that appeared to have exacerbated the slip/slide conditions experienced by the November 16 incident train. The results of the Day 3 test runs indicated an improvement in average brake rates for the various runs (e.g., the November 22 Test Run #1 Brake Rate = 1.3 mph/s vs. the November 27 Run #1 Brake Rate = 1.8 mph/s).
- Test train braking performance continued to show wide swings in braking distances/rates under the same test parameters (e.g. Test Run #1 and Test Run #6 had same parameters but had nearly a 500 feet difference in braking distance).
- The train's braking systems (in particular dynamic braking and friction braking) responded to the slip/slide conditions in varying ways, especially if the speed sensors dropped to zero speed as a result of the wheels locking up and sliding. The dynamic brakes appear to "turn off" when zero speed is sensed, even if the train is still moving (sliding) at a high rate of speed. The friction brakes activate as zero speed is sensed, but then behave erratically as the sensed speed increases again.
- When Vehicle Engineering modified the vehicle slip/slide software to introduce the Track Brake during slip/slide conditions for the final four test runs, results varied that included the test train stopping short of the SK1-9T circuit, and also exceeding the circuit and location of the simulated Snow Fighter. In two cases, Test Run #7 and Test Run #9, the vehicle appears to lose all forms of braking.

Appendices I – X

Appendix I: Test Run #1 Analysis

Test Run #1 Track Circuit Diagram and Vehicle Response



Test Run #1 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #1		
Criteria	**Time**	**Distance**
Loss of Cab	10:42:31	46040
Stop Code	10:42:35	46290
Zero Speed	10:43:04	47765

Rail vehicle speed at loss of cab: **53 mph**

Total distance from brake application to stopping point: **N/A**

Total time from brake application to stopping point: **N/A**

Test Run #1 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXTR64	LATERAL C	LONGITUDE C	UERTICAL C	UZERO	BRFB	BRREQ
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#	8147	2023-11-27 10:47:46	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	8146	2023-11-27 10:47:46	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	8145	2023-11-27 10:47:45	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	8144	2023-11-27 10:47:44	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	8143	2023-11-27 10:47:43	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	8142	2023-11-27 10:47:43	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	8141	2023-11-27 10:47:43	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	8140	2023-11-27 10:47:42	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	8139	2023-11-27 10:47:42	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	8138	2023-11-27 10:47:42	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	8137	2023-11-27 10:47:41	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	8136	2023-11-27 10:47:41	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	8135	2023-11-27 10:47:41	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	8134	2023-11-27 10:47:07	0	OF						STOP				0	00		46738	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	8133	2023-11-27 10:47:07	0	OF						STOP	Y			0	00		46738	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	8132	2023-11-27 10:47:06	0	OF	D					STOP	Y			0	00		46738	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	8131	2023-11-27 10:47:06	0	OF	D					STOP	Y			0	00		46738	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	8130	2023-11-27 10:47:06	0	FS	D					STOP	Y			0	00		46738	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	8129	2023-11-27 10:46:51	0	FS	D					STOP	Y			0	00		46738	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	8128	2023-11-27 10:46:50	0	FS	D					STOP	Y			0	00		46738	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	8127	2023-11-27 10:46:40	0	FS						STOP	Y			0	00		46738	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	8126	2023-11-27 10:46:34	0	FS	D					STOP	Y			0	00		46738	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	8125	2023-11-27 10:45:15	0	FS						STOP	Y			0	00		46738	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	8124	2023-11-27 10:44:57	0	FS						STOP	Y			0	00		46738	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	8123	2023-11-27 10:44:40	0	FS						STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	8122	2023-11-27 10:43:08	0	FS						STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	8121	2023-11-27 10:43:08	0	FS	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	8120	2023-11-27 10:43:08	0	FS	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	8119	2023-11-27 10:43:08	0	FS	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	8118	2023-11-27 10:43:07	0	FS	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	8117	2023-11-27 10:43:07	0	FS	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	8116	2023-11-27 10:43:07	0	FS	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8115	2023-11-27 10:43:07	0	FS	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8114	2023-11-27 10:43:07	0		D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8113	2023-11-27 10:43:07	0	mB	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8112	2023-11-27 10:43:07	0	CT	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8111	2023-11-27 10:43:07	0	mP	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8110	2023-11-27 10:43:07	0		D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8109	2023-11-27 10:43:04	0	MP	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8108	2023-11-27 10:43:03	1	MP	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8107	2023-11-27 10:43:03	2	MP	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8106	2023-11-27 10:43:02	3	MP	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8105	2023-11-27 10:43:02	3	MP	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	8104	2023-11-27 10:43:02	4	MP	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8103	2023-11-27 10:43:02	5	MP	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8102	2023-11-27 10:43:01	6	MP	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8101	2023-11-27 10:43:01	7	MP	D					STOP	Y			0	00		47765	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8100	2023-11-27 10:43:01	7	MP	D					STOP	Y			0	00		47740	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8099	2023-11-27 10:43:01	8	MP	D					STOP	Y			0	00		47740	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8098	2023-11-27 10:43:00	9	MP	D					STOP	Y			0	00		47740	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8097	2023-11-27 10:43:00	10	MP	D					STOP	Y			0	00		47740	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8096	2023-11-27 10:43:00	11	MP	D					STOP	Y			0	00		47740	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8095	2023-11-27 10:42:59	12	MP	D					STOP	Y			0	00		47740	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8094	2023-11-27 10:42:59	13	MP	D					STOP	Y			0	00		47740	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8093	2023-11-27 10:42:59	13	MP	D					STOP	Y			0	00		47715	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8092	2023-11-27 10:42:59	14	MP	D					STOP	Y			0	00		47715	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8091	2023-11-27 10:42:58	15	MP	D					STOP	Y			0	00		47715	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8090	2023-11-27 10:42:58	16	MP	D					STOP	Y			0	00		47715	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8089	2023-11-27 10:42:57	17	MP	D					STOP	Y			0	00		47715	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8088	2023-11-27 10:42:57	18	MP	D					STOP	Y			0	00		47715	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8087	2023-11-27 10:42:57	19	MP	D					STOP	Y			0	00		47715	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8086	2023-11-27 10:42:57	19	MP	D					STOP	Y			0	00		47665	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8085	2023-11-27 10:42:56	20	MP	D					STOP	Y			0	00		47665	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8084	2023-11-27 10:42:56	19	MP	D					STOP	Y			0	00		47665	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8083	2023-11-27 10:42:56	18	MP	D					STOP	Y			0	00		47665	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8082	2023-11-27 10:42:56	18	MP	D					STOP	Y			0	00		47640	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8081	2023-11-27 10:42:55	19	MP	D					STOP	Y			0	00		47640	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8080	2023-11-27 10:42:55	20	MP	D					STOP	Y			0	00		47640	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8079	2023-11-27 10:42:55	21	MP	D					STOP	Y			0	00		47640	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8078	2023-11-27 10:42:55	21	MP	D					STOP	Y			0	00		47615	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8077	2023-11-27 10:42:54	22	MP	D					STOP	Y			0	00		47615	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8076	2023-11-27 10:42:54	23	MP	D					STOP	Y			0	00		47615	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8075	2023-11-27 10:42:54	23	MP	D					STOP	Y			0	00		47540	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8074	2023-11-27 10:42:53	24	MP	D					STOP	Y			0	00		47540	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	8073	2023-11-27 10:42:53	23	MP	D					STOP	Y			0	00		47540	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B

ZERO SPEED

Test Run #1 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW14	EXT R6.4	LATERAL C	LONGITUDE C	VERTICAL C	UZERO	BRFB	BREQ
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#	8072	2023-11-27 10:42:53	23	MP	D					STOP	Y			0	00		47515	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8071	2023-11-27 10:42:52	22	MP	D					STOP	Y			0	00		47515	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8070	2023-11-27 10:42:52	22	MP	D					STOP	Y			0	00		47490	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8069	2023-11-27 10:42:52	23	MP	D					STOP	Y			0	00		47490	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8068	2023-11-27 10:42:51	24	MP	D					STOP	Y			0	00		47490	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8067	2023-11-27 10:42:51	23	MP	D					STOP	Y			0	00		47490	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8066	2023-11-27 10:42:51	23	MP	D					STOP	Y			0	00		47415	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8065	2023-11-27 10:42:50	22	MP	D					STOP	Y			0	00		47415	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8064	2023-11-27 10:42:50	23	MP	D					STOP	Y			0	00		47415	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8063	2023-11-27 10:42:50	24	MP	D					STOP	Y			0	00		47415	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8062	2023-11-27 10:42:50	24	MP	D					STOP	Y			0	00		47340	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8061	2023-11-27 10:42:50	25	MP	D					STOP	Y			0	00		47340	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8060	2023-11-27 10:42:49	26	MP	D					STOP	Y			0	00		47340	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8059	2023-11-27 10:42:48	26	MP	D					STOP	Y			0	00		47315	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8058	2023-11-27 10:42:47	26	MP	D					STOP	Y			0	00		47240	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8057	2023-11-27 10:42:47	27	MP	D					STOP	Y			0	00		47240	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8056	2023-11-27 10:42:47	28	MP	D					STOP	Y			0	00		47240	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8055	2023-11-27 10:42:47	29	MP	D					STOP	Y			0	00		47240	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8054	2023-11-27 10:42:47	29	MP	D					STOP	Y			0	00		47190	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8053	2023-11-27 10:42:46	30	MP	D					STOP	Y			0	00		47190	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8052	2023-11-27 10:42:46	30	MP	D					STOP	Y			0	00		47115	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8051	2023-11-27 10:42:46	31	MP	D					STOP	Y			0	00		47115	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8050	2023-11-27 10:42:45	32	MP	D					STOP	Y			0	00		47115	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8049	2023-11-27 10:42:45	33	MP	D					STOP	Y			0	00		47115	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8048	2023-11-27 10:42:45	34	MP	D					STOP	Y			0	00	0.059	47115	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8047	2023-11-27 10:42:45	35	MP	D					STOP	Y			0	00	0.059	47115	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8046	2023-11-27 10:42:45	35	MP	D					STOP	Y			0	00	0.059	47040	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8045	2023-11-27 10:42:44	36	MP	D					STOP	Y			0	00	0.059	47040	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8044	2023-11-27 10:42:44	36	MP	D					STOP	Y			0	00	0.072	47040	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8043	2023-11-27 10:42:44	36	MP	D					STOP	Y			0	00	0.072	46990	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8042	2023-11-27 10:42:44	37	MP	D					STOP	Y			0	00	0.072	46990	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8041	2023-11-27 10:42:44	37	MP	D					STOP	Y			0	00	0.066	46990	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8040	2023-11-27 10:42:43	38	MP	D					STOP	Y			0	00	0.066	46990	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8039	2023-11-27 10:42:43	39	MP	D					STOP	Y			0	00	0.066	46990	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8038	2023-11-27 10:42:43	40	MP	D					STOP	Y			0	00	0.108	46990	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8037	2023-11-27 10:42:43	40	MP	D	180.0ms	333CPM	38.8ms	21%	STOP	Y			0	00	0.108	46990	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8036	2023-11-27 10:42:43	40	MP	D	180.0ms	333CPM	38.8ms	21%	STOP	Y			0	00	0.108	46890	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8035	2023-11-27 10:42:42	41	MP	D	180.0ms	333CPM	38.8ms	21%	STOP	Y			0	00	0.108	46890	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8034	2023-11-27 10:42:42	42	MP	D	180.0ms	333CPM	38.8ms	21%	STOP	Y			0	00	0.108	46890	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8033	2023-11-27 10:42:42	42	MP	D					STOP	Y			0	00	0.065	46890	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8032	2023-11-27 10:42:42	43	MP	D					STOP	Y			0	00		46890	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8031	2023-11-27 10:42:42	43	MP	D					STOP	Y			0	00		46815	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8030	2023-11-27 10:42:42	44	MP	D					STOP	Y			0	00		46815	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8029	2023-11-27 10:42:41	45	MP	D					STOP	Y			0	00		46815	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8028	2023-11-27 10:42:41	45	MP	D					STOP	Y			0	00		46765	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8027	2023-11-27 10:42:41	46	MP	D					STOP	Y			0	00		46765	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8026	2023-11-27 10:42:41	47	MP	D					STOP	Y			0	00		46765	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8025	2023-11-27 10:42:40	48	MP	D					STOP	Y			0	00		46765	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8024	2023-11-27 10:42:40	49	MP	D					STOP	Y			0	00		46765	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8023	2023-11-27 10:42:40	50	MP	D					STOP	Y			0	00		46765	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8022	2023-11-27 10:42:40	50	MP	D					STOP	Y			0	00		46665	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8021	2023-11-27 10:42:39	51	MP	D					STOP	Y			0	00		46665	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8020	2023-11-27 10:42:39	52	MP	D					STOP	Y			0	00		46665	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8019	2023-11-27 10:42:39	53	MP	D					STOP	Y			0	00		46665	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8018	2023-11-27 10:42:39	53	MP	D					STOP	Y			0	00		46590	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8017	2023-11-27 10:42:39	54	MP	D					STOP	Y			0	00		46590	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8016	2023-11-27 10:42:38	55	MP	D					STOP	Y			0	00		46590	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8015	2023-11-27 10:42:38	55	MP	D					STOP	Y			0	00	0.085	46590	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8014	2023-11-27 10:42:38	55	MP	D					STOP	Y			0	00	0.085	46515	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	8013	2023-11-27 10:42:38	55	MP	D					STOP	Y			0	00	0.085	46515	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	
#	8012	2023-11-27 10:42:37	54	MP	D					STOP	Y			0	00	0.085	46515	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	
#	8011	2023-11-27 10:42:37	54	MP	D					STOP	Y			0	00		46515	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	
#	8010	2023-11-27 10:42:37	54	MP	D					STOP	Y			0	00		46515	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	8009	2023-11-27 10:42:37	54	MP	D					STOP	Y			0	00		46515	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	8008	2023-11-27 10:42:36	54	MP	D					STOP	Y			0	00		46440	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	8007	2023-11-27 10:42:35	54	MP	D					STOP	Y			0	00		46365	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	8006	2023-11-27 10:42:35	54	MP	D					STOP	Y			0	00		46290	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	8005	2023-11-27 10:42:35	54	MP	D	OK	OK	OK	OK	STOP	Y			0	00	OK	46290	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	8004	2023-11-27 10:42:35	54	MP	D	OK	OK	OK	OK	STOP	Y			0	00	OK	46290	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	8003	2023-11-27 10:42:35	54	MP	D	OK	OK	OK	OK	STOP	Y			0	00	OK	46290	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	8002	2023-11-27 10:42:35	54	MP	D	OK	OK	OK	OK	STOP	Y			0	00	OK	46290	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	8001	2023-11-27 10:42:34	54	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	46290	No Station ID	No Station ID		0.0	0.0	0.0			
#	8000	2023-11-27 10:42:34	54	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	46290	No Station ID	No Station ID		0.0	0.0	0.0			
#	7999	2023-11-27 10:42:34	54	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	46290	No Station ID	No Station ID		0.0	0.0	0.0			
#	7998	2023-11-27 10:42:34	54	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	46190	No Station ID	No Station ID		0.0	0.0	0.0			

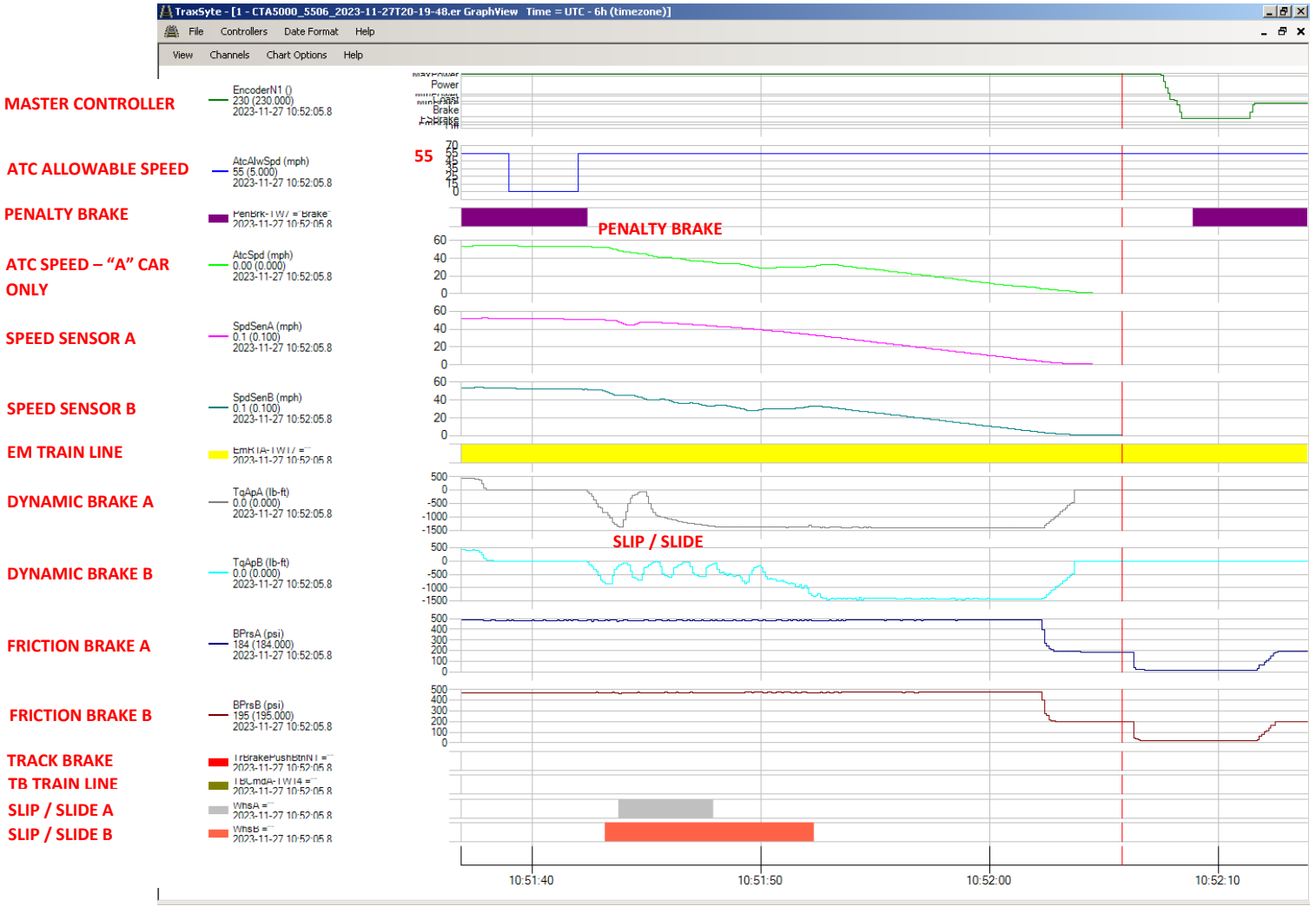
STOP CODE

Test Run #1 ATC Event Log Data Review

LOSS OF CAB

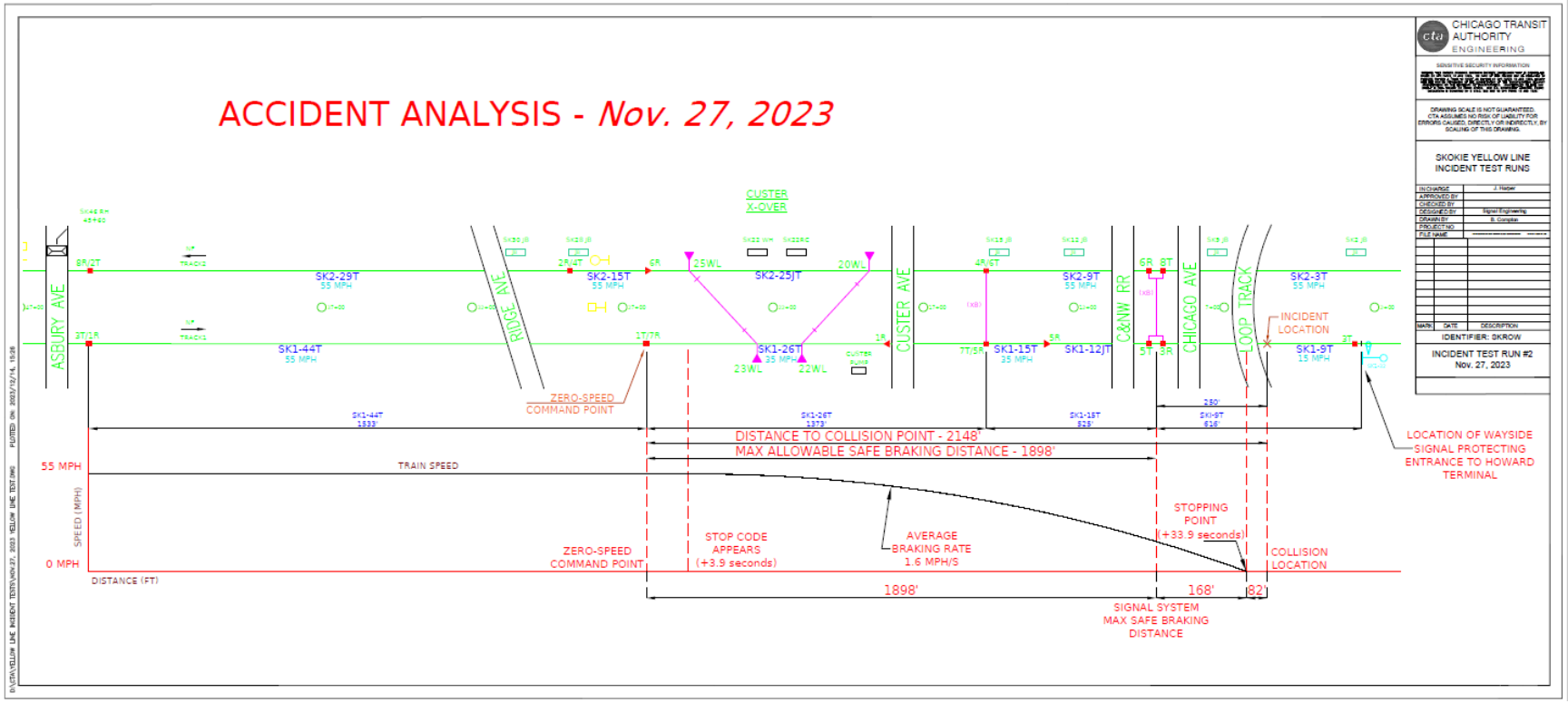
USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CARTR	CARBTR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXTR6.4	LATERAL C	LONGITUDE C	UVERTICAL C	UZERO	BRRFB	BRREQ
Page 188 November 28, 2023																											
#	7997	2023-11-27 10:42:34	54	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	46190	No Station ID	No Station ID			0.0	0.0	0.0			
#	7996	2023-11-27 10:42:34	54	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	46190	No Station ID	No Station ID			0.0	0.0	0.0			
#	7995	2023-11-27 10:42:34	54	MP D					CS55	Y				5	20	0.106	46190	No Station ID	No Station ID			0.0	0.0	0.0			
#	7994	2023-11-27 10:42:33	54	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	46190	No Station ID	No Station ID			0.0	0.0	0.0			
#	7993	2023-11-27 10:42:33	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	46190	No Station ID	No Station ID			0.0	0.0	0.0			
#	7992	2023-11-27 10:42:32	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	46140	No Station ID	No Station ID			0.0	0.0	0.0			
#	7991	2023-11-27 10:42:31	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	46040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7990	2023-11-27 10:42:31	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	46040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7989	2023-11-27 10:42:31	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	46040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7988	2023-11-27 10:42:31	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	46040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7987	2023-11-27 10:42:31	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	46040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7986	2023-11-27 10:42:31	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	46040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7985	2023-11-27 10:42:30	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45965	No Station ID	No Station ID			0.0	0.0	0.0			
#	7984	2023-11-27 10:42:30	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7983	2023-11-27 10:42:29	53	D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7982	2023-11-27 10:42:29	53	CT D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7981	2023-11-27 10:42:29	54	CT D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7980	2023-11-27 10:42:29	54	CT D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45815	No Station ID	No Station ID			0.0	0.0	0.0			
#	7979	2023-11-27 10:42:29	54	mP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45815	No Station ID	No Station ID			0.0	0.0	0.0			
#	7978	2023-11-27 10:42:28	54	mP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45815	No Station ID	No Station ID			0.0	0.0	0.0			
#	7977	2023-11-27 10:42:28	54	D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45815	No Station ID	No Station ID			0.0	0.0	0.0			
#	7976	2023-11-27 10:42:28	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45815	No Station ID	No Station ID			0.0	0.0	0.0			
#	7975	2023-11-27 10:42:27	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45740	No Station ID	No Station ID			0.0	0.0	0.0			
#	7974	2023-11-27 10:42:26	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45665	No Station ID	No Station ID			0.0	0.0	0.0			
#	7973	2023-11-27 10:42:26	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45565	No Station ID	No Station ID			0.0	0.0	0.0			
#	7972	2023-11-27 10:42:25	54	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	45565	No Station ID	No Station ID			0.0	0.0	0.0			
#	7971	2023-11-27 10:42:25	54	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	45515	No Station ID	No Station ID			0.0	0.0	0.0			
#	7970	2023-11-27 10:42:25	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45515	No Station ID	No Station ID			0.0	0.0	0.0			
#	7969	2023-11-27 10:42:25	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45515	No Station ID	No Station ID			0.0	0.0	0.0			
#	7968	2023-11-27 10:42:25	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45515	No Station ID	No Station ID			0.0	0.0	0.0			
#	7967	2023-11-27 10:42:25	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45515	No Station ID	No Station ID			0.0	0.0	0.0			
#	7966	2023-11-27 10:42:24	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45515	No Station ID	No Station ID			0.0	0.0	0.0			
#	7965	2023-11-27 10:42:23	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45415	No Station ID	No Station ID			0.0	0.0	0.0			
#	7964	2023-11-27 10:42:23	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45415	No Station ID	No Station ID			0.0	0.0	0.0			
#	7963	2023-11-27 10:42:22	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45340	No Station ID	No Station ID			0.0	0.0	0.0			
#	7962	2023-11-27 10:42:22	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45290	No Station ID	No Station ID			0.0	0.0	0.0			
#	7961	2023-11-27 10:42:21	52	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45290	No Station ID	No Station ID			0.0	0.0	0.0			
#	7960	2023-11-27 10:42:20	52	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45215	No Station ID	No Station ID			0.0	0.0	0.0			
#	7959	2023-11-27 10:42:20	52	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45115	No Station ID	No Station ID			0.0	0.0	0.0			
#	7958	2023-11-27 10:42:19	51	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45115	No Station ID	No Station ID			0.0	0.0	0.0			
#	7957	2023-11-27 10:42:19	51	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7956	2023-11-27 10:42:19	50	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	45040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7955	2023-11-27 10:42:19	49	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	45040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7954	2023-11-27 10:42:18	48	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	45040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7953	2023-11-27 10:42:18	47	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	45040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7952	2023-11-27 10:42:18	46	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	45040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7951	2023-11-27 10:42:18	46	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	45040	No Station ID	No Station ID			0.0	0.0	0.0			
#	7950	2023-11-27 10:42:17	46	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44990	No Station ID	No Station ID			0.0	0.0	0.0			
#	7949	2023-11-27 10:42:17	46	D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44990	No Station ID	No Station ID			0.0	0.0	0.0			
#	7948	2023-11-27 10:42:17	47	D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44990	No Station ID	No Station ID			0.0	0.0	0.0			
#	7947	2023-11-27 10:42:17	47	mP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44990	No Station ID	No Station ID			0.0	0.0	0.0			
#	7946	2023-11-27 10:42:17	47	mP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7945	2023-11-27 10:42:17	47	CT D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7944	2023-11-27 10:42:17	47	mB D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7943	2023-11-27 10:42:17	48	mB D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7942	2023-11-27 10:42:16	49	mB D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7941	2023-11-27 10:42:16	49	mB D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7940	2023-11-27 10:42:16	49	D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7939	2023-11-27 10:42:16	50	D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7938	2023-11-27 10:42:16	50	FS D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7937	2023-11-27 10:42:16	51	FS D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7936	2023-11-27 10:42:16	52	FS D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44915	No Station ID	No Station ID			0.0	0.0	0.0			
#	7935	2023-11-27 10:42:16	52	FS D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44865	No Station ID	No Station ID			0.0	0.0	0.0			
#	7934	2023-11-27 10:42:16	53	FS D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44865	No Station ID	No Station ID			0.0	0.0	0.0			
#	7933	2023-11-27 10:42:16	53	FS D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44865	No Station ID	No Station ID			0.0	0.0	0.0			
#	7932	2023-11-27 10:42:16	53	FS D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44865	No Station ID	No Station ID			0.0	0.0	0.0			
#	7931	2023-11-27 10:42:16	53	FS D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44865	No Station ID	No Station ID			0.0	0.0	0.0			
#	7930	2023-11-27 10:42:16	53	FS D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	44865	No Station ID	No Station ID			0.0	0.0	0.0			
#	7929	2023-11-27 10:42:16	53	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	44865	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	7928	2023-11-27 10:42:16	54	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	44865	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	7927	2023-11-27 10:42:15	54	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	44865	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	7926	2023-11-27 10:42:15	54	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	44865	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	7925	2023-11-27 10:42:15	54	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	44765	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	7924	2023-11-27 10:42:15	54	D	OK	OK	OK	OK	STOP	Y				0	00	OK	44765	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	7923	2023-11-27 10:42:15	54	D	OK	OK	OK	OK	STOP	Y				0	00	OK	44765	No Station ID	No Station ID		Y	0.0	0.0	0.0			

Test Run #1 ERU Event Log



Appendix II: Test Run #2 Analysis

Test Run #2 Track Circuit Diagram and Vehicle Response



Test Run #2 ATC Event Log Data Review

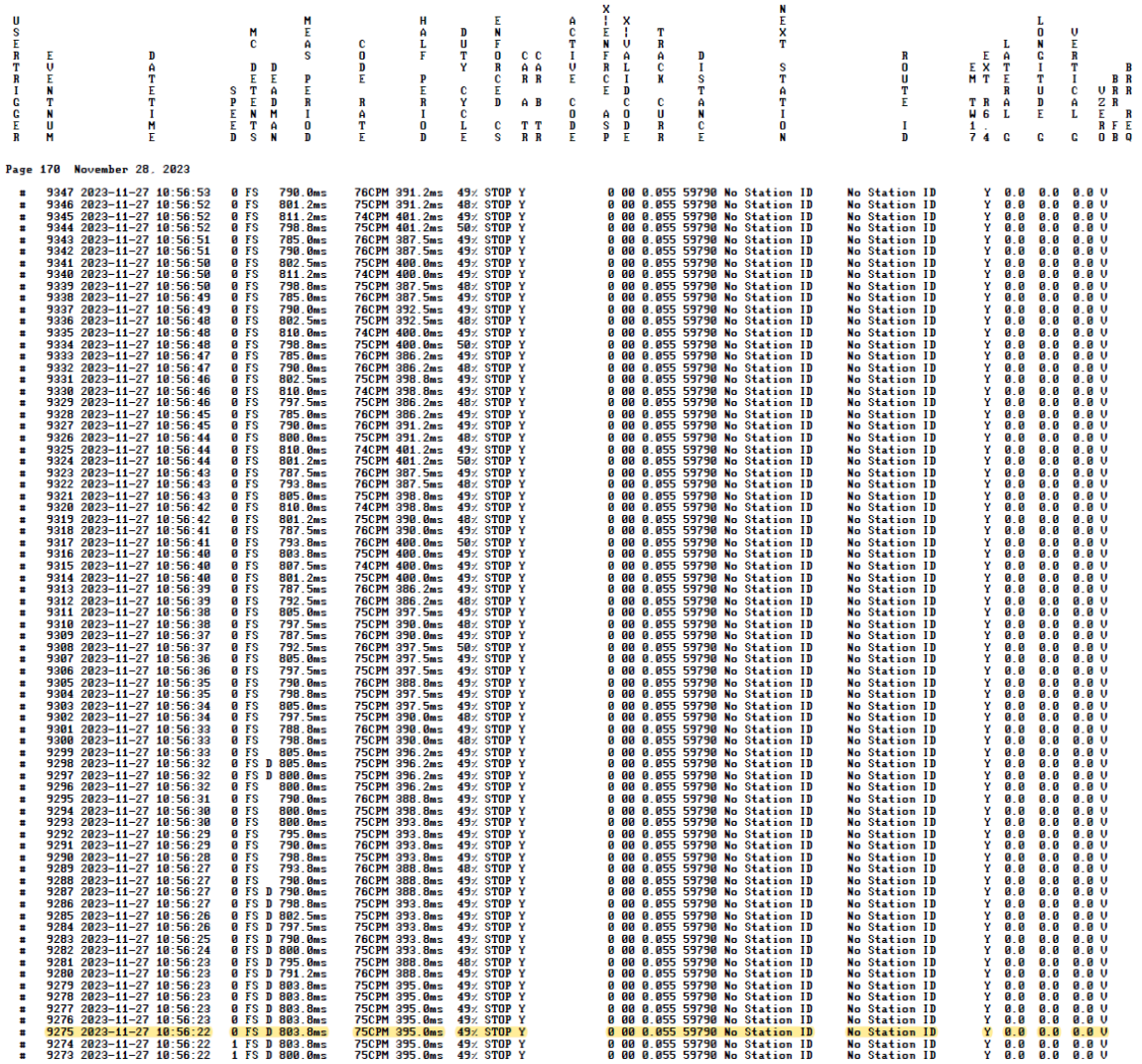
ATC Event Log Data Review – Test Run #2		
Criteria	**Time**	**Distance**
Loss of Cab	10:55:45	58265
Stop Code	10:55:48	58490
FS Brake	10:55:49	58665
Zero Speed	10:56:22	59790

Rail vehicle speed at loss of cab: **54 mph**

Total distance from brake application to stopping point: **1,125 feet**

Total time from brake application to stopping point: **38 seconds**

Test Run #2 ATC Event Log Data Review



USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW14	EXT R6	LATERAL C	LONGITUDE C	UVERTICAL C	UZERO	BRR FB	BREQ
Page 170 November 28, 2023																											
#	9347	2023-11-27 10:56:53	0	FS		790.0ms	76CPM 391.2ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9346	2023-11-27 10:56:52	0	FS		801.2ms	75CPM 391.2ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9345	2023-11-27 10:56:52	0	FS		811.2ms	74CPM 401.2ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9344	2023-11-27 10:56:52	0	FS		798.8ms	75CPM 401.2ms	50%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9343	2023-11-27 10:56:51	0	FS		785.0ms	76CPM 387.5ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9342	2023-11-27 10:56:51	0	FS		790.0ms	76CPM 387.5ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9341	2023-11-27 10:56:50	0	FS		802.5ms	75CPM 400.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9340	2023-11-27 10:56:50	0	FS		811.2ms	74CPM 400.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9339	2023-11-27 10:56:50	0	FS		798.8ms	75CPM 387.5ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9338	2023-11-27 10:56:49	0	FS		785.0ms	76CPM 387.5ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9337	2023-11-27 10:56:49	0	FS		790.0ms	76CPM 392.5ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9336	2023-11-27 10:56:48	0	FS		802.5ms	75CPM 392.5ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9335	2023-11-27 10:56:48	0	FS		810.0ms	74CPM 400.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9334	2023-11-27 10:56:48	0	FS		798.8ms	75CPM 400.0ms	50%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9333	2023-11-27 10:56:47	0	FS		785.0ms	76CPM 386.2ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9332	2023-11-27 10:56:47	0	FS		790.0ms	76CPM 386.2ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9331	2023-11-27 10:56:46	0	FS		802.5ms	75CPM 398.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9330	2023-11-27 10:56:46	0	FS		810.0ms	74CPM 398.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9329	2023-11-27 10:56:46	0	FS		797.5ms	75CPM 386.2ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9328	2023-11-27 10:56:45	0	FS		785.0ms	76CPM 386.2ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9327	2023-11-27 10:56:45	0	FS		790.0ms	76CPM 391.2ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9326	2023-11-27 10:56:44	0	FS		800.0ms	75CPM 391.2ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9325	2023-11-27 10:56:44	0	FS		810.0ms	74CPM 401.2ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9324	2023-11-27 10:56:44	0	FS		801.2ms	75CPM 401.2ms	50%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9323	2023-11-27 10:56:43	0	FS		787.5ms	76CPM 387.5ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9322	2023-11-27 10:56:43	0	FS		793.8ms	76CPM 387.5ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9321	2023-11-27 10:56:43	0	FS		805.0ms	75CPM 398.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9320	2023-11-27 10:56:42	0	FS		810.0ms	74CPM 398.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9319	2023-11-27 10:56:42	0	FS		801.2ms	75CPM 390.0ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9318	2023-11-27 10:56:41	0	FS		787.5ms	76CPM 390.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9317	2023-11-27 10:56:41	0	FS		793.8ms	76CPM 400.0ms	50%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9316	2023-11-27 10:56:40	0	FS		803.8ms	75CPM 400.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9315	2023-11-27 10:56:40	0	FS		807.5ms	74CPM 400.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9314	2023-11-27 10:56:40	0	FS		801.2ms	75CPM 400.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9313	2023-11-27 10:56:39	0	FS		787.5ms	76CPM 386.2ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9312	2023-11-27 10:56:39	0	FS		792.5ms	76CPM 386.2ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9311	2023-11-27 10:56:38	0	FS		805.0ms	75CPM 397.5ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9310	2023-11-27 10:56:38	0	FS		797.5ms	75CPM 390.0ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9309	2023-11-27 10:56:37	0	FS		787.5ms	76CPM 390.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9308	2023-11-27 10:56:37	0	FS		792.5ms	76CPM 397.5ms	50%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9307	2023-11-27 10:56:36	0	FS		805.0ms	75CPM 397.5ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9306	2023-11-27 10:56:36	0	FS		797.5ms	75CPM 397.5ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9305	2023-11-27 10:56:35	0	FS		790.0ms	76CPM 388.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9304	2023-11-27 10:56:35	0	FS		798.8ms	75CPM 397.5ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9303	2023-11-27 10:56:34	0	FS		805.0ms	75CPM 397.5ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9302	2023-11-27 10:56:34	0	FS		797.5ms	75CPM 390.0ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9301	2023-11-27 10:56:33	0	FS		788.8ms	76CPM 390.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9300	2023-11-27 10:56:33	0	FS		798.8ms	75CPM 390.0ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9299	2023-11-27 10:56:33	0	FS		805.0ms	75CPM 396.2ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9298	2023-11-27 10:56:32	0	FS	D	805.0ms	75CPM 396.2ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9297	2023-11-27 10:56:32	0	FS	D	800.0ms	75CPM 396.2ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9296	2023-11-27 10:56:32	0	FS		800.0ms	75CPM 396.2ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9295	2023-11-27 10:56:31	0	FS		790.0ms	76CPM 388.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9294	2023-11-27 10:56:30	0	FS		800.0ms	75CPM 398.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9293	2023-11-27 10:56:30	0	FS		800.0ms	75CPM 393.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9292	2023-11-27 10:56:29	0	FS		795.0ms	75CPM 393.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9291	2023-11-27 10:56:29	0	FS		790.0ms	76CPM 393.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9290	2023-11-27 10:56:28	0	FS		798.8ms	75CPM 393.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9289	2023-11-27 10:56:27	0	FS		793.8ms	76CPM 388.8ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9288	2023-11-27 10:56:27	0	FS		790.0ms	76CPM 388.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9287	2023-11-27 10:56:27	0	FS	D	790.0ms	76CPM 388.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9286	2023-11-27 10:56:27	0	FS	D	798.8ms	75CPM 393.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9285	2023-11-27 10:56:26	0	FS	D	802.5ms	75CPM 393.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9284	2023-11-27 10:56:26	0	FS	D	797.5ms	75CPM 393.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9283	2023-11-27 10:56:25	0	FS	D	790.0ms	76CPM 393.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9282	2023-11-27 10:56:24	0	FS	D	800.0ms	75CPM 393.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9281	2023-11-27 10:56:23	0	FS	D	795.0ms	75CPM 388.8ms	48%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9280	2023-11-27 10:56:23	0	FS	D	791.2ms	76CPM 388.8ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9279	2023-11-27 10:56:23	0	FS	D	803.8ms	75CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9278	2023-11-27 10:56:23	0	FS	D	803.8ms	75CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9277	2023-11-27 10:56:23	0	FS	D	803.8ms	75CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9276	2023-11-27 10:56:23	0	FS	D	803.8ms	75CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9275	2023-11-27 10:56:22	0	FS	D	803.8ms	75CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9274	2023-11-27 10:56:22	1	FS	D	803.8ms	75CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	9273	2023-11-27 10:56:22	1	FS	D	800.0ms	75CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		

ZERO SPEED

Test Run #2 ATC Event Log Data Review

USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW14	EXT R6.4	LATERAL C	LONGITUDE C	VERTICAL C	UZERO	BRFB	BRREQ
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#	9272	2023-11-27 10:56:22	2	FS D	800.0ms		75CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	9271	2023-11-27 10:56:22	3	FS D	800.0ms		75CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	9270	2023-11-27 10:56:22	3	FS D	792.5ms		76CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	9269	2023-11-27 10:56:21	3	FS D	792.5ms		76CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	9268	2023-11-27 10:56:21	4	FS D	792.5ms		76CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9267	2023-11-27 10:56:21	4	FS D	792.5ms		76CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9266	2023-11-27 10:56:21	5	FS D	792.5ms		76CPM 395.0ms	49%	STOP	Y				0	00	0.055	59790	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9265	2023-11-27 10:56:21	5	FS D	800.0ms		75CPM 395.0ms	49%	STOP	Y				0	00	0.049	59790	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9264	2023-11-27 10:56:21	6	FS D	800.0ms		75CPM 395.0ms	49%	STOP	Y				0	00	0.049	59790	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9263	2023-11-27 10:56:20	7	FS D	800.0ms		75CPM 395.0ms	49%	STOP	Y				0	00	0.049	59790	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9262	2023-11-27 10:56:20	8	FS D	800.0ms		75CPM 395.0ms	49%	STOP	Y				0	00	0.049	59790	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9261	2023-11-27 10:56:20	8	FS D	800.0ms		75CPM 395.0ms	49%	STOP	Y				0	00	0.049	59740	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9260	2023-11-27 10:56:20	9	FS D	800.0ms		75CPM 395.0ms	49%	STOP	Y				0	00	0.049	59740	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9259	2023-11-27 10:56:20	9	FS D	782.5ms		77CPM 377.5ms	48%	STOP	Y				0	00	0.049	59740	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9258	2023-11-27 10:56:19	10	FS D	782.5ms		77CPM 377.5ms	48%	STOP	Y				0	00	0.049	59740	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9257	2023-11-27 10:56:19	10	FS D					STOP	Y				0	00		59740	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9256	2023-11-27 10:56:19	11	FS D					STOP	Y				0	00		59740	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9255	2023-11-27 10:56:19	12	FS D					STOP	Y				0	00		59740	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9254	2023-11-27 10:56:18	13	FS D					STOP	Y				0	00		59740	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9253	2023-11-27 10:56:18	14	FS D					STOP	Y				0	00		59740	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9252	2023-11-27 10:56:18	14	FS D					STOP	Y				0	00		59715	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9251	2023-11-27 10:56:18	15	FS D					STOP	Y				0	00		59715	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9250	2023-11-27 10:56:17	16	FS D					STOP	Y				0	00		59715	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9249	2023-11-27 10:56:17	17	FS D					STOP	Y				0	00		59715	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9248	2023-11-27 10:56:17	17	FS D					STOP	Y				0	00		59715	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9247	2023-11-27 10:56:17	17	FS D					STOP	Y				0	00		59690	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9246	2023-11-27 10:56:17	17	FS D					STOP	Y				0	00		59690	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9245	2023-11-27 10:56:17	18	FS D					STOP	Y				0	00		59690	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9244	2023-11-27 10:56:16	19	FS D					STOP	Y				0	00		59690	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9243	2023-11-27 10:56:16	20	FS D					STOP	Y				0	00		59690	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9242	2023-11-27 10:56:16	21	FS D					STOP	Y				0	00		59690	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9241	2023-11-27 10:56:15	22	FS D					STOP	Y				0	00		59690	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9240	2023-11-27 10:56:15	23	FS D					STOP	Y				0	00		59690	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9239	2023-11-27 10:56:15	23	FS D					STOP	Y				0	00		59640	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9238	2023-11-27 10:56:15	24	FS D					STOP	Y				0	00		59640	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9237	2023-11-27 10:56:14	25	FS D					STOP	Y				0	00		59640	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9236	2023-11-27 10:56:14	26	FS D					STOP	Y				0	00		59640	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9235	2023-11-27 10:56:14	26	FS D					STOP	Y				0	00		59590	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9234	2023-11-27 10:56:14	27	FS D					STOP	Y				0	00		59590	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9233	2023-11-27 10:56:13	28	FS D					STOP	Y				0	00		59590	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9232	2023-11-27 10:56:13	28	FS D					STOP	Y				0	00		59540	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9231	2023-11-27 10:56:13	28	FS D					STOP	Y				0	00		59540	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9230	2023-11-27 10:56:13	28	FS D					STOP	Y				0	00		59540	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9229	2023-11-27 10:56:12	27	FS D					STOP	Y				0	00		59540	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9228	2023-11-27 10:56:12	26	FS D					STOP	Y				0	00		59540	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9227	2023-11-27 10:56:12	25	FS D					STOP	Y				0	00		59540	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9226	2023-11-27 10:56:12	25	FS D					STOP	Y				0	00		59515	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9225	2023-11-27 10:56:12	24	FS D					STOP	Y				0	00		59515	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9224	2023-11-27 10:56:11	23	FS D					STOP	Y				0	00		59515	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9223	2023-11-27 10:56:11	24	FS D					STOP	Y				0	00		59515	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9222	2023-11-27 10:56:11	24	FS D					STOP	Y				0	00		59465	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9221	2023-11-27 10:56:10	25	FS D					STOP	Y				0	00		59465	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9220	2023-11-27 10:56:10	26	FS D					STOP	Y				0	00		59465	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9219	2023-11-27 10:56:10	26	FS D					STOP	Y				0	00		59415	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9218	2023-11-27 10:56:10	27	FS D					STOP	Y				0	00		59415	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9217	2023-11-27 10:56:09	28	FS D					STOP	Y				0	00		59415	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9216	2023-11-27 10:56:09	27	FS D					STOP	Y				0	00		59415	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9215	2023-11-27 10:56:09	27	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9214	2023-11-27 10:56:09	26	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9213	2023-11-27 10:56:09	25	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9212	2023-11-27 10:56:09	24	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9211	2023-11-27 10:56:09	23	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9210	2023-11-27 10:56:09	23	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9209	2023-11-27 10:56:09	22	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9208	2023-11-27 10:56:09	20	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9207	2023-11-27 10:56:09	19	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9206	2023-11-27 10:56:08	19	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9205	2023-11-27 10:56:08	18	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9204	2023-11-27 10:56:08	17	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9203	2023-11-27 10:56:08	16	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9202	2023-11-27 10:56:08	15	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9201	2023-11-27 10:56:08	14	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9200	2023-11-27 10:56:08	13	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9199	2023-11-27 10:56:08	12	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	9198	2023-11-27 10:56:07	11	FS D					STOP	Y				0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0			

Test Run #2 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	MC DETENTS	SPEED	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAB TR	CAB BT	ACTIVE CODE	XIENFORCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXTSTATION	ROUTE ID	EMTW14	EXTR6.4	LATERAL C	LONGITUDE C	VERTICAL C	UZERO	BRFB	BRREQ
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#	9197	2023-11-27 10:56:07	10 FS D							STOP	Y			0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9196	2023-11-27 10:56:07	9 FS D							STOP	Y			0	00		59390	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9195	2023-11-27 10:56:07	9 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9194	2023-11-27 10:56:07	8 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9193	2023-11-27 10:56:07	7 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9192	2023-11-27 10:56:06	6 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9191	2023-11-27 10:56:06	5 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9190	2023-11-27 10:56:06	4 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9189	2023-11-27 10:56:05	3 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9188	2023-11-27 10:56:05	3 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	9187	2023-11-27 10:56:05	4 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9186	2023-11-27 10:56:05	5 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9185	2023-11-27 10:56:05	6 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9184	2023-11-27 10:56:04	6 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9183	2023-11-27 10:56:04	7 FS D							STOP	Y			0	00		59365	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9182	2023-11-27 10:56:04	7 FS D							STOP	Y			0	00		59315	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9181	2023-11-27 10:56:04	7 FS D							STOP	Y			0	00		59315	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9180	2023-11-27 10:56:03	8 FS D							STOP	Y			0	00		59315	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9179	2023-11-27 10:56:03	9 FS D							STOP	Y			0	00		59315	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9178	2023-11-27 10:56:03	10 FS D							STOP	Y			0	00		59315	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9177	2023-11-27 10:56:03	10 FS D							STOP	Y			0	00		59290	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9176	2023-11-27 10:56:03	11 FS D							STOP	Y			0	00		59290	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9175	2023-11-27 10:56:02	12 FS D							STOP	Y			0	00		59290	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9174	2023-11-27 10:56:02	13 FS D							STOP	Y			0	00		59290	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9173	2023-11-27 10:56:01	14 FS D							STOP	Y			0	00		59290	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9172	2023-11-27 10:56:01	15 FS D							STOP	Y			0	00		59290	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9171	2023-11-27 10:56:01	15 FS D							STOP	Y			0	00		59265	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9170	2023-11-27 10:56:00	16 FS D							STOP	Y			0	00		59265	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9169	2023-11-27 10:56:00	17 FS D							STOP	Y			0	00		59265	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9168	2023-11-27 10:56:00	18 FS D							STOP	Y			0	00		59265	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9167	2023-11-27 10:56:00	18 FS D							STOP	Y			0	00		59215	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9166	2023-11-27 10:56:00	18 FS D							STOP	Y			0	00		59215	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9165	2023-11-27 10:56:00	19 FS D							STOP	Y			0	00		59215	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9164	2023-11-27 10:56:00	19 FS D							STOP	Y			0	00		59215	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9163	2023-11-27 10:55:59	20 FS D							STOP	Y			0	00		59215	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9162	2023-11-27 10:55:59	20 FS D							STOP	Y			0	00		59190	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9161	2023-11-27 10:55:59	21 FS D							STOP	Y			0	00		59190	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9160	2023-11-27 10:55:59	22 FS D							STOP	Y			0	00		59190	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9159	2023-11-27 10:55:58	23 FS D							STOP	Y			0	00		59190	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9158	2023-11-27 10:55:58	24 FS D							STOP	Y			0	00		59190	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9157	2023-11-27 10:55:58	24 FS D							STOP	Y			0	00		59115	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9156	2023-11-27 10:55:58	25 FS D							STOP	Y			0	00		59115	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9155	2023-11-27 10:55:57	26 FS D							STOP	Y			0	00		59115	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9154	2023-11-27 10:55:57	27 FS D							STOP	Y			0	00		59115	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9153	2023-11-27 10:55:57	27 FS D							STOP	Y			0	00		59090	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9152	2023-11-27 10:55:57	28 FS D							STOP	Y			0	00		59090	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9151	2023-11-27 10:55:57	28 FS D							STOP	Y			0	00	0.061	59090	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9150	2023-11-27 10:55:57	28 FS D	256.2ms		234CPM	46.2ms	18%		STOP	Y			0	00	0.061	59090	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9149	2023-11-27 10:55:56	29 FS D	256.2ms		234CPM	46.2ms	18%		STOP	Y			0	00	0.061	59090	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9148	2023-11-27 10:55:56	30 FS D	256.2ms		234CPM	46.2ms	18%		STOP	Y			0	00	0.061	59090	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9147	2023-11-27 10:55:56	30 FS D	256.2ms		234CPM	46.2ms	18%		STOP	Y			0	00	0.061	59065	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9146	2023-11-27 10:55:56	31 FS D	256.2ms		234CPM	46.2ms	18%		STOP	Y			0	00	0.061	59065	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9145	2023-11-27 10:55:56	31 FS D	256.2ms		234CPM	46.2ms	18%		STOP	Y			0	00	0.061	59065	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9144	2023-11-27 10:55:56	31 FS D							STOP	Y			0	00	0.061	59065	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9143	2023-11-27 10:55:56	32 FS D							STOP	Y			0	00	0.061	59065	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9142	2023-11-27 10:55:56	32 FS D							STOP	Y			0	00		59065	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9141	2023-11-27 10:55:56	32 FS D							STOP	Y			0	00		59065	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9140	2023-11-27 10:55:55	33 FS D							STOP	Y			0	00		59065	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9139	2023-11-27 10:55:55	33 FS D							STOP	Y			0	00		58990	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9138	2023-11-27 10:55:55	34 FS D							STOP	Y			0	00		58990	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9137	2023-11-27 10:55:54	35 FS D							STOP	Y			0	00		58990	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9136	2023-11-27 10:55:54	36 FS D							STOP	Y			0	00		58990	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9135	2023-11-27 10:55:54	37 FS D							STOP	Y			0	00		58990	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9134	2023-11-27 10:55:54	37 FS D							STOP	Y			0	00		58940	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9133	2023-11-27 10:55:54	38 FS D							STOP	Y			0	00		58940	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9132	2023-11-27 10:55:53	39 FS D							STOP	Y			0	00		58940	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9131	2023-11-27 10:55:53	40 FS D							STOP	Y			0	00		58940	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9130	2023-11-27 10:55:53	40 FS D							STOP	Y			0	00		58890	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9129	2023-11-27 10:55:53	41 FS D							STOP	Y			0	00		58890	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9128	2023-11-27 10:55:53	42 FS D							STOP	Y			0	00		58890	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9127	2023-11-27 10:55:52	43 FS D							STOP	Y			0	00		58890	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9126	2023-11-27 10:55:52	44 FS D							STOP	Y			0	00		58890	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9125	2023-11-27 10:55:52	44 FS D							STOP	Y			0	00		58840	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9124	2023-11-27 10:55:52	45 FS D							STOP	Y			0	00		58840	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	9123	2023-11-27 10:55:52	46 FS D		OK		OK		OK	STOP	Y			0	00	OK	58840	No Station ID	No Station ID	Y	0.0	0.0	0.0				

Test Run #2 ATC Event Log Data Review

FS BRAKE

STOP CODE

LOSS OF CAB

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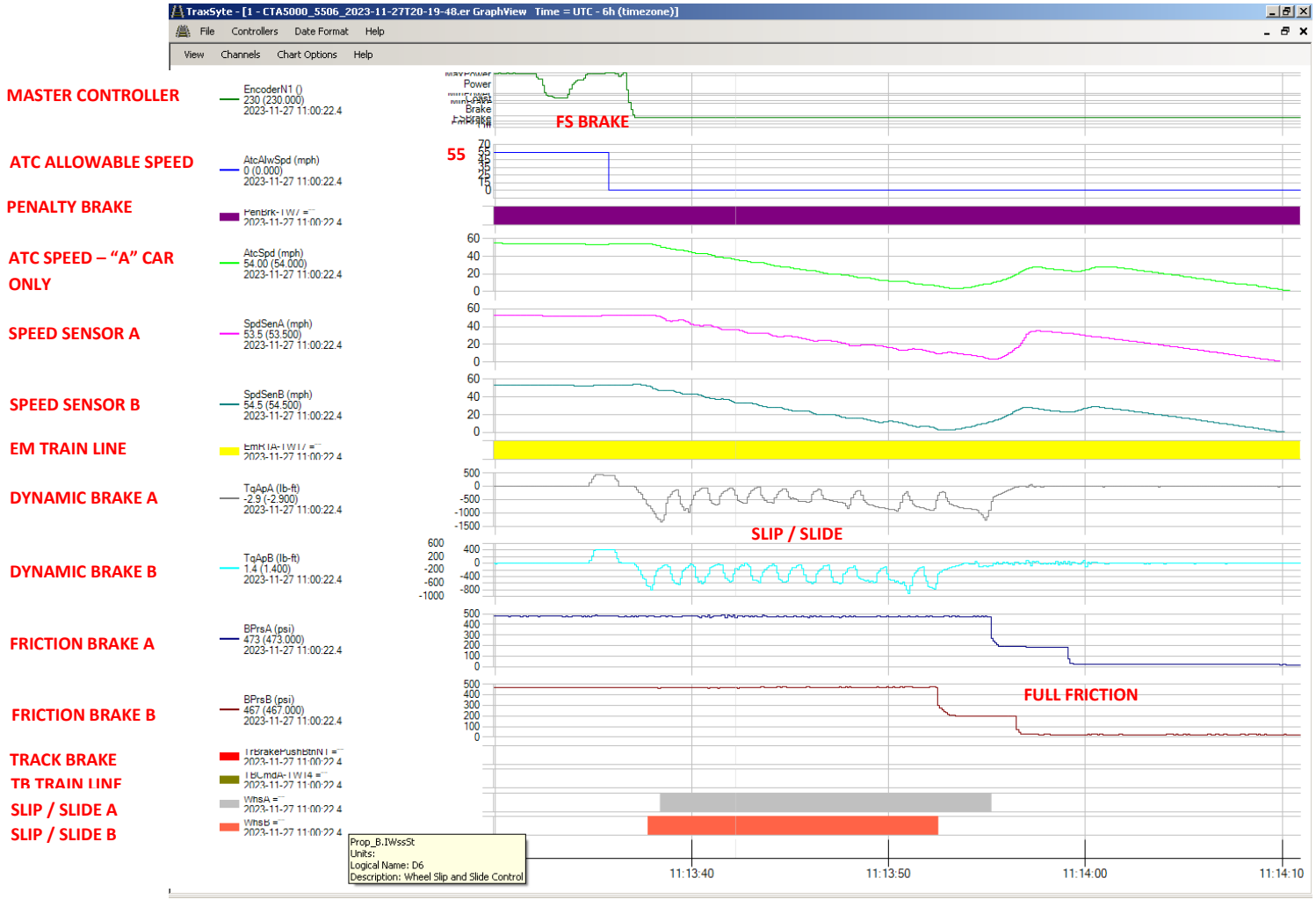
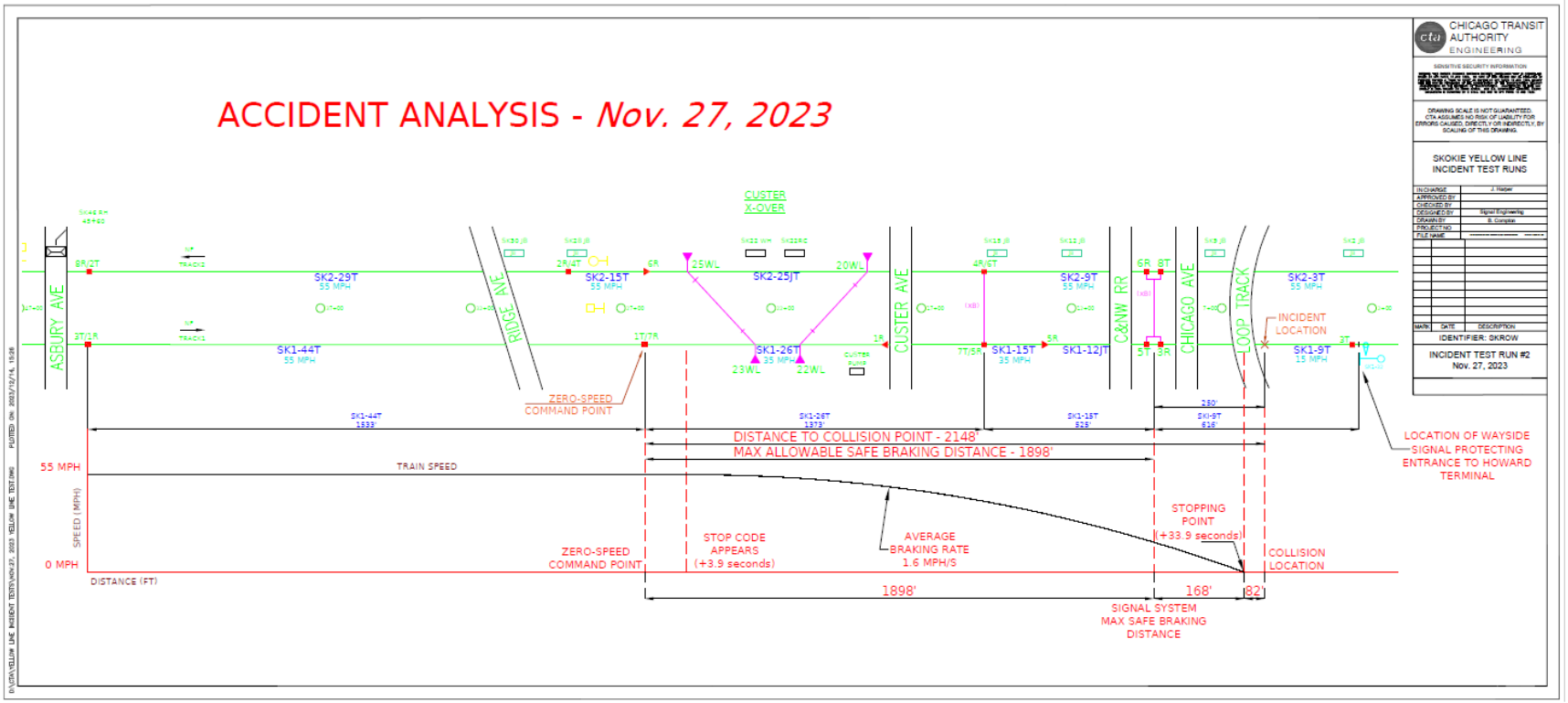
USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFORCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW14	EXT R6.4	LATERAL C	LONGITUDE C	UERTICAL C	UZERO	BRFB	BRREQ
#	9122	2023-11-27 10:55:52	47	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK	58840	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9121	2023-11-27 10:55:51	47	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK	58840	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9120	2023-11-27 10:55:51	47	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK	58840	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9119	2023-11-27 10:55:51	48	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK	58840	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9118	2023-11-27 10:55:51	48	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK	58740	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9117	2023-11-27 10:55:51	49	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK	58740	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9116	2023-11-27 10:55:50	50	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK	58740	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9115	2023-11-27 10:55:50	51	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK	58740	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9114	2023-11-27 10:55:50	52	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK	58740	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9113	2023-11-27 10:55:50	52	FS D	OK	OK	OK	OK	STOP	Y				0 00	OK	58665	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9112	2023-11-27 10:55:50	53	FS D	15.0ms	4000CPM	15.0ms	100%	STOP	Y				0 00	0.188	58665	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9111	2023-11-27 10:55:50	54	FS D	15.0ms	4000CPM	15.0ms	100%	STOP	Y				0 00	0.055	58665	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9110	2023-11-27 10:55:50	54	FS D	15.0ms	4000CPM	15.0ms	100%	STOP	Y				0 00	0.047	58665	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9109	2023-11-27 10:55:49	54	FS D					STOP	Y				0 00		58665	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9108	2023-11-27 10:55:49	54	FS D					STOP	Y				0 00		58665	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9107	2023-11-27 10:55:49	54	FS D					STOP	Y				0 00		58665	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9106	2023-11-27 10:55:49	54	D					STOP	Y				0 00		58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9105	2023-11-27 10:55:49	54	D					STOP	Y				0 00		58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9104	2023-11-27 10:55:49	54	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9103	2023-11-27 10:55:49	54 mB	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9102	2023-11-27 10:55:49	54 CT	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9101	2023-11-27 10:55:49	54 mP	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9100	2023-11-27 10:55:49	54	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9099	2023-11-27 10:55:49	54 MP	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9098	2023-11-27 10:55:49	54 MP	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9097	2023-11-27 10:55:49	54	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9096	2023-11-27 10:55:48	54 MP	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9095	2023-11-27 10:55:48	54 MP	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58590	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9094	2023-11-27 10:55:48	54 MP	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58490	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9093	2023-11-27 10:55:48	54 MP	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58490	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9092	2023-11-27 10:55:48	54 MP	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58490	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9091	2023-11-27 10:55:48	54 MP	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58490	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9090	2023-11-27 10:55:48	54 MP	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58490	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9089	2023-11-27 10:55:48	54 MP	D	OK	OK	OK	OK	STOP	Y				0 00	OK	58490	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	9088	2023-11-27 10:55:47	53 MP	D	OK	OK	OK	OK	CS55	Y				5 20	OK	58490	No Station ID	No Station ID			0.0	0.0	0.0			
#	9087	2023-11-27 10:55:47	53 MP	D	OK	OK	OK	OK	CS55	Y				5 20	OK	58440	No Station ID	No Station ID			0.0	0.0	0.0			
#	9086	2023-11-27 10:55:47	53 MP	D	88.8ms	676CPM	37.5ms	42%	CS55	Y				5 20	0.101	58440	No Station ID	No Station ID			0.0	0.0	0.0			
#	9085	2023-11-27 10:55:47	53 MP	D	88.8ms	676CPM	37.5ms	42%	CS55	Y				5 20	0.059	58440	No Station ID	No Station ID			0.0	0.0	0.0			
#	9084	2023-11-27 10:55:47	54 MP	D					CS55	Y				5 20		58440	No Station ID	No Station ID			0.0	0.0	0.0			
#	9083	2023-11-27 10:55:47	53	D					CS55	Y				5 20		58440	No Station ID	No Station ID			0.0	0.0	0.0			
#	9082	2023-11-27 10:55:47	53	D					CS55	Y				5 20		58440	No Station ID	No Station ID			0.0	0.0	0.0			
#	9081	2023-11-27 10:55:47	53	D					CS55	Y				5 20		58440	No Station ID	No Station ID			0.0	0.0	0.0			
#	9080	2023-11-27 10:55:47	53	D					CS55	Y				5 20		58440	No Station ID	No Station ID			0.0	0.0	0.0			
#	9079	2023-11-27 10:55:47	53	D					CS55	Y				5 20		58440	No Station ID	No Station ID			0.0	0.0	0.0			
#	9078	2023-11-27 10:55:46	54	D					CS55	Y				5 20		58440	No Station ID	No Station ID			0.0	0.0	0.0			
#	9077	2023-11-27 10:55:46	54	D					CS55	Y				5 20		58365	No Station ID	No Station ID			0.0	0.0	0.0			
#	9076	2023-11-27 10:55:46	54	D	OK	OK	OK	OK	CS55	Y				5 20	OK	58365	No Station ID	No Station ID			0.0	0.0	0.0			
#	9075	2023-11-27 10:55:46	54 mP	D	OK	OK	OK	OK	CS55	Y				5 20	OK	58365	No Station ID	No Station ID			0.0	0.0	0.0			
#	9074	2023-11-27 10:55:46	54 mP	D	OK	OK	OK	OK	CS55	Y				5 20	OK	58365	No Station ID	No Station ID			0.0	0.0	0.0			
#	9073	2023-11-27 10:55:45	54 CT	D	OK	OK	OK	OK	CS55	Y				5 20	OK	58365	No Station ID	No Station ID			0.0	0.0	0.0			
#	9072	2023-11-27 10:55:45	54 CT	D	OK	OK	OK	OK	CS55	Y				5 20	OK	58265	No Station ID	No Station ID			0.0	0.0	0.0			
#	9071	2023-11-27 10:55:45	54	D	OK	OK	OK	OK	CS55	Y				5 20	OK	58265	No Station ID	No Station ID			0.0	0.0	0.0			
#	9070	2023-11-27 10:55:45	54 mP	D	OK	OK	OK	OK	CS55	Y				5 20	OK	58265	No Station ID	No Station ID			0.0	0.0	0.0			
#	9069	2023-11-27 10:55:45	54 mP	D	OK	OK	OK	OK	CS55	Y				5 20	OK	58265	No Station ID	No Station ID			0.0	0.0	0.0			
#	9068	2023-11-27 10:55:45	54 mP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	58265	No Station ID	No Station ID			0.0	0.0	0.0			
#	9067	2023-11-27 10:55:44	54	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	58265	No Station ID	No Station ID			0.0	0.0	0.0			
#	9066	2023-11-27 10:55:44	54 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	58265	No Station ID	No Station ID			0.0	0.0	0.0			
#	9065	2023-11-27 10:55:43	54 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	58215	No Station ID	No Station ID			0.0	0.0	0.0			
#	9064	2023-11-27 10:55:42	54 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	58140	No Station ID	No Station ID			0.0	0.0	0.0			
#	9063	2023-11-27 10:55:42	55 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	58140	No Station ID	No Station ID			0.0	0.0	0.0			
#	9062	2023-11-27 10:55:41	55 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	58040	No Station ID	No Station ID			0.0	0.0	0.0			
#	9061	2023-11-27 10:55:40	55 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57965	No Station ID	No Station ID			0.0	0.0	0.0			
#	9060	2023-11-27 10:55:39	55 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57890	No Station ID	No Station ID			0.0	0.0	0.0			
#	9059	2023-11-27 10:55:39	55 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57890	No Station ID	No Station ID			0.0	0.0	0.0			
#	9058	2023-11-27 10:55:39	55 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57890	No Station ID	No Station ID			0.0	0.0	0.0			
#	9057	2023-11-27 10:55:39	55 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57890	No Station ID	No Station ID			0.0	0.0	0.0			
#	9056	2023-11-27 10:55:39	55 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57890	No Station ID	No Station ID			0.0	0.0	0.0			
#	9055	2023-11-27 10:55:39	54 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57890	No Station ID	No Station ID			0.0	0.0	0.0			
#	9054	2023-11-27 10:55:38	54 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57815	No Station ID	No Station ID			0.0	0.0	0.0			
#	9053	2023-11-27 10:55:37	54 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57740	No Station ID	No Station ID			0.0	0.0	0.0			
#	9052	2023-11-27 10:55:37	53 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57740	No Station ID	No Station ID			0.0	0.0	0.0			
#	9051	2023-11-27 10:55:36	53 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57640	No Station ID	No Station ID			0.0	0.0	0.0			
#	9050	2023-11-27 10:55:36	53 MP	D	OK	OK	OK	OK	CS55	Y	270 cpm			5 20	OK	57590	No Station ID	No Station ID			0.0	0.0	0.0			
#	9049	2023-11-27 10:55:36	53 MP	D	OK	OK	OK	OK	CS55	Y				5 20	OK	57590	No Station ID	No Station ID			0.0	0.0	0.0			
#	9048	2023-11-27 10:55:35	52 MP	D	OK	OK	OK	OK	CS55	Y				5 20	OK	57590	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #2 ERU Event Log



Appendix II-II: Test Run #2 – Take 2 Analysis

Test Run #2 – Take #2 Track Circuit Diagram and Vehicle Response



Test Run #2 – Take 2 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #2 – Take 2		
Criteria	**Time**	**Distance**
Loss of Cab	11:07:43	05379
Stop Code	11:07:45	05529
FS Brake	11:07:46	05604
Zero Speed	11:08:20	06779

Rail vehicle speed at loss of cab: **54 mph**

Total distance from brake application to stopping point: **1,175feet**

Total time from brake application to stopping point: **34 seconds**

Test Run #2 – Take 2

ATC Event Log Data

ZERO SPEED

USER TRICGER	EVENT NUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAR BT	ACTIVE CODE	XIENFRCE ASP	XIVALDCOD	TRACK COUR	DISTANCE	NEXT STATION	ROUTE ID	EMTW14	EXTRAL C	LATERAL C	LONGITUDE C	UVERTICAL C	UV2EFOR	BRRBQ	BRREQ
Page 153 November 28, 2023																											
#	10622	2023-11-27 11:11:13	0							STOP				0	00		00000	No Station ID	No Station ID	B	0.0	0.0	0.0	V	B	B
#	10621	2023-11-27 11:11:13	0							STOP				0	00		00000	No Station ID	No Station ID	B	0.0	0.0	0.0	V	B	B
#	10620	2023-11-27 11:11:12	0							STOP				0	00		00000	No Station ID	No Station ID	B	0.0	0.0	0.0	V	B	B
#	10619	2023-11-27 11:11:12	0							STOP				0	00		00000	No Station ID	No Station ID	B	0.0	0.0	0.0	V	B	B
#	10618	2023-11-27 11:11:12	0							STOP				0	00		00000	No Station ID	No Station ID	B	0.0	0.0	0.0		B	B
#	10617	2023-11-27 11:11:12	0							STOP				0	00		00000	No Station ID	No Station ID	B	0.0	0.0	0.0		B	B
#	10616	2023-11-27 11:11:12	0							STOP				0	00		00000	No Station ID	No Station ID	B	0.0	0.0	0.0		B	B
#	10615	2023-11-27 11:11:12	0							STOP				0	00		00000	No Station ID	No Station ID	B	0.0	0.0	0.0		B	B
#	10614	2023-11-27 11:10:44	0	OF						CS15				1	02		05552	No Station ID	No Station ID	B	0.0	0.0	0.0	V		
#	10613	2023-11-27 11:10:44	0	OF		OK	OK	OK	OK	CS15				1	02	OK	05552	No Station ID	No Station ID	B	0.0	0.0	0.0	V		
#	10612	2023-11-27 11:10:43	0	OF		OK	OK	OK	OK	CS15		75	cpm	1	02	OK	05552	No Station ID	No Station ID	B	0.0	0.0	0.0	V		
#	10611	2023-11-27 11:10:42	0	OF		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	05552	No Station ID	No Station ID	B	0.0	0.0	0.0	V		
#	10610	2023-11-27 11:10:42	0	OF	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	05552	No Station ID	No Station ID	B	0.0	0.0	0.0	V		
#	10609	2023-11-27 11:10:42	0	OF	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	05552	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10608	2023-11-27 11:10:42	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	05552	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10607	2023-11-27 11:10:41	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	05552	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10606	2023-11-27 11:10:35	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	05552	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10605	2023-11-27 11:10:34	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06779	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10604	2023-11-27 11:10:33	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	05552	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10603	2023-11-27 11:10:28	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06779	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10602	2023-11-27 11:09:09	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06779	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10601	2023-11-27 11:08:40	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06779	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10600	2023-11-27 11:08:38	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06779	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10599	2023-11-27 11:08:32	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06779	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10598	2023-11-27 11:08:31	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06779	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10597	2023-11-27 11:08:23	0	FS		OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06779	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10596	2023-11-27 11:08:20	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06779	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10595	2023-11-27 11:08:19	1	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06779	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10594	2023-11-27 11:08:18	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06779	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10593	2023-11-27 11:08:16	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06754	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10592	2023-11-27 11:08:15	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06704	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10591	2023-11-27 11:08:15	0	FS	D	OK	OK	OK	OK	CS15	Y	75	cpm	1	02	OK	06679	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10590	2023-11-27 11:08:14	0	FS	D	798.8ms	75CPM	392.5ms	49%	CS15	Y	75	cpm	1	02	0.103	06679	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10589	2023-11-27 11:08:14	0	FS	D	795.0ms	75CPM	392.5ms	49%	CS15	Y	75	cpm	1	02	0.103	06679	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10588	2023-11-27 11:08:14	0	FS	D	795.0ms	75CPM	392.5ms	49%	CS15	Y	75	cpm	1	02	0.093	06679	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10587	2023-11-27 11:08:14	0	FS	D	795.0ms	75CPM	392.5ms	49%	CS15	Y	75	cpm	1	02	0.097	06679	No Station ID	No Station ID		0.0	0.0	0.0	V		
#	10586	2023-11-27 11:08:14	0	FS	D	795.0ms	75CPM	392.5ms	49%	STOP	Y			0	00	0.066	06679	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10585	2023-11-27 11:08:13	0	FS	D	795.0ms	75CPM	392.5ms	49%	STOP	Y			0	00	0.066	06654	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10584	2023-11-27 11:08:13	0	FS	D	776.2ms	77CPM	373.8ms	48%	STOP	Y			0	00	0.066	06654	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10583	2023-11-27 11:08:13	0	FS	D	776.2ms	77CPM	373.8ms	48%	STOP	Y			0	00	0.061	06654	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10582	2023-11-27 11:08:13	0	FS	D	373.8ms	161CPM	373.8ms	100%	STOP	Y			0	00	0.061	06654	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10581	2023-11-27 11:08:13	0	FS	D	373.8ms	161CPM	373.8ms	100%	STOP	Y			0	00	0.051	06654	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10580	2023-11-27 11:08:13	0	FS	D	373.8ms	161CPM	373.8ms	100%	STOP	Y			0	00	0.051	06604	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10579	2023-11-27 11:08:12	0	FS	D					STOP	Y			0	00		06604	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10578	2023-11-27 11:08:12	0	FS	D					STOP	Y			0	00	0.045	06604	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10577	2023-11-27 11:08:12	0	FS	D					STOP	Y			0	00		06604	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10576	2023-11-27 11:08:11	0	FS	D					STOP	Y			0	00		06554	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10575	2023-11-27 11:08:10	0	FS	D					STOP	Y			0	00		06504	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10574	2023-11-27 11:08:09	0	FS	D					STOP	Y			0	00		06479	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10573	2023-11-27 11:08:08	0	FS	D					STOP	Y			0	00		06429	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10572	2023-11-27 11:08:07	0	FS	D					STOP	Y			0	00		06354	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10571	2023-11-27 11:08:06	0	FS	D					STOP	Y			0	00		06329	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10570	2023-11-27 11:08:06	0	FS	D					STOP	Y			0	00		06329	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10569	2023-11-27 11:08:06	0	FS	D					STOP	Y			0	00		06329	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10568	2023-11-27 11:08:06	0	FS	D					STOP	Y			0	00		06329	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10567	2023-11-27 11:08:06	0	FS	D					STOP	Y			0	00		06329	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10566	2023-11-27 11:08:06	1	FS	D					STOP	Y			0	00		06329	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10565	2023-11-27 11:08:06	1	FS	D					STOP	Y			0	00		06279	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10564	2023-11-27 11:08:06	2	FS	D					STOP	Y			0	00		06279	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10563	2023-11-27 11:08:05	3	FS	D					STOP	Y			0	00		06279	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	10562	2023-11-27 11:08:05	4	FS	D					STOP	Y			0	00		06279	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10561	2023-11-27 11:08:05	5	FS	D					STOP	Y			0	00		06279	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10560	2023-11-27 11:08:05	6	FS	D					STOP	Y			0	00		06279	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10559	2023-11-27 11:08:05	7	FS	D					STOP	Y			0	00		06279	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10558	2023-11-27 11:08:05	7	FS	D					STOP	Y			0	00		06279	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10557	2023-11-27 11:08:05	8	FS	D					STOP	Y			0	00		06279	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10556	2023-11-27 11:08:05	9	FS	D					STOP	Y			0	00		06279	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10555	2023-11-27 11:08:05	9	FS	D					STOP	Y			0	00		06254	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10554	2023-11-27 11:08:04	9	FS	D					STOP	Y			0	00		06254	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10553	2023-11-27 11:08:04	8	FS	D					STOP	Y			0	00		06254	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10552	2023-11-27 11:08:03	8	FS	D					STOP	Y			0	00		06229	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10551	2023-11-27 11:08:03	7	FS	D					STOP	Y			0	00		06229	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10550	2023-11-27 11:08:02	6	FS	D					STOP	Y			0	00		06229	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10549	2023-11-27 11:08:02	5	FS	D					STOP	Y			0	00		06229	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10548	2023-11-27 11:08:02	4	FS	D					STOP	Y			0	00		06229	No Station ID	No Station ID	Y	0.0	0.0	0.0			

Test Run #2 – Take 2

ATC Event Log Data

USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A	CAR B TR	ACTIVE CODE	XIENFORCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXT R64	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRRFB	BRREQ
Page 154 November 28, 2023																											
#	10547	2023-11-27 11:08:02	4	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10546	2023-11-27 11:08:01	3	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	10545	2023-11-27 11:08:01	3	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	10544	2023-11-27 11:08:01	4	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10543	2023-11-27 11:08:00	4	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10542	2023-11-27 11:08:00	5	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10541	2023-11-27 11:08:00	5	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10540	2023-11-27 11:08:00	6	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10539	2023-11-27 11:08:00	7	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10538	2023-11-27 11:08:00	8	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10537	2023-11-27 11:07:59	9	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10536	2023-11-27 11:07:59	10	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10535	2023-11-27 11:07:59	11	FS D						STOP	Y			0	00		06179	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10534	2023-11-27 11:07:58	11	FS D						STOP	Y			0	00		06154	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10533	2023-11-27 11:07:58	12	FS D						STOP	Y			0	00		06154	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10532	2023-11-27 11:07:58	13	FS D						STOP	Y			0	00		06154	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10531	2023-11-27 11:07:57	14	FS D						STOP	Y			0	00		06154	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10530	2023-11-27 11:07:57	15	FS D						STOP	Y			0	00		06154	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10529	2023-11-27 11:07:57	16	FS D						STOP	Y			0	00		06154	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10528	2023-11-27 11:07:57	17	FS D						STOP	Y			0	00		06154	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10527	2023-11-27 11:07:57	17	FS D						STOP	Y			0	00		06129	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10526	2023-11-27 11:07:56	18	FS D						STOP	Y			0	00		06129	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10525	2023-11-27 11:07:56	18	FS D						STOP	Y			0	00		06129	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10524	2023-11-27 11:07:56	19	FS D						STOP	Y			0	00		06129	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10523	2023-11-27 11:07:56	19	FS D						STOP	Y			0	00		06129	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10522	2023-11-27 11:07:56	20	FS D						STOP	Y			0	00		06129	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10521	2023-11-27 11:07:56	20	FS D						STOP	Y			0	00		06079	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10520	2023-11-27 11:07:55	21	FS D						STOP	Y			0	00		06079	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10519	2023-11-27 11:07:55	22	FS D						STOP	Y			0	00		06079	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10518	2023-11-27 11:07:55	23	FS D						STOP	Y			0	00		06079	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10517	2023-11-27 11:07:55	23	FS D						STOP	Y			0	00		06054	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10516	2023-11-27 11:07:55	24	FS D						STOP	Y			0	00		06054	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10515	2023-11-27 11:07:54	25	FS D						STOP	Y			0	00		06054	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10514	2023-11-27 11:07:54	26	FS D						STOP	Y			0	00		06054	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10513	2023-11-27 11:07:54	27	FS D						STOP	Y			0	00		06054	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10512	2023-11-27 11:07:54	27	FS D						STOP	Y			0	00		06029	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10511	2023-11-27 11:07:53	28	FS D						STOP	Y			0	00		06029	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10510	2023-11-27 11:07:53	29	FS D						STOP	Y			0	00		06029	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10509	2023-11-27 11:07:53	30	FS D						STOP	Y			0	00		06029	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10508	2023-11-27 11:07:53	31	FS D						STOP	Y			0	00		06029	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10507	2023-11-27 11:07:53	31	FS D						STOP	Y			0	00		05979	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10506	2023-11-27 11:07:52	32	FS D						STOP	Y			0	00		05979	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10505	2023-11-27 11:07:52	33	FS D						STOP	Y			0	00		05979	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10504	2023-11-27 11:07:52	33	FS D						STOP	Y			0	00		05979	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10503	2023-11-27 11:07:52	34	FS D						STOP	Y			0	00		05979	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10502	2023-11-27 11:07:52	34	FS D						STOP	Y			0	00		05979	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10501	2023-11-27 11:07:52	34	FS D						STOP	Y			0	00		05929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10500	2023-11-27 11:07:52	35	FS D						STOP	Y			0	00		05929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10499	2023-11-27 11:07:51	36	FS D						STOP	Y			0	00		05929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10498	2023-11-27 11:07:51	37	FS D						STOP	Y			0	00		05929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10497	2023-11-27 11:07:51	38	FS D						STOP	Y			0	00		05929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10496	2023-11-27 11:07:51	38	FS D						STOP	Y			0	00		05904	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10495	2023-11-27 11:07:50	39	FS D						STOP	Y			0	00		05904	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10494	2023-11-27 11:07:50	40	FS D						STOP	Y			0	00		05904	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10493	2023-11-27 11:07:50	41	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05904	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10492	2023-11-27 11:07:50	42	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05904	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10491	2023-11-27 11:07:50	42	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05829	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10490	2023-11-27 11:07:49	43	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05829	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10489	2023-11-27 11:07:49	44	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05829	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10488	2023-11-27 11:07:49	45	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05829	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10487	2023-11-27 11:07:49	46	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05829	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10486	2023-11-27 11:07:49	46	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05754	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10485	2023-11-27 11:07:48	47	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05754	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10484	2023-11-27 11:07:48	48	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05754	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10483	2023-11-27 11:07:48	49	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05754	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10482	2023-11-27 11:07:48	50	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05754	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10481	2023-11-27 11:07:48	50	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05754	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10480	2023-11-27 11:07:48	50	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05704	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10479	2023-11-27 11:07:47	51	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05704	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10478	2023-11-27 11:07:47	51	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05704	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10477	2023-11-27 11:07:47	52	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05704	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10476	2023-11-27 11:07:47	53	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05704	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10475	2023-11-27 11:07:47	54	FS D	OK	OK	OK	OK	STOP	Y				0	00	OK	05704	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10474	2023-11-27 11:07:47	54	FS D						STOP	Y			0	00	0.091	05704	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	10473	2023-11-27 11:07:47	54	FS D						STOP	Y			0	00	0.091	05604	No Station ID	No Station ID		Y	0.0	0.0	0.0			

Test Run #2 – Take 2

ATC Event Log Data

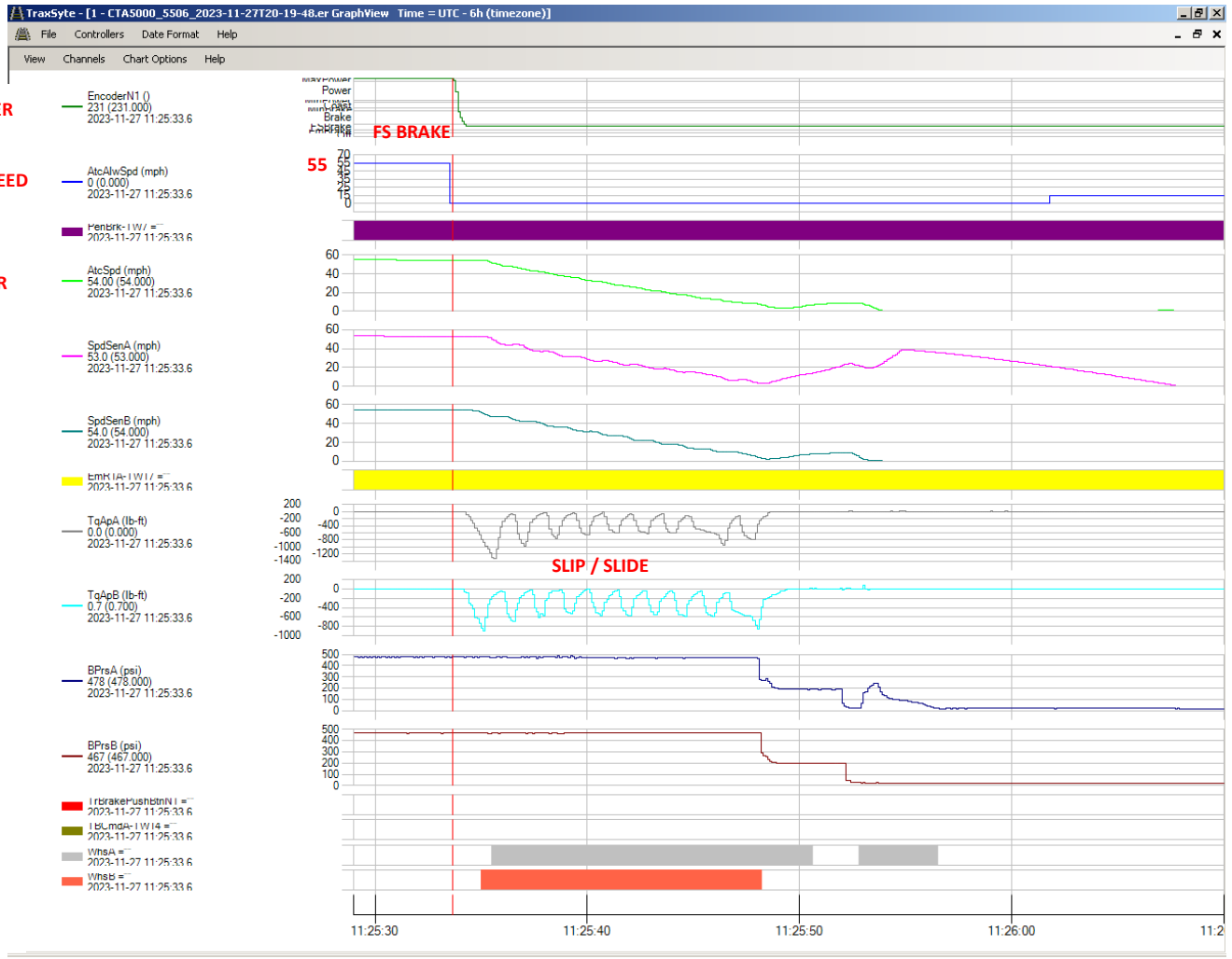
FS BRAKE

STOP CODE

LOSS OF CAB

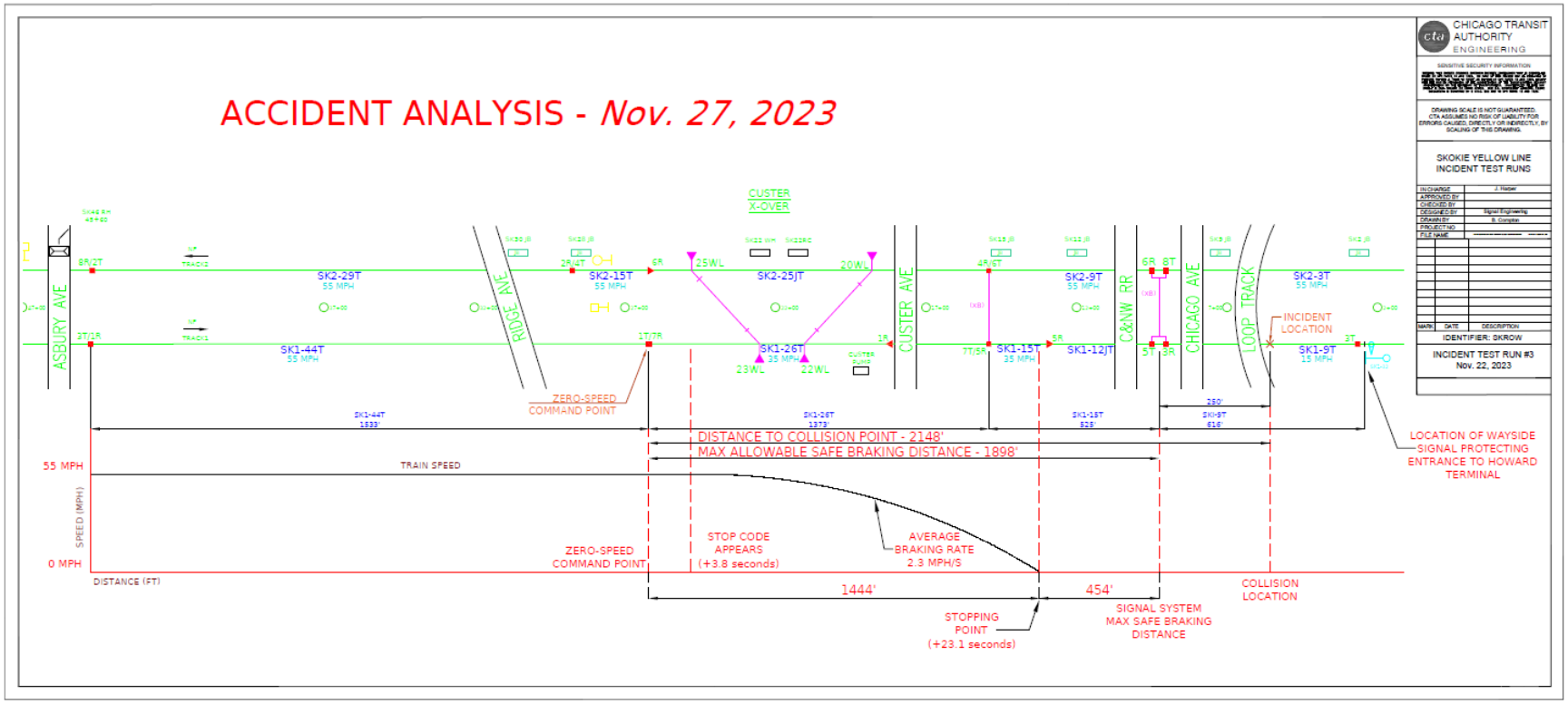
USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW14	EXT R6.	LATERAL C	LONGITUDE C	VERTICAL C	UZERO	BRFB	BRREQ
Page 155 November 28, 2023																											
#	10472	2023-11-27 11:07:46	54	FS D						STOP	Y			0	00		05604	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10471	2023-11-27 11:07:46	54	FS D						STOP	Y			0	00		05604	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10470	2023-11-27 11:07:46	54	FS D						STOP	Y			0	00		05604	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10469	2023-11-27 11:07:46	54	D						STOP	Y			0	00		05604	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10468	2023-11-27 11:07:46	54	mB D						STOP	Y			0	00		05604	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10467	2023-11-27 11:07:46	54	mP D						STOP	Y			0	00		05604	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10466	2023-11-27 11:07:46	54	D						STOP	Y			0	00		05604	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10465	2023-11-27 11:07:46	54	MP D						STOP	Y			0	00		05604	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10464	2023-11-27 11:07:45	54	MP D						STOP	Y			0	00		05529	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10463	2023-11-27 11:07:45	54	MP D						STOP	Y			0	00		05529	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10462	2023-11-27 11:07:45	54	MP D						STOP	Y			0	00		05529	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10461	2023-11-27 11:07:45	54	MP D						STOP	Y			0	00		05529	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10460	2023-11-27 11:07:45	54	MP D						CS55	Y			5	20		05529	No Station ID	No Station ID		0.0	0.0	0.0			
#	10459	2023-11-27 11:07:44	54	MP D						CS55	Y			5	20		05429	No Station ID	No Station ID		0.0	0.0	0.0			
#	10458	2023-11-27 11:07:43	54	MP D						CS55	Y			5	20		05379	No Station ID	No Station ID		0.0	0.0	0.0			
#	10457	2023-11-27 11:07:43	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	05379	No Station ID	No Station ID		0.0	0.0	0.0			
#	10456	2023-11-27 11:07:43	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	05379	No Station ID	No Station ID		0.0	0.0	0.0			
#	10455	2023-11-27 11:07:43	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	05379	No Station ID	No Station ID		0.0	0.0	0.0			
#	10454	2023-11-27 11:07:42	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	05304	No Station ID	No Station ID		0.0	0.0	0.0			
#	10453	2023-11-27 11:07:41	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	05204	No Station ID	No Station ID		0.0	0.0	0.0			
#	10452	2023-11-27 11:07:41	55	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	05204	No Station ID	No Station ID		0.0	0.0	0.0			
#	10451	2023-11-27 11:07:41	55	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	05129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10450	2023-11-27 11:07:40	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	05129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10449	2023-11-27 11:07:40	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	05129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10448	2023-11-27 11:07:40	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	05129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10447	2023-11-27 11:07:40	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	05129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10446	2023-11-27 11:07:40	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	05129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10445	2023-11-27 11:07:40	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	05129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10444	2023-11-27 11:07:39	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	05079	No Station ID	No Station ID		0.0	0.0	0.0			
#	10443	2023-11-27 11:07:39	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	05079	No Station ID	No Station ID		0.0	0.0	0.0			
#	10442	2023-11-27 11:07:39	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	04979	No Station ID	No Station ID		0.0	0.0	0.0			
#	10441	2023-11-27 11:07:38	53	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	04979	No Station ID	No Station ID		0.0	0.0	0.0			
#	10440	2023-11-27 11:07:37	53	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	04904	No Station ID	No Station ID		0.0	0.0	0.0			
#	10439	2023-11-27 11:07:37	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04904	No Station ID	No Station ID		0.0	0.0	0.0			
#	10438	2023-11-27 11:07:36	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04854	No Station ID	No Station ID		0.0	0.0	0.0			
#	10437	2023-11-27 11:07:36	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04754	No Station ID	No Station ID		0.0	0.0	0.0			
#	10436	2023-11-27 11:07:36	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04754	No Station ID	No Station ID		0.0	0.0	0.0			
#	10435	2023-11-27 11:07:36	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04754	No Station ID	No Station ID		0.0	0.0	0.0			
#	10434	2023-11-27 11:07:36	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04754	No Station ID	No Station ID		0.0	0.0	0.0			
#	10433	2023-11-27 11:07:35	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04754	No Station ID	No Station ID		0.0	0.0	0.0			
#	10432	2023-11-27 11:07:34	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04679	No Station ID	No Station ID		0.0	0.0	0.0			
#	10431	2023-11-27 11:07:34	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04679	No Station ID	No Station ID		0.0	0.0	0.0			
#	10430	2023-11-27 11:07:33	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04604	No Station ID	No Station ID		0.0	0.0	0.0			
#	10429	2023-11-27 11:07:32	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04504	No Station ID	No Station ID		0.0	0.0	0.0			
#	10428	2023-11-27 11:07:31	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04454	No Station ID	No Station ID		0.0	0.0	0.0			
#	10427	2023-11-27 11:07:30	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04379	No Station ID	No Station ID		0.0	0.0	0.0			
#	10426	2023-11-27 11:07:29	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04279	No Station ID	No Station ID		0.0	0.0	0.0			
#	10425	2023-11-27 11:07:29	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	04279	No Station ID	No Station ID		0.0	0.0	0.0			
#	10424	2023-11-27 11:07:29	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	04279	No Station ID	No Station ID		0.0	0.0	0.0			
#	10423	2023-11-27 11:07:29	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	04279	No Station ID	No Station ID		0.0	0.0	0.0			
#	10422	2023-11-27 11:07:29	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	04229	No Station ID	No Station ID		0.0	0.0	0.0			
#	10421	2023-11-27 11:07:29	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	04229	No Station ID	No Station ID		0.0	0.0	0.0			
#	10420	2023-11-27 11:07:28	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	04229	No Station ID	No Station ID		0.0	0.0	0.0			
#	10419	2023-11-27 11:07:28	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04229	No Station ID	No Station ID		0.0	0.0	0.0			
#	10418	2023-11-27 11:07:28	54	D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04229	No Station ID	No Station ID		0.0	0.0	0.0			
#	10417	2023-11-27 11:07:28	54	D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10416	2023-11-27 11:07:27	54	CT D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10415	2023-11-27 11:07:27	54	mB D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10414	2023-11-27 11:07:27	54	D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10413	2023-11-27 11:07:27	54	mB D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04129	No Station ID	No Station ID		0.0	0.0	0.0			
#	10412	2023-11-27 11:07:27	54	mB D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04054	No Station ID	No Station ID		0.0	0.0	0.0			
#	10411	2023-11-27 11:07:27	54	CT D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04054	No Station ID	No Station ID		0.0	0.0	0.0			
#	10410	2023-11-27 11:07:26	54	mP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04054	No Station ID	No Station ID		0.0	0.0	0.0			
#	10409	2023-11-27 11:07:26	54	mP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04054	No Station ID	No Station ID		0.0	0.0	0.0			
#	10408	2023-11-27 11:07:26	54	D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04054	No Station ID	No Station ID		0.0	0.0	0.0			
#	10407	2023-11-27 11:07:26	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04054	No Station ID	No Station ID		0.0	0.0	0.0			
#	10406	2023-11-27 11:07:26	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04054	No Station ID	No Station ID		0.0	0.0	0.0			
#	10405	2023-11-27 11:07:26	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	04054	No Station ID	No Station ID		0.0	0.0	0.0			
#	10404	2023-11-27 11:07:26	54	MP D	OX	OX	OX	OX	STOP	Y			0	00	OX	04054	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10403	2023-11-27 11:07:26	54	MP D	OX	OX	OX	OX	STOP	Y			0	00	OX	04054	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10402	2023-11-27 11:07:26	54	MP D	OX	OX	OX	OX	STOP	Y			0	00	OX	04054	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10401	2023-11-27 11:07:26	54	MP D	OX	OX	OX	OX	STOP	Y			0	00	OX	04054	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10400	2023-11-27 11:07:26	54	MP D	OX	OX	OX	OX	STOP	Y			0	00	OX	04054	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10399	2023-11-27 11:07:26	54	MP D	OX	OX	OX	OX	STOP	Y			0	00	OX	04054	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	10398	2023-11-27 11:07:26	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	04054	No Station ID	No Station ID		0.0	0.0	0.0			

Test Run #2 – Take 2 ERU Event Log



Appendix III: Test Run #3 Analysis

Test Run #3 Track Circuit Diagram and Vehicle Response



Test Run #3 ATC Event Log Data Review

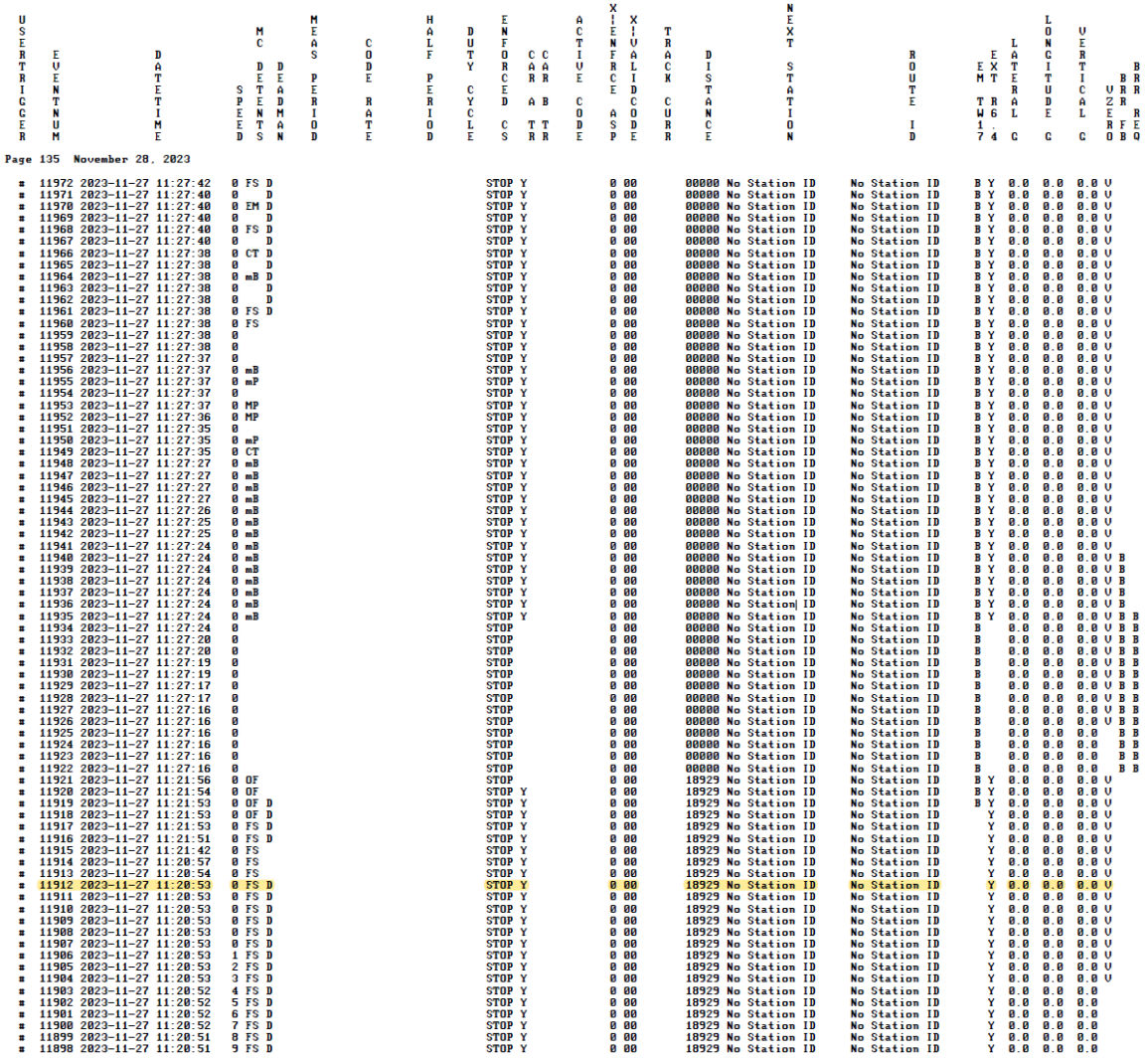
ATC Event Log Data Review – Test Run #3		
Criteria	**Time**	**Distance**
Loss of Cab	11:20:06	16354
Stop Code	11:20:09	16579
FS Brake	11:20:30	18204
Zero Speed	11:20:53	18929

Rail vehicle speed at loss of cab: **54 mph**

Total distance from brake application to stopping point: **725 feet**

Total time from brake application to stopping point: **23 seconds**

Test Run #3 ATC Event Log Data Review



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USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAR AB TR	ACTIVE CODE	XIENFRCE ASP	XVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMW17	EXTR64	LATERAL C	LONGITUDE C	UERTICAL C	VZERO	BRRFB	BRREQ
#	11972	2023-11-27 11:27:42	0	FS D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11971	2023-11-27 11:27:40	0	D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11970	2023-11-27 11:27:40	0	EM D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11969	2023-11-27 11:27:40	0	D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11968	2023-11-27 11:27:40	0	FS D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11967	2023-11-27 11:27:40	0	D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11966	2023-11-27 11:27:38	0	CT D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11965	2023-11-27 11:27:38	0	D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11964	2023-11-27 11:27:38	0	mB D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11963	2023-11-27 11:27:38	0	D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11962	2023-11-27 11:27:38	0	D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11961	2023-11-27 11:27:38	0	FS D						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11960	2023-11-27 11:27:38	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11959	2023-11-27 11:27:38	0							STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11958	2023-11-27 11:27:38	0							STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11957	2023-11-27 11:27:37	0							STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11956	2023-11-27 11:27:37	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11955	2023-11-27 11:27:37	0	mP						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11954	2023-11-27 11:27:37	0							STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11953	2023-11-27 11:27:37	0	MP						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11952	2023-11-27 11:27:36	0	MP						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11951	2023-11-27 11:27:35	0							STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11950	2023-11-27 11:27:35	0	mP						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11949	2023-11-27 11:27:35	0	CT						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11948	2023-11-27 11:27:27	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11947	2023-11-27 11:27:27	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11946	2023-11-27 11:27:27	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11945	2023-11-27 11:27:27	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11944	2023-11-27 11:27:26	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11943	2023-11-27 11:27:25	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11942	2023-11-27 11:27:25	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11941	2023-11-27 11:27:24	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11940	2023-11-27 11:27:24	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	11939	2023-11-27 11:27:24	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	11938	2023-11-27 11:27:24	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	11937	2023-11-27 11:27:24	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	11936	2023-11-27 11:27:24	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	11935	2023-11-27 11:27:24	0	mB						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B
#	11934	2023-11-27 11:27:21	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	11933	2023-11-27 11:27:20	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	11932	2023-11-27 11:27:20	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	11931	2023-11-27 11:27:19	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	11930	2023-11-27 11:27:19	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	11929	2023-11-27 11:27:17	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	11928	2023-11-27 11:27:17	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	11927	2023-11-27 11:27:16	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	11926	2023-11-27 11:27:16	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	11925	2023-11-27 11:27:16	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	11924	2023-11-27 11:27:16	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	11923	2023-11-27 11:27:16	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	11922	2023-11-27 11:27:16	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	11921	2023-11-27 11:21:56	0	OF						STOP				0	00		18929	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11920	2023-11-27 11:21:54	0	OF						STOP	Y			0	00		18929	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11919	2023-11-27 11:21:53	0	OF D						STOP	Y			0	00		18929	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	11918	2023-11-27 11:21:53	0	OF D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11917	2023-11-27 11:21:53	0	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11916	2023-11-27 11:21:51	0	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11915	2023-11-27 11:21:42	0	FS						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11914	2023-11-27 11:20:57	0	FS						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11913	2023-11-27 11:20:54	0	FS						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11912	2023-11-27 11:20:53	0	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11911	2023-11-27 11:20:53	0	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11910	2023-11-27 11:20:53	0	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11909	2023-11-27 11:20:53	0	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11908	2023-11-27 11:20:53	0	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11907	2023-11-27 11:20:53	0	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11906	2023-11-27 11:20:53	1	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11905	2023-11-27 11:20:53	2	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11904	2023-11-27 11:20:53	3	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	11903	2023-11-27 11:20:52	4	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11902	2023-11-27 11:20:52	5	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11901	2023-11-27 11:20:52	6	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11900	2023-11-27 11:20:52	7	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11899	2023-11-27 11:20:51	8	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11898	2023-11-27 11:20:51	9	FS D						STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0			

ZERO SPEED

Test Run #3 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MCDETENTS	DEADMAN	MEASPERIOD	CODERATE	HALFPERIOD	DUTYCYCLE	ENFORCEDCS	CARATR	CARBTR	ACTIVECODE	XIENFORCEASP	XIVALIDCODE	TRACKCURR	DISTANCE	NEXTSTATION	ROUTEID	EMTW17	EXTR64	LATERALC	LONGITUDEC	VERTICALC	UV2ERO	BRRFB	BRREQ
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#	11897	2023-11-27 11:20:51	10	FS	D					STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11896	2023-11-27 11:20:51	10	FS	D					STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11895	2023-11-27 11:20:51	11	FS	D					STOP	Y			0	00		18929	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11894	2023-11-27 11:20:51	11	FS	D					STOP	Y			0	00		18879	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11893	2023-11-27 11:20:51	12	FS	D					STOP	Y			0	00		18879	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11892	2023-11-27 11:20:51	12	FS	D					STOP	Y			0	00		18879	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11891	2023-11-27 11:20:50	13	FS	D					STOP	Y			0	00		18879	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11890	2023-11-27 11:20:50	14	FS	D					STOP	Y			0	00		18879	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11889	2023-11-27 11:20:50	15	FS	D					STOP	Y			0	00		18879	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11888	2023-11-27 11:20:49	16	FS	D					STOP	Y			0	00		18879	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11887	2023-11-27 11:20:49	17	FS	D					STOP	Y			0	00		18879	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11886	2023-11-27 11:20:49	18	FS	D					STOP	Y			0	00		18879	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11885	2023-11-27 11:20:49	19	FS	D					STOP	Y			0	00		18879	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11884	2023-11-27 11:20:49	19	FS	D					STOP	Y			0	00		18854	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11883	2023-11-27 11:20:48	20	FS	D					STOP	Y			0	00		18854	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11882	2023-11-27 11:20:48	21	FS	D					STOP	Y			0	00		18854	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11881	2023-11-27 11:20:48	22	FS	D					STOP	Y			0	00		18854	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11880	2023-11-27 11:20:48	22	FS	D					STOP	Y			0	00		18829	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11879	2023-11-27 11:20:48	23	FS	D					STOP	Y			0	00		18829	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11878	2023-11-27 11:20:47	24	FS	D					STOP	Y			0	00		18829	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11877	2023-11-27 11:20:47	25	FS	D					STOP	Y			0	00		18829	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11876	2023-11-27 11:20:47	26	FS	D					STOP	Y			0	00		18829	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11875	2023-11-27 11:20:47	26	FS	D					STOP	Y			0	00		18779	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11874	2023-11-27 11:20:47	27	FS	D					STOP	Y			0	00		18779	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11873	2023-11-27 11:20:47	27	FS	D					STOP	Y			0	00		18779	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11872	2023-11-27 11:20:46	28	FS	D					STOP	Y			0	00		18779	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11871	2023-11-27 11:20:46	28	FS	D					STOP	Y			0	00		18779	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11870	2023-11-27 11:20:46	29	FS	D					STOP	Y			0	00		18779	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11869	2023-11-27 11:20:46	30	FS	D					STOP	Y			0	00		18779	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11868	2023-11-27 11:20:46	30	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11867	2023-11-27 11:20:45	31	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11866	2023-11-27 11:20:45	30	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11865	2023-11-27 11:20:45	29	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11864	2023-11-27 11:20:45	28	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11863	2023-11-27 11:20:44	27	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11862	2023-11-27 11:20:44	26	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11861	2023-11-27 11:20:44	25	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11860	2023-11-27 11:20:44	24	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11859	2023-11-27 11:20:44	23	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11858	2023-11-27 11:20:44	22	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11857	2023-11-27 11:20:44	20	FS	D					STOP	Y			0	00		18729	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11856	2023-11-27 11:20:44	20	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11855	2023-11-27 11:20:44	19	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11854	2023-11-27 11:20:44	18	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11853	2023-11-27 11:20:44	17	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11852	2023-11-27 11:20:43	16	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11851	2023-11-27 11:20:43	15	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11850	2023-11-27 11:20:43	14	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11849	2023-11-27 11:20:43	13	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11848	2023-11-27 11:20:43	12	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11847	2023-11-27 11:20:43	11	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11846	2023-11-27 11:20:43	10	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11845	2023-11-27 11:20:42	9	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11844	2023-11-27 11:20:42	8	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11843	2023-11-27 11:20:42	8	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11842	2023-11-27 11:20:42	7	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11841	2023-11-27 11:20:42	6	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11840	2023-11-27 11:20:42	6	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11839	2023-11-27 11:20:42	5	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11838	2023-11-27 11:20:42	4	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11837	2023-11-27 11:20:41	4	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11836	2023-11-27 11:20:41	5	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11835	2023-11-27 11:20:41	6	FS	D					STOP	Y			0	00		18679	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11834	2023-11-27 11:20:41	6	FS	D					STOP	Y			0	00		18654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11833	2023-11-27 11:20:41	7	FS	D					STOP	Y			0	00		18654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11832	2023-11-27 11:20:40	8	FS	D					STOP	Y			0	00		18654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11831	2023-11-27 11:20:40	9	FS	D					STOP	Y			0	00		18654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11830	2023-11-27 11:20:40	10	FS	D					STOP	Y			0	00		18654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11829	2023-11-27 11:20:40	11	FS	D					STOP	Y			0	00		18654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11828	2023-11-27 11:20:39	12	FS	D					STOP	Y			0	00		18654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11827	2023-11-27 11:20:39	13	FS	D					STOP	Y			0	00		18654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11826	2023-11-27 11:20:39	14	FS	D					STOP	Y			0	00		18654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11906	2023-11-27 11:20:39	15	FS	D					STOP	Y			0	00		18654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11899	2023-11-27 11:20:39	16	FS	D					STOP	Y			0	00		18654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	11898	2023-11-27 11:20:39	16	FS	D					STOP	Y			0	00		18629	No Station ID	No Station ID		Y	0.0	0.0	0.0			

Test Run #3 ATC Event Log Data Review

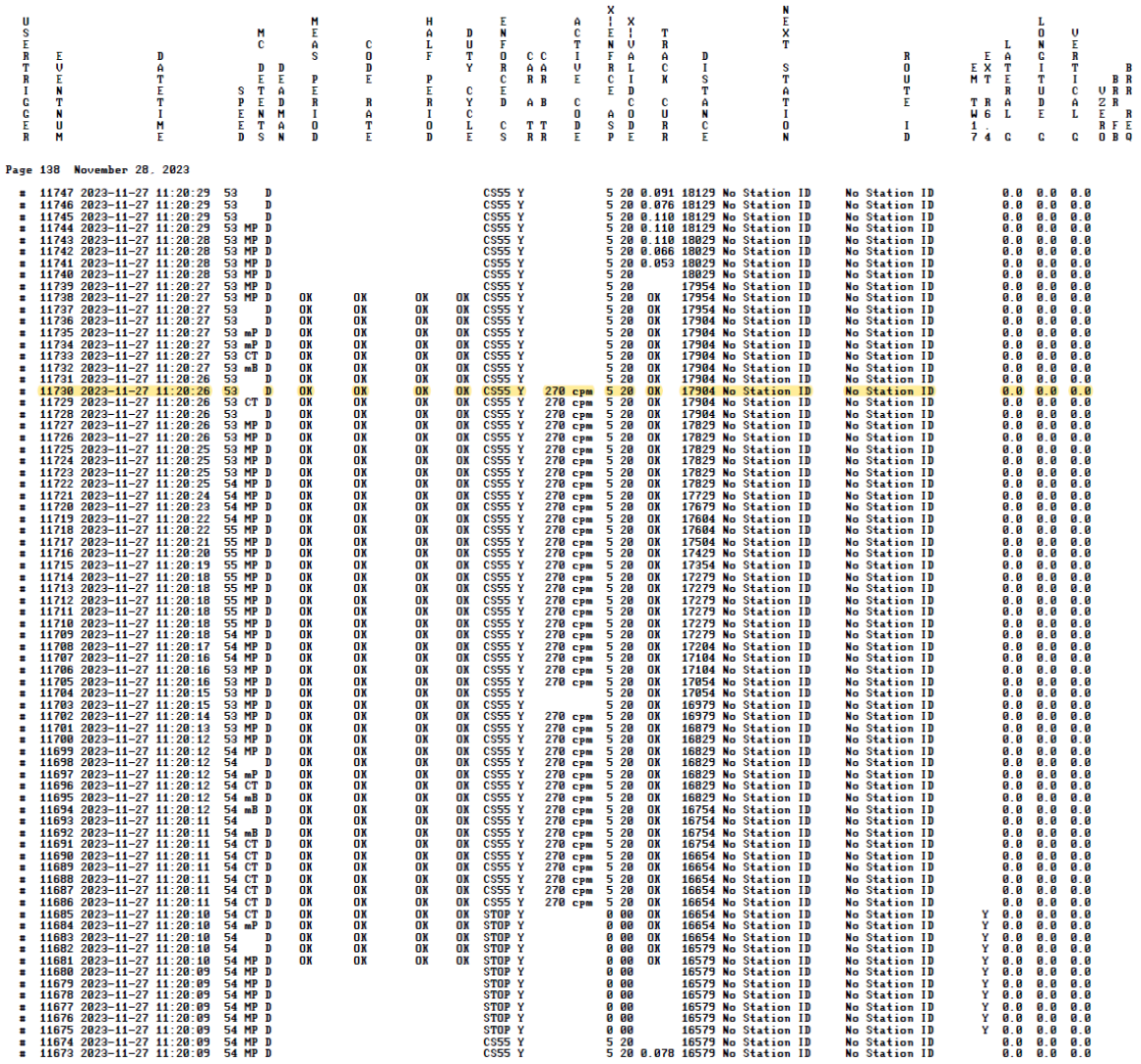
USERTRICGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CARA TR	CARB TR	ACTIVE CODE	XIENFRCE ASP	XIVALDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW14	EXTR64	LATERALC	LONGITUDEC	VERTICALC	UVZERO	BRRFB	BRREQ
Page 137 November 28, 2023																											
#	11822	2023-11-27 11:20:39	17	FS D					STOP	Y				0	00		18629	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11821	2023-11-27 11:20:39	18	FS D					STOP	Y				0	00		18629	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11820	2023-11-27 11:20:38	19	FS D					STOP	Y				0	00		18629	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11819	2023-11-27 11:20:38	20	FS D					STOP	Y				0	00		18629	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11818	2023-11-27 11:20:38	20	FS D					STOP	Y				0	00		18629	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11817	2023-11-27 11:20:38	20	FS D					STOP	Y				0	00		18629	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11816	2023-11-27 11:20:38	21	FS D					STOP	Y				0	00		18629	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11815	2023-11-27 11:20:38	21	FS D					STOP	Y				0	00		18579	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11814	2023-11-27 11:20:38	21	FS D					STOP	Y				0	00		18579	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11813	2023-11-27 11:20:37	22	FS D					STOP	Y				0	00		18579	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11812	2023-11-27 11:20:37	23	FS D					STOP	Y				0	00		18579	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11811	2023-11-27 11:20:37	24	FS D					STOP	Y				0	00		18579	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11810	2023-11-27 11:20:37	25	FS D					STOP	Y				0	00		18579	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11809	2023-11-27 11:20:37	26	FS D					STOP	Y				0	00		18579	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11808	2023-11-27 11:20:37	26	FS D					STOP	Y				0	00		18554	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11807	2023-11-27 11:20:37	27	FS D					STOP	Y				0	00		18554	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11806	2023-11-27 11:20:36	28	FS D					STOP	Y				0	00		18554	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11805	2023-11-27 11:20:36	29	FS D					STOP	Y				0	00		18554	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11804	2023-11-27 11:20:36	29	FS D					STOP	Y				0	00	0.063	18554	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11803	2023-11-27 11:20:36	30	FS D					STOP	Y				0	00	0.063	18554	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11802	2023-11-27 11:20:36	31	FS D					STOP	Y				0	00	0.063	18554	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11801	2023-11-27 11:20:36	31	FS D					STOP	Y				0	00	0.063	18529	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11800	2023-11-27 11:20:36	32	FS D					STOP	Y				0	00	0.063	18529	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11799	2023-11-27 11:20:35	33	FS D					STOP	Y				0	00	0.063	18529	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11798	2023-11-27 11:20:35	33	FS D					STOP	Y				0	00		18529	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11797	2023-11-27 11:20:35	34	FS D					STOP	Y				0	00		18529	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11796	2023-11-27 11:20:35	34	FS D					STOP	Y				0	00		18529	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11795	2023-11-27 11:20:35	34	FS D					STOP	Y				0	00		18454	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11794	2023-11-27 11:20:35	35	FS D					STOP	Y				0	00		18454	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11793	2023-11-27 11:20:34	36	FS D					STOP	Y				0	00		18454	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11792	2023-11-27 11:20:34	37	FS D					STOP	Y				0	00		18454	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11791	2023-11-27 11:20:34	38	FS D					STOP	Y				0	00		18454	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11790	2023-11-27 11:20:34	39	FS D					STOP	Y				0	00		18454	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11789	2023-11-27 11:20:34	39	FS D					STOP	Y				0	00		18454	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11788	2023-11-27 11:20:34	40	FS D					STOP	Y				0	00		18454	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11787	2023-11-27 11:20:34	40	FS D					STOP	Y				0	00		18429	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11786	2023-11-27 11:20:34	40	FS D					STOP	Y				0	00		18429	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11785	2023-11-27 11:20:33	41	FS D					STOP	Y				0	00		18429	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11784	2023-11-27 11:20:33	41	FS D					STOP	Y				0	00		18429	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11783	2023-11-27 11:20:33	42	FS D					STOP	Y				0	00		18429	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11782	2023-11-27 11:20:33	43	FS D					STOP	Y				0	00		18429	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11781	2023-11-27 11:20:33	44	FS D					STOP	Y				0	00		18429	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11780	2023-11-27 11:20:33	44	FS D					STOP	Y				0	00	0.106	18429	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11779	2023-11-27 11:20:33	45	FS D	281.2ms	213CPM	47.5ms	16x	STOP	Y				0	00	0.106	18429	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11778	2023-11-27 11:20:33	45	FS D	281.2ms	213CPM	47.5ms	16x	STOP	Y				0	00	0.106	18354	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11777	2023-11-27 11:20:33	46	FS D	281.2ms	213CPM	47.5ms	16x	STOP	Y				0	00	0.106	18354	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11776	2023-11-27 11:20:33	46	FS D	281.2ms	213CPM	47.5ms	16x	STOP	Y				0	00	0.099	18354	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11775	2023-11-27 11:20:32	47	FS D	281.2ms	213CPM	47.5ms	16x	STOP	Y				0	00	0.099	18354	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11774	2023-11-27 11:20:32	48	FS D	281.2ms	213CPM	47.5ms	16x	STOP	Y				0	00	0.099	18354	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11773	2023-11-27 11:20:32	49	FS D	281.2ms	213CPM	47.5ms	16x	STOP	Y				0	00	0.106	18354	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11772	2023-11-27 11:20:32	50	FS D	872.5ms	69CPM	37.5ms	4x	STOP	Y				0	00	0.099	18354	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11771	2023-11-27 11:20:32	50	FS D	872.5ms	69CPM	37.5ms	4x	STOP	Y				0	00	0.099	18304	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11770	2023-11-27 11:20:32	50	FS D	872.5ms	69CPM	37.5ms	4x	STOP	Y				0	00	0.099	18304	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11769	2023-11-27 11:20:32	51	FS D	872.5ms	69CPM	37.5ms	4x	STOP	Y				0	00	0.099	18304	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11768	2023-11-27 11:20:31	52	FS D					STOP	Y				0	00	0.059	18304	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11767	2023-11-27 11:20:31	53	FS D					STOP	Y				0	00	0.059	18304	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11766	2023-11-27 11:20:31	54	FS D					STOP	Y				0	00	0.059	18304	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11765	2023-11-27 11:20:31	54	FS D					STOP	Y				0	00	0.059	18204	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11764	2023-11-27 11:20:30	54	FS D					STOP	Y				0	00		18204	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11763	2023-11-27 11:20:30	54	D					STOP	Y				0	00		18204	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11762	2023-11-27 11:20:30	54	D					STOP	Y				0	00		18204	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11761	2023-11-27 11:20:30	54	D					STOP	Y				0	00		18204	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11760	2023-11-27 11:20:30	54	mB D					STOP	Y				0	00		18204	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11759	2023-11-27 11:20:30	54	mB D					STOP	Y				0	00	0.105	18204	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11758	2023-11-27 11:20:30	54	CT D					STOP	Y				0	00	0.105	18204	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11757	2023-11-27 11:20:30	54	mP D					STOP	Y				0	00	0.105	18204	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11756	2023-11-27 11:20:30	54	mP D					STOP	Y				0	00	0.105	18129	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11755	2023-11-27 11:20:30	54	D					STOP	Y				0	00	0.105	18129	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11754	2023-11-27 11:20:29	53	D					STOP	Y				0	00	0.105	18129	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11753	2023-11-27 11:20:29	53	D					STOP	Y				0	00	0.105	18129	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11752	2023-11-27 11:20:29	53	D					STOP	Y				0	00	0.105	18129	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11751	2023-11-27 11:20:29	53	D					STOP	Y				0	00	0.091	18129	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11750	2023-11-27 11:20:29	53	D					STOP	Y				0	00	0.091	18129	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11749	2023-11-27 11:20:29	53	D					STOP	Y				0	00	0.091	18129	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	11748	2023-11-27 11:20:29	53	D					STOP	Y				0	00	0.091	18129	No Station ID	No Station ID	Y	0.0	0.0	0.0				

FS BRAKE

STOP CODE

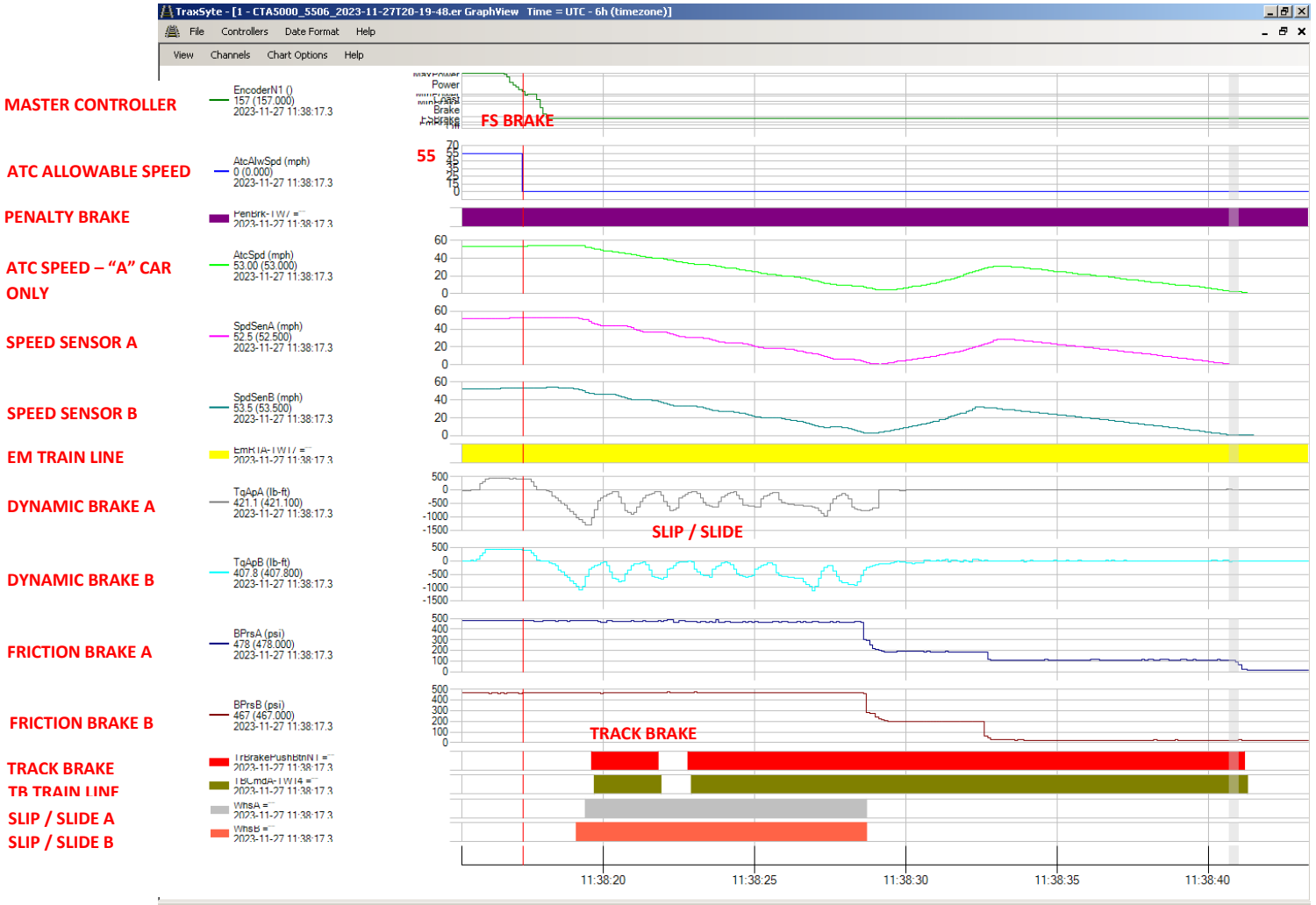
Test Run #3 ATC Event Log Data Review

LOSS OF CAB



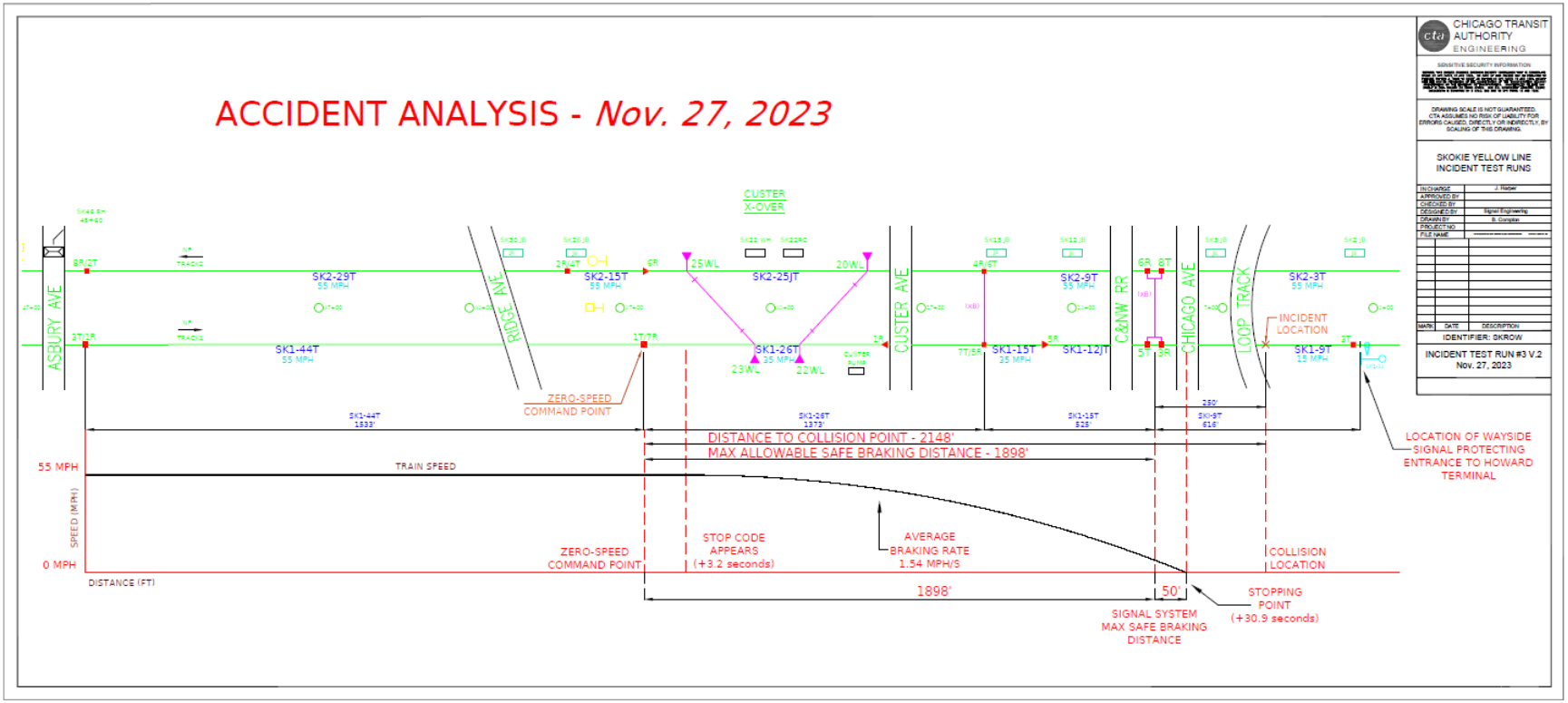
USERTRIGGER	EVENTNUM	DATETIME	SPEED	MCDETENTS	DEADMAN	MEASPERIOD	CODERATE	HALFPERIOD	DUTYCYCLE	ENFORCED CS	CARATR	CARBTR	ACTIVECODE	XIENFRCEASP	XIVALIDCODE	TRACKCURR	DISTANCE	NEXTSTATION	ROUTEID	EMTW1	EXTR64	LATERALC	LONGITUDEC	VERTICALC	UZERO	BRFB	BRREQ
Page 138 November 28, 2023																											
=	11747	2023-11-27 11:20:29	53	D						CS55	Y			5 20	0.091	18129	No Station ID	No Station ID			0.0	0.0	0.0			
=	11746	2023-11-27 11:20:29	53	D						CS55	Y			5 20	0.076	18129	No Station ID	No Station ID			0.0	0.0	0.0			
=	11745	2023-11-27 11:20:29	53	D						CS55	Y			5 20	0.110	18129	No Station ID	No Station ID			0.0	0.0	0.0			
=	11744	2023-11-27 11:20:29	53	MP D						CS55	Y			5 20	0.110	18129	No Station ID	No Station ID			0.0	0.0	0.0			
=	11743	2023-11-27 11:20:28	53	MP D						CS55	Y			5 20	0.110	18029	No Station ID	No Station ID			0.0	0.0	0.0			
=	11742	2023-11-27 11:20:28	53	MP D						CS55	Y			5 20	0.066	18029	No Station ID	No Station ID			0.0	0.0	0.0			
=	11741	2023-11-27 11:20:28	53	MP D						CS55	Y			5 20	0.053	18029	No Station ID	No Station ID			0.0	0.0	0.0			
=	11740	2023-11-27 11:20:28	53	MP D						CS55	Y			5 20		18029	No Station ID	No Station ID			0.0	0.0	0.0			
=	11739	2023-11-27 11:20:27	53	MP D						CS55	Y			5 20		17954	No Station ID	No Station ID			0.0	0.0	0.0			
=	11738	2023-11-27 11:20:27	53	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK	17954	No Station ID	No Station ID			0.0	0.0	0.0			
=	11737	2023-11-27 11:20:27	53	D	OK	OK	OK	OK	CS55	Y			5 20	OK	17954	No Station ID	No Station ID			0.0	0.0	0.0			
=	11736	2023-11-27 11:20:27	53	D	OK	OK	OK	OK	CS55	Y			5 20	OK	17904	No Station ID	No Station ID			0.0	0.0	0.0			
=	11735	2023-11-27 11:20:27	53	mP D	OK	OK	OK	OK	CS55	Y			5 20	OK	17904	No Station ID	No Station ID			0.0	0.0	0.0			
=	11734	2023-11-27 11:20:27	53	mP D	OK	OK	OK	OK	CS55	Y			5 20	OK	17904	No Station ID	No Station ID			0.0	0.0	0.0			
=	11733	2023-11-27 11:20:27	53	CT D	OK	OK	OK	OK	CS55	Y			5 20	OK	17904	No Station ID	No Station ID			0.0	0.0	0.0			
=	11732	2023-11-27 11:20:27	53	mB D	OK	OK	OK	OK	CS55	Y			5 20	OK	17904	No Station ID	No Station ID			0.0	0.0	0.0			
=	11731	2023-11-27 11:20:26	53	D	OK	OK	OK	OK	CS55	Y			5 20	OK	17904	No Station ID	No Station ID			0.0	0.0	0.0			
=	11730	2023-11-27 11:20:26	53	D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17904	No Station ID	No Station ID			0.0	0.0	0.0			
=	11729	2023-11-27 11:20:26	53	CT D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17904	No Station ID	No Station ID			0.0	0.0	0.0			
=	11728	2023-11-27 11:20:26	53	D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17904	No Station ID	No Station ID			0.0	0.0	0.0			
=	11727	2023-11-27 11:20:26	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11726	2023-11-27 11:20:26	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11725	2023-11-27 11:20:25	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11724	2023-11-27 11:20:25	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11723	2023-11-27 11:20:25	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11722	2023-11-27 11:20:25	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11721	2023-11-27 11:20:24	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17729	No Station ID	No Station ID			0.0	0.0	0.0			
=	11720	2023-11-27 11:20:23	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17679	No Station ID	No Station ID			0.0	0.0	0.0			
=	11719	2023-11-27 11:20:22	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17604	No Station ID	No Station ID			0.0	0.0	0.0			
=	11718	2023-11-27 11:20:22	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17604	No Station ID	No Station ID			0.0	0.0	0.0			
=	11717	2023-11-27 11:20:21	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17504	No Station ID	No Station ID			0.0	0.0	0.0			
=	11716	2023-11-27 11:20:20	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17429	No Station ID	No Station ID			0.0	0.0	0.0			
=	11715	2023-11-27 11:20:19	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17354	No Station ID	No Station ID			0.0	0.0	0.0			
=	11714	2023-11-27 11:20:18	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17279	No Station ID	No Station ID			0.0	0.0	0.0			
=	11713	2023-11-27 11:20:18	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17279	No Station ID	No Station ID			0.0	0.0	0.0			
=	11712	2023-11-27 11:20:18	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17279	No Station ID	No Station ID			0.0	0.0	0.0			
=	11711	2023-11-27 11:20:18	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17279	No Station ID	No Station ID			0.0	0.0	0.0			
=	11710	2023-11-27 11:20:18	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17279	No Station ID	No Station ID			0.0	0.0	0.0			
=	11709	2023-11-27 11:20:18	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17279	No Station ID	No Station ID			0.0	0.0	0.0			
=	11708	2023-11-27 11:20:17	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17204	No Station ID	No Station ID			0.0	0.0	0.0			
=	11707	2023-11-27 11:20:16	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17104	No Station ID	No Station ID			0.0	0.0	0.0			
=	11706	2023-11-27 11:20:16	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17104	No Station ID	No Station ID			0.0	0.0	0.0			
=	11705	2023-11-27 11:20:16	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	17054	No Station ID	No Station ID			0.0	0.0	0.0			
=	11704	2023-11-27 11:20:15	53	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK	17054	No Station ID	No Station ID			0.0	0.0	0.0			
=	11703	2023-11-27 11:20:15	53	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK	16979	No Station ID	No Station ID			0.0	0.0	0.0			
=	11702	2023-11-27 11:20:14	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16979	No Station ID	No Station ID			0.0	0.0	0.0			
=	11701	2023-11-27 11:20:13	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16879	No Station ID	No Station ID			0.0	0.0	0.0			
=	11700	2023-11-27 11:20:12	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11699	2023-11-27 11:20:12	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11698	2023-11-27 11:20:12	54	D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11697	2023-11-27 11:20:12	54	mP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11696	2023-11-27 11:20:12	54	CT D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11695	2023-11-27 11:20:12	54	mB D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16829	No Station ID	No Station ID			0.0	0.0	0.0			
=	11694	2023-11-27 11:20:12	54	mB D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16754	No Station ID	No Station ID			0.0	0.0	0.0			
=	11693	2023-11-27 11:20:11	54	D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16754	No Station ID	No Station ID			0.0	0.0	0.0			
=	11692	2023-11-27 11:20:11	54	mB D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16754	No Station ID	No Station ID			0.0	0.0	0.0			
=	11691	2023-11-27 11:20:11	54	CT D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16754	No Station ID	No Station ID			0.0	0.0	0.0			
=	11690	2023-11-27 11:20:11	54	CT D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16654	No Station ID	No Station ID			0.0	0.0	0.0			
=	11689	2023-11-27 11:20:11	54	CT D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16654	No Station ID	No Station ID			0.0	0.0	0.0			
=	11688	2023-11-27 11:20:11	54	CT D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16654	No Station ID	No Station ID			0.0	0.0	0.0			
=	11687	2023-11-27 11:20:11	54	CT D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16654	No Station ID	No Station ID			0.0	0.0	0.0			
=	11686	2023-11-27 11:20:11	54	CT D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK	16654	No Station ID	No Station ID			0.0	0.0	0.0			
=	11685	2023-11-27 11:20:10	54	CT D	OK	OK	OK	OK	STOP	Y			0 00	OK	16654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
=	11684	2023-11-27 11:20:10	54	mP D	OK	OK	OK	OK	STOP	Y			0 00	OK	16654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
=	11683	2023-11-27 11:20:10	54	D	OK	OK	OK	OK	STOP	Y			0 00	OK	16654	No Station ID	No Station ID		Y	0.0	0.0	0.0			
=	11682	2023-11-27 11:20:10	54	D	OK	OK	OK	OK	STOP	Y			0 00	OK	16579	No Station ID	No Station ID		Y	0.0	0.0	0.0			
=	11681	2023-11-27 11:20:10	54	MP D	OK	OK	OK	OK	STOP	Y			0 00	OK	16579	No Station ID	No Station ID		Y	0.0	0.0	0.0			
=	11680	2023-11-27 11:20:09	54	MP D					STOP	Y			0 00		16579	No Station ID	No Station ID		Y	0.0	0.0	0.0			
=	11679	2023-11-27 11:20:09	54	MP D					STOP	Y			0 00		16579	No Station ID	No Station ID		Y	0.0	0.0	0.0			
=	11678	2023-11-27 11:20:09	54	MP D					STOP	Y			0 00		16579	No Station ID	No Station ID		Y	0.0	0.0	0.0			
=	11677	2023-11-27 11:20:09	54	MP D					STOP	Y			0 00		16579	No Station ID	No Station ID		Y	0.0	0.0	0.0			
=	11676	2023-11-27 11:20:09	54	MP D					STOP	Y			0 00		16579	No Station ID	No Station ID		Y	0.0	0.0	0.0			
=	11675	2023-11-27 11:20:09	54	MP D					STOP	Y			0 00		16579	No Station ID	No Station ID		Y	0.0	0.0	0.0			
=	11674	2023-11-27 11:20:09	54	MP D					CS55	Y			5 20		16579	No Station ID	No Station ID			0.0	0.0	0.0			
=	11673	2023-11-27 11:20:09	54	MP D					CS55	Y			5 20	0.078	16579	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #3 ERU Event Log



Appendix III-II: Test Run #3 – Take 2 Analysis

Test Run #3 – Take 2 Track Circuit Diagram and Vehicle Response



Test Run #3 – Take 2 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #3 – Take 2		
Criteria	**Time**	**Distance**
Loss of Cab	11:38:21	28727
Stop Code	11:38:25	28952
FS Brake	11:38:26	29102
Zero Speed	11:39:01	29802

Rail vehicle speed at loss of cab: **54**

Total distance from brake application to stopping point: **700 feet**

Total time from brake application to stopping point: **35 seconds**

Test Run #3 – Take 2

ATC Event Log Data

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USERTRIGGER	EVENTNUM	DATETIME	MC DETENTS	SPEED	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAR BT	ACTIVE CODE	XINFENFORCE ASP	XVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW17	EXT R64	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BREQ
#	13172	2023-11-27 11:45:52	0							STOP	Y			0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13171	2023-11-27 11:45:52	0 MP							STOP	Y			0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13170	2023-11-27 11:45:52	0							STOP	Y			0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13169	2023-11-27 11:45:21	0 CT							STOP	Y			0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13168	2023-11-27 11:45:21	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13167	2023-11-27 11:45:21	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13166	2023-11-27 11:45:21	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13165	2023-11-27 11:45:21	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13164	2023-11-27 11:45:21	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13163	2023-11-27 11:45:20	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13162	2023-11-27 11:45:20	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V	B	
#	13161	2023-11-27 11:45:20	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V	B	
#	13160	2023-11-27 11:45:20	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V	B	
#	13159	2023-11-27 11:45:20	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V	B	
#	13158	2023-11-27 11:45:20	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V	B	
#	13157	2023-11-27 11:45:20	0 CT							STOP	Y			0 00		00000	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V	B	B
#	13156	2023-11-27 11:45:19	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0	V	B	B
#	13155	2023-11-27 11:45:16	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0	V	B	B
#	13154	2023-11-27 11:45:16	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0	V	B	B
#	13153	2023-11-27 11:45:15	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0	V	B	B
#	13152	2023-11-27 11:45:14	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0	V	B	B
#	13151	2023-11-27 11:45:13	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0	V	B	B
#	13150	2023-11-27 11:45:12	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0	V	B	B
#	13149	2023-11-27 11:45:12	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0	V	B	B
#	13148	2023-11-27 11:45:11	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0	V	B	B
#	13147	2023-11-27 11:45:11	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0		B	B
#	13146	2023-11-27 11:45:11	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0		B	B
#	13145	2023-11-27 11:45:11	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0		B	B
#	13144	2023-11-27 11:45:11	0							STOP				0 00		00000	No Station ID	No Station ID		B		0.0	0.0	0.0		B	B
#	13143	2023-11-27 11:44:38	0 OF							STOP				0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13142	2023-11-27 11:44:37	0 OF							STOP	Y			0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13141	2023-11-27 11:44:37	0 OF D							STOP	Y			0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13140	2023-11-27 11:44:36	0 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13139	2023-11-27 11:44:36	0 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13138	2023-11-27 11:44:26	0 FS							STOP	Y			0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13137	2023-11-27 11:43:27	0 FS							STOP	Y			0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13136	2023-11-27 11:43:24	0 FS							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13135	2023-11-27 11:43:24	0 FS							STOP	Y			0 00		29802	No Station ID	No Station ID		B	Y	0.0	0.0	0.0	V		
#	13134	2023-11-27 11:41:37	0 FS							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13133	2023-11-27 11:39:27	0 FS							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13132	2023-11-27 11:39:02	0 FS							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13131	2023-11-27 11:39:02	0 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13130	2023-11-27 11:39:02	0 D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13129	2023-11-27 11:39:02	0 D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13128	2023-11-27 11:39:01	0 CT D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13127	2023-11-27 11:39:01	0 mP D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13126	2023-11-27 11:39:01	0 CT D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13125	2023-11-27 11:39:01	0 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13124	2023-11-27 11:39:01	0 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13123	2023-11-27 11:39:00	0 FS							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13122	2023-11-27 11:38:58	0 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13121	2023-11-27 11:38:48	0 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13120	2023-11-27 11:38:48	0 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13119	2023-11-27 11:38:48	0 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13118	2023-11-27 11:38:48	0 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13117	2023-11-27 11:38:48	0 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13116	2023-11-27 11:38:48	1 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13115	2023-11-27 11:38:48	2 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13114	2023-11-27 11:38:48	3 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0	V		
#	13113	2023-11-27 11:38:48	4 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13112	2023-11-27 11:38:48	6 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13111	2023-11-27 11:38:48	7 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13110	2023-11-27 11:38:48	8 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13109	2023-11-27 11:38:47	9 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13108	2023-11-27 11:38:47	10 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13107	2023-11-27 11:38:47	11 FS D							STOP	Y			0 00		29802	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13106	2023-11-27 11:38:47	11 FS D							STOP	Y			0 00		29777	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13105	2023-11-27 11:38:46	12 FS D							STOP	Y			0 00		29777	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13104	2023-11-27 11:38:46	11 FS D							STOP	Y			0 00		29777	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13103	2023-11-27 11:38:46	11 FS D							STOP	Y			0 00		29777	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13102	2023-11-27 11:38:46	10 FS D							STOP	Y			0 00		29777	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13101	2023-11-27 11:38:46	10 FS D							STOP	Y			0 00		29777	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13100	2023-11-27 11:38:46	10 FS D							STOP	Y			0 00		29777	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13099	2023-11-27 11:38:45	9 FS D							STOP	Y			0 00		29777	No Station ID	No Station ID			Y	0.0	0.0	0.0			
#	13098	2023-11-27 11:38:45	9 FS D							STOP	Y			0 00		29727	No Station ID	No Station ID			Y	0.0	0.0	0.0			

ZERO SPEED

Test Run #3 – Take 2

ATC Event Log Data

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MCDETENTS	DEADMAN	MEASPERIOD	CODERATE	HALFPERIOD	DUTYCYCLE	ENFORCEDCS	CARATR	CARBTR	ACTIVECODE	XIENFORCEASP	XIVALIDCODE	TRACKCURR	DISTANCE	NEXTSTATION	ROUTEID	EMTW17	EXTR64	LATERALG	LONCITUDEG	VERTICALG	UV20	BRFB	BRREQ
Page 120 November 28, 2023																											
#	13097	2023-11-27 11:38:44	8	FS	D						STOP	Y		0	00	29727	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13096	2023-11-27 11:38:44	7	FS	D						STOP	Y		0	00	29727	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13095	2023-11-27 11:38:44	6	FS	D						STOP	Y		0	00	29727	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13094	2023-11-27 11:38:44	5	FS	D						STOP	Y		0	00	29727	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13093	2023-11-27 11:38:43	4	FS	D						STOP	Y		0	00	29727	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13092	2023-11-27 11:38:43	4	FS	D						STOP	Y		0	00	29727	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13091	2023-11-27 11:38:43	5	FS	D						STOP	Y		0	00	29727	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13090	2023-11-27 11:38:42	6	FS	D						STOP	Y		0	00	29727	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13089	2023-11-27 11:38:42	6	FS	D						STOP	Y		0	00	29702	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13088	2023-11-27 11:38:42	6	FS	D						STOP	Y		0	00	29702	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13087	2023-11-27 11:38:42	7	FS	D						STOP	Y		0	00	29702	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13086	2023-11-27 11:38:41	7	FS	D						STOP	Y		0	00	29702	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13085	2023-11-27 11:38:41	8	FS	D						STOP	Y		0	00	29702	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13084	2023-11-27 11:38:40	9	FS	D						STOP	Y		0	00	29702	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13083	2023-11-27 11:38:40	10	FS	D						STOP	Y		0	00	29702	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13082	2023-11-27 11:38:40	11	FS	D						STOP	Y		0	00	29702	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13081	2023-11-27 11:38:40	12	FS	D						STOP	Y		0	00	29702	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13080	2023-11-27 11:38:39	13	FS	D						STOP	Y		0	00	29702	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13079	2023-11-27 11:38:39	14	FS	D						STOP	Y		0	00	29702	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13078	2023-11-27 11:38:38	14	FS	D						STOP	Y		0	00	29677	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13077	2023-11-27 11:38:38	14	FS	D						STOP	Y		0	00	29627	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13076	2023-11-27 11:38:38	15	FS	D						STOP	Y		0	00	29627	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13075	2023-11-27 11:38:38	15	FS	D						STOP	Y		0	00	29627	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13074	2023-11-27 11:38:37	16	FS	D						STOP	Y		0	00	29627	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13073	2023-11-27 11:38:37	17	FS	D						STOP	Y		0	00	29627	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13072	2023-11-27 11:38:37	17	FS	D						STOP	Y		0	00	29627	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13071	2023-11-27 11:38:37	18	FS	D						STOP	Y		0	00	29627	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13070	2023-11-27 11:38:36	19	FS	D						STOP	Y		0	00	29627	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13069	2023-11-27 11:38:36	19	FS	D						STOP	Y		0	00	29602	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13068	2023-11-27 11:38:36	20	FS	D						STOP	Y		0	00	29602	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13067	2023-11-27 11:38:36	21	FS	D						STOP	Y		0	00	29602	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13066	2023-11-27 11:38:35	22	FS	D						STOP	Y		0	00	29602	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13065	2023-11-27 11:38:35	22	FS	D						STOP	Y		0	00	29577	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13064	2023-11-27 11:38:35	23	FS	D						STOP	Y		0	00	29577	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13063	2023-11-27 11:38:35	24	FS	D						STOP	Y		0	00	29577	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13062	2023-11-27 11:38:34	25	FS	D						STOP	Y		0	00	29577	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13061	2023-11-27 11:38:34	25	FS	D						STOP	Y		0	00	29527	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13060	2023-11-27 11:38:34	26	FS	D						STOP	Y		0	00	29527	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13059	2023-11-27 11:38:33	27	FS	D						STOP	Y		0	00	29527	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13058	2023-11-27 11:38:33	28	FS	D						STOP	Y		0	00	29527	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13057	2023-11-27 11:38:33	28	FS	D						STOP	Y		0	00	29527	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13056	2023-11-27 11:38:33	28	FS	D						STOP	Y		0	00	29477	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13055	2023-11-27 11:38:33	29	FS	D						STOP	Y		0	00	29477	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13054	2023-11-27 11:38:33	29	FS	D						STOP	Y		0	00	29477	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13053	2023-11-27 11:38:32	30	FS	D						STOP	Y		0	00	29477	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13052	2023-11-27 11:38:32	31	FS	D						STOP	Y		0	00	29477	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13051	2023-11-27 11:38:32	31	FS	D						STOP	Y		0	00	29427	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13050	2023-11-27 11:38:32	32	FS	D						STOP	Y		0	00	29427	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13049	2023-11-27 11:38:32	33	FS	D						STOP	Y		0	00	29427	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13048	2023-11-27 11:38:32	34	FS	D						STOP	Y		0	00	29427	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13047	2023-11-27 11:38:31	35	FS	D						STOP	Y		0	00	29427	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13046	2023-11-27 11:38:31	36	FS	D						STOP	Y		0	00	29427	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13045	2023-11-27 11:38:31	36	FS	D						STOP	Y		0	00	29377	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13044	2023-11-27 11:38:31	37	FS	D						STOP	Y		0	00	29377	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13043	2023-11-27 11:38:31	38	FS	D						STOP	Y		0	00	29377	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13042	2023-11-27 11:38:30	39	FS	D						STOP	Y		0	00	29377	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13041	2023-11-27 11:38:30	40	FS	D						STOP	Y		0	00	29377	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13040	2023-11-27 11:38:30	41	FS	D						STOP	Y		0	00	29377	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13039	2023-11-27 11:38:30	41	FS	D						STOP	Y		0	00	29302	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13038	2023-11-27 11:38:29	42	FS	D						STOP	Y		0	00	29302	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13037	2023-11-27 11:38:29	43	FS	D						STOP	Y		0	00	29302	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13036	2023-11-27 11:38:29	43	FS	D						STOP	Y		0	00	29252	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13035	2023-11-27 11:38:29	44	FS	D						STOP	Y		0	00	29252	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13034	2023-11-27 11:38:29	44	FS	D						STOP	Y		0	00	29252	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13033	2023-11-27 11:38:29	45	FS	D						STOP	Y		0	00	29252	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13032	2023-11-27 11:38:29	46	FS	D						STOP	Y		0	00	29252	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13031	2023-11-27 11:38:29	46	FS	D						STOP	Y		0	00	29252	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13030	2023-11-27 11:38:28	47	FS	D						STOP	Y		0	00	29252	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13029	2023-11-27 11:38:28	48	FS	D						STOP	Y		0	00	29252	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13028	2023-11-27 11:38:28	48	FS	D						STOP	Y		0	00	29177	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13027	2023-11-27 11:38:28	49	FS	D						STOP	Y		0	00	29177	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	13026	2023-11-27 11:38:28	50	FS	D						STOP	Y		0	00	29177	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	12956	2023-11-27 11:38:28	51	FS	D						STOP	Y		0	00	29177	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	12945	2023-11-27 11:38:27	52	FS	D						STOP	Y		0	00	29177	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	12948	2023-11-27 11:38:27	53	FS	D						STOP	Y		0	00	29177	No Station ID	No Station ID		Y	0.0	0.0	0.0				

Test Run #3 – Take 2

ATC Event Log Data

FS BRAKE

STOP CODE

LOSS OF CAB

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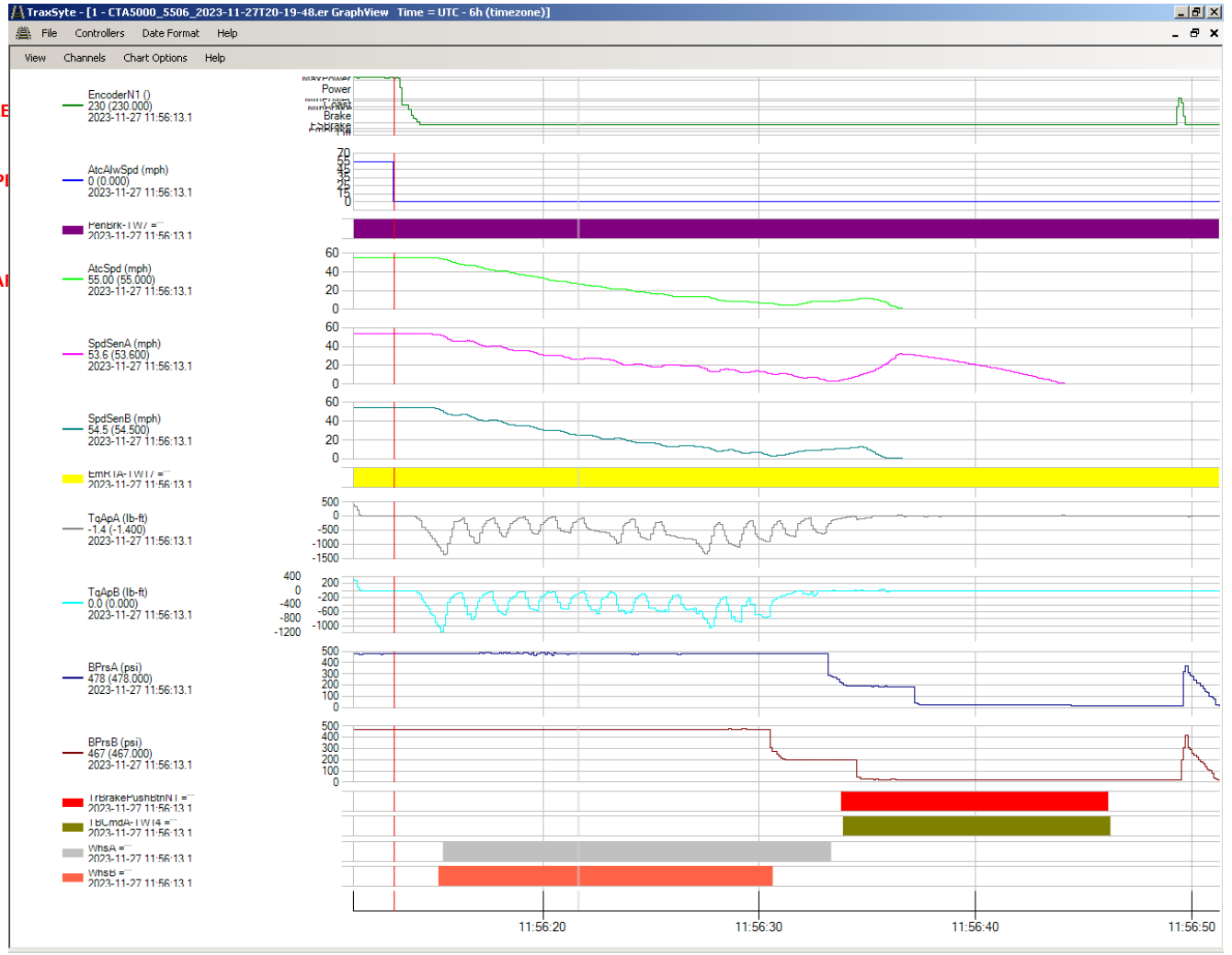
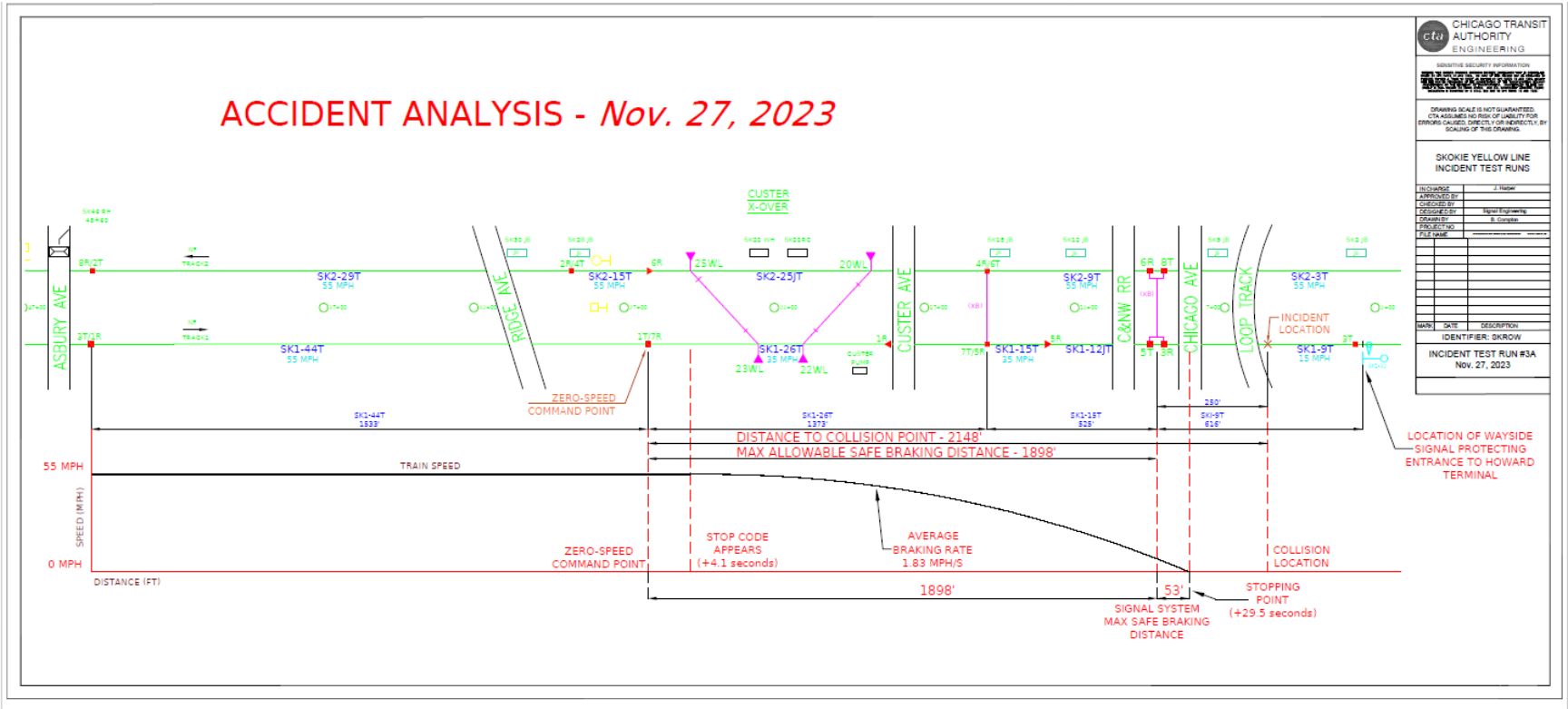
USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW14	EXTR6.	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BRREQ
Page 121 November 28, 2023																											
#	13022	2023-11-27 11:38:27	54	FS D						STOP	Y			0	00		29177	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13021	2023-11-27 11:38:27	54	FS D						STOP	Y			0	00		29102	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13020	2023-11-27 11:38:26	55	FS D						STOP	Y			0	00		29102	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13019	2023-11-27 11:38:26	55	FS D						STOP	Y			0	00		29102	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13018	2023-11-27 11:38:26	55	FS D						STOP	Y			0	00		29102	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13017	2023-11-27 11:38:26	55	D						STOP	Y			0	00		29102	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13016	2023-11-27 11:38:26	55	D						STOP	Y			0	00		29052	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13015	2023-11-27 11:38:26	55	mB D						STOP	Y			0	00		29052	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13014	2023-11-27 11:38:25	55	CT D						STOP	Y			0	00		29052	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13013	2023-11-27 11:38:25	55	mP D						STOP	Y			0	00		29052	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13012	2023-11-27 11:38:25	55	D						STOP	Y			0	00		29052	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13011	2023-11-27 11:38:25	55	MP D						STOP	Y			0	00		29052	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13010	2023-11-27 11:38:25	55	MP D						STOP	Y			0	00		28952	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13009	2023-11-27 11:38:25	55	MP D						STOP	Y			0	00		28952	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13008	2023-11-27 11:38:25	55	MP D						STOP	Y			0	00		28952	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13007	2023-11-27 11:38:25	55	MP D						STOP	Y			0	00		28952	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	13006	2023-11-27 11:38:24	55	MP D						CS55	Y			5	20		28952	No Station ID	No Station ID			0.0	0.0	0.0			
#	13005	2023-11-27 11:38:24	55	MP D						CS55	Y			5	20		28877	No Station ID	No Station ID			0.0	0.0	0.0			
#	13004	2023-11-27 11:38:23	55	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	28877	No Station ID	No Station ID			0.0	0.0	0.0			
#	13003	2023-11-27 11:38:23	55	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	28777	No Station ID	No Station ID			0.0	0.0	0.0			
#	13002	2023-11-27 11:38:23	55	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	28777	No Station ID	No Station ID			0.0	0.0	0.0			
#	13001	2023-11-27 11:38:23	55	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	28777	No Station ID	No Station ID			0.0	0.0	0.0			
#	13000	2023-11-27 11:38:23	55	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	28777	No Station ID	No Station ID			0.0	0.0	0.0			
#	12999	2023-11-27 11:38:23	55	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	28777	No Station ID	No Station ID			0.0	0.0	0.0			
#	12998	2023-11-27 11:38:22	54	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	28777	No Station ID	No Station ID			0.0	0.0	0.0			
#	12997	2023-11-27 11:38:22	54	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	28727	No Station ID	No Station ID			0.0	0.0	0.0			
#	12996	2023-11-27 11:38:21	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28727	No Station ID	No Station ID			0.0	0.0	0.0			
#	12995	2023-11-27 11:38:21	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28627	No Station ID	No Station ID			0.0	0.0	0.0			
#	12994	2023-11-27 11:38:20	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28627	No Station ID	No Station ID			0.0	0.0	0.0			
#	12993	2023-11-27 11:38:19	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28552	No Station ID	No Station ID			0.0	0.0	0.0			
#	12992	2023-11-27 11:38:18	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28477	No Station ID	No Station ID			0.0	0.0	0.0			
#	12991	2023-11-27 11:38:18	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28377	No Station ID	No Station ID			0.0	0.0	0.0			
#	12990	2023-11-27 11:38:18	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28377	No Station ID	No Station ID			0.0	0.0	0.0			
#	12989	2023-11-27 11:38:18	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28377	No Station ID	No Station ID			0.0	0.0	0.0			
#	12988	2023-11-27 11:38:18	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28377	No Station ID	No Station ID			0.0	0.0	0.0			
#	12987	2023-11-27 11:38:17	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28377	No Station ID	No Station ID			0.0	0.0	0.0			
#	12986	2023-11-27 11:38:16	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28327	No Station ID	No Station ID			0.0	0.0	0.0			
#	12985	2023-11-27 11:38:16	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28327	No Station ID	No Station ID			0.0	0.0	0.0			
#	12984	2023-11-27 11:38:15	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28252	No Station ID	No Station ID			0.0	0.0	0.0			
#	12983	2023-11-27 11:38:14	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28152	No Station ID	No Station ID			0.0	0.0	0.0			
#	12982	2023-11-27 11:38:13	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28102	No Station ID	No Station ID			0.0	0.0	0.0			
#	12981	2023-11-27 11:38:13	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28002	No Station ID	No Station ID			0.0	0.0	0.0			
#	12980	2023-11-27 11:38:12	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	28002	No Station ID	No Station ID			0.0	0.0	0.0			
#	12979	2023-11-27 11:38:11	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27927	No Station ID	No Station ID			0.0	0.0	0.0			
#	12978	2023-11-27 11:38:10	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27827	No Station ID	No Station ID			0.0	0.0	0.0			
#	12977	2023-11-27 11:38:09	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27777	No Station ID	No Station ID			0.0	0.0	0.0			
#	12976	2023-11-27 11:38:09	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27702	No Station ID	No Station ID			0.0	0.0	0.0			
#	12975	2023-11-27 11:38:09	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27702	No Station ID	No Station ID			0.0	0.0	0.0			
#	12974	2023-11-27 11:38:09	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27702	No Station ID	No Station ID			0.0	0.0	0.0			
#	12973	2023-11-27 11:38:09	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27702	No Station ID	No Station ID			0.0	0.0	0.0			
#	12972	2023-11-27 11:38:09	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27702	No Station ID	No Station ID			0.0	0.0	0.0			
#	12971	2023-11-27 11:38:08	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27702	No Station ID	No Station ID			0.0	0.0	0.0			
#	12970	2023-11-27 11:38:07	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27602	No Station ID	No Station ID			0.0	0.0	0.0			
#	12969	2023-11-27 11:38:07	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27527	No Station ID	No Station ID			0.0	0.0	0.0			
#	12968	2023-11-27 11:38:07	54	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	27527	No Station ID	No Station ID			0.0	0.0	0.0			
#	12967	2023-11-27 11:38:06	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	27527	No Station ID	No Station ID			0.0	0.0	0.0			
#	12966	2023-11-27 11:38:06	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	27477	No Station ID	No Station ID			0.0	0.0	0.0			
#	12965	2023-11-27 11:38:05	53	MP D					CS55	Y				5	20		27477	No Station ID	No Station ID			0.0	0.0	0.0			
#	12964	2023-11-27 11:38:05	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	27477	No Station ID	No Station ID			0.0	0.0	0.0			
#	12963	2023-11-27 11:38:05	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	27377	No Station ID	No Station ID			0.0	0.0	0.0			
#	12962	2023-11-27 11:38:04	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27377	No Station ID	No Station ID			0.0	0.0	0.0			
#	12961	2023-11-27 11:38:04	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27302	No Station ID	No Station ID			0.0	0.0	0.0			
#	12960	2023-11-27 11:38:04	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	27302	No Station ID	No Station ID			0.0	0.0	0.0			
#	12959	2023-11-27 11:38:04	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	27302	No Station ID	No Station ID			0.0	0.0	0.0			
#	12958	2023-11-27 11:38:04	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	27302	No Station ID	No Station ID			0.0	0.0	0.0			
#	12957	2023-11-27 11:38:04	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	27302	No Station ID	No Station ID			0.0	0.0	0.0			
#	12956	2023-11-27 11:38:03	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	27302	No Station ID	No Station ID			0.0	0.0	0.0			
#	12955	2023-11-27 11:38:02	53	MP D	OK	OK	OK	OK	CS55	Y				5	20	OK	27202	No Station ID	No Station ID			0.0	0.0	0.0			
#	12954	2023-11-27 11:38:02	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27202	No Station ID	No Station ID			0.0	0.0	0.0			
#	12953	2023-11-27 11:38:02	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27152	No Station ID	No Station ID			0.0	0.0	0.0			
#	12952	2023-11-27 11:38:01	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27152	No Station ID	No Station ID			0.0	0.0	0.0			
#	12951	2023-11-27 11:38:00	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	27077	No Station ID	No Station ID			0.0	0.0	0.0			
#	12950	2023-11-27 11:37:59	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	26977	No Station ID	No Station ID			0.0	0.0	0.0			
#	12949	2023-11-27 11:37:58	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	26902	No Station ID	No Station ID			0.0	0.0	0.0			
#	12948	2023-11-27 11:37:58	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm		5	20	OK	26852	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #3 – Take 2 ERU Event Log



Appendix IIIA: Test Run #3A Analysis

Test Run #3A Track Circuit Diagram and Vehicle Response



Test Run #3A ATC Event Log Data

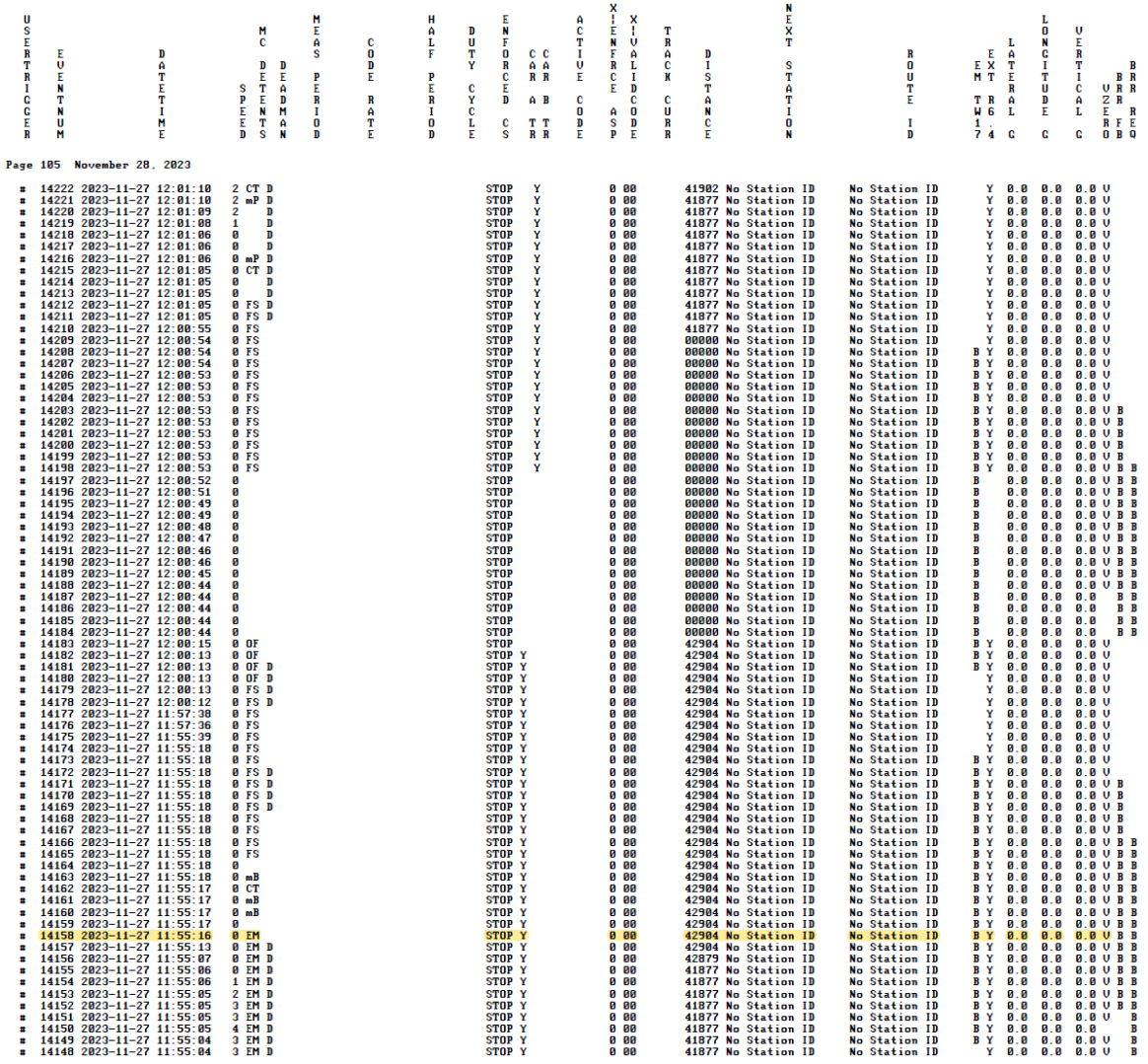
ATC Event Log Data Review – Test Run #3A		
Criteria	**Time**	**Distance**
Loss of Cab	11:54:41	40852
Stop Code	11:54:45	41077
FS Brake	11:54:47	41252
Zero Speed	11:55:16	42984

Rail vehicle speed at loss of cab: **53 mph**

Total distance from brake application to stopping point: **1,732 feet**

Total time from brake application to stopping point: **29 seconds**

Test Run #3A ATC Event Log Data Review



USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAR AB	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXTRA64	LATERAL C	LONGITUDE C	VERTICAL C	UZERO	BRFB	BRREQ
*	14222	2023-11-27 12:01:10	2	CT D						STOP	Y			0	00		41902	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14221	2023-11-27 12:01:10	2	mP D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14220	2023-11-27 12:01:09	2	D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14219	2023-11-27 12:01:08	1	D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14218	2023-11-27 12:01:06	0	D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14217	2023-11-27 12:01:06	0	D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14216	2023-11-27 12:01:06	0	mP D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14215	2023-11-27 12:01:05	0	CT D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14214	2023-11-27 12:01:05	0	D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14213	2023-11-27 12:01:05	0	D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14212	2023-11-27 12:01:05	0	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14211	2023-11-27 12:01:05	0	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14210	2023-11-27 12:00:55	0	FS						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14209	2023-11-27 12:00:54	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14208	2023-11-27 12:00:54	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
*	14207	2023-11-27 12:00:54	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
*	14206	2023-11-27 12:00:53	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
*	14205	2023-11-27 12:00:53	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
*	14204	2023-11-27 12:00:53	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
*	14203	2023-11-27 12:00:53	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
*	14202	2023-11-27 12:00:53	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
*	14201	2023-11-27 12:00:53	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
*	14200	2023-11-27 12:00:53	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
*	14199	2023-11-27 12:00:53	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
*	14198	2023-11-27 12:00:53	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14197	2023-11-27 12:00:52	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
*	14196	2023-11-27 12:00:51	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
*	14195	2023-11-27 12:00:49	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
*	14194	2023-11-27 12:00:49	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
*	14193	2023-11-27 12:00:48	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
*	14192	2023-11-27 12:00:47	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
*	14191	2023-11-27 12:00:46	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
*	14190	2023-11-27 12:00:46	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
*	14189	2023-11-27 12:00:45	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
*	14188	2023-11-27 12:00:44	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
*	14187	2023-11-27 12:00:44	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B	
*	14186	2023-11-27 12:00:44	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B	
*	14185	2023-11-27 12:00:44	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B	
*	14184	2023-11-27 12:00:44	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B	
*	14183	2023-11-27 12:00:15	0	OF						STOP				0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
*	14182	2023-11-27 12:00:13	0	OF						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
*	14181	2023-11-27 12:00:13	0	OF D						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
*	14180	2023-11-27 12:00:13	0	OF D						STOP	Y			0	00		42904	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14179	2023-11-27 12:00:13	0	FS D						STOP	Y			0	00		42904	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14178	2023-11-27 12:00:12	0	FS D						STOP	Y			0	00		42904	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14177	2023-11-27 11:57:38	0	FS						STOP	Y			0	00		42904	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14176	2023-11-27 11:57:36	0	FS						STOP	Y			0	00		42904	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14175	2023-11-27 11:55:39	0	FS						STOP	Y			0	00		42904	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14174	2023-11-27 11:55:18	0	FS						STOP	Y			0	00		42904	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
*	14173	2023-11-27 11:55:18	0	FS						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
*	14172	2023-11-27 11:55:18	0	FS D						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
*	14171	2023-11-27 11:55:18	0	FS D						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
*	14170	2023-11-27 11:55:18	0	FS D						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
*	14169	2023-11-27 11:55:18	0	FS D						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
*	14168	2023-11-27 11:55:18	0	FS						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
*	14167	2023-11-27 11:55:18	0	FS						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
*	14166	2023-11-27 11:55:18	0	FS						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14165	2023-11-27 11:55:18	0	FS						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14164	2023-11-27 11:55:18	0							STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14163	2023-11-27 11:55:18	0	mB						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14162	2023-11-27 11:55:17	0	CT						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14161	2023-11-27 11:55:17	0	mB						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14160	2023-11-27 11:55:17	0	mB						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14159	2023-11-27 11:55:17	0							STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14158	2023-11-27 11:55:16	0	EM						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14157	2023-11-27 11:55:13	0	EM D						STOP	Y			0	00		42904	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14156	2023-11-27 11:55:07	0	EM D						STOP	Y			0	00		42879	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14155	2023-11-27 11:55:06	0	EM D						STOP	Y			0	00		41877	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14154	2023-11-27 11:55:06	1	EM D						STOP	Y			0	00		41877	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14153	2023-11-27 11:55:05	2	EM D						STOP	Y			0	00		41877	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14152	2023-11-27 11:55:05	3	EM D						STOP	Y			0	00		41877	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
*	14151	2023-11-27 11:55:05	3	EM D						STOP	Y			0	00		41877	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		B	
*	14150	2023-11-27 11:55:05	4	EM D						STOP	Y			0	00		41877	No Station ID	No Station ID	B	Y	0.0	0.0	0.0			B	
*	14149	2023-11-27 11:55:04	3	EM D						STOP	Y			0	00		41877	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		B	
*	14148	2023-11-27 11:55:04	3	EM D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		B	

ZERO SPEED

Test Run #3A ATC Event Log Data Review

USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CARS	CAR TRS	CAR BTR	ACTIVE CODE	XIENFERCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXTRW64	LATERAL	LONGITUDE	VERTICAL	UZERO	BRRFB	BRREQ
Page 106 November 28, 2023																											
#	14147	2023-11-27 11:55:04	3	EM D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	14146	2023-11-27 11:55:04	3	EM D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	14145	2023-11-27 11:55:04	3	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	14144	2023-11-27 11:55:04	3	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	14143	2023-11-27 11:55:04	2	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	14142	2023-11-27 11:55:04	2	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	14141	2023-11-27 11:55:03	1	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	14140	2023-11-27 11:55:03	2	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	14139	2023-11-27 11:55:03	2	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	14138	2023-11-27 11:55:03	3	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	14137	2023-11-27 11:55:02	4	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14136	2023-11-27 11:55:02	5	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14135	2023-11-27 11:55:01	6	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14134	2023-11-27 11:55:01	7	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14133	2023-11-27 11:55:01	8	FS D						STOP	Y			0	00		41877	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14132	2023-11-27 11:55:01	8	FS D						STOP	Y			0	00		41852	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14131	2023-11-27 11:55:00	9	FS D						STOP	Y			0	00		41852	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14130	2023-11-27 11:55:00	9	FS D						STOP	Y			0	00		41852	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14129	2023-11-27 11:55:00	10	FS D						STOP	Y			0	00		41852	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14128	2023-11-27 11:55:00	10	FS D						STOP	Y			0	00		41852	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14127	2023-11-27 11:54:59	11	FS D						STOP	Y			0	00		41852	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14126	2023-11-27 11:54:59	11	FS D						STOP	Y			0	00		41802	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14125	2023-11-27 11:54:59	12	FS D						STOP	Y			0	00		41802	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14124	2023-11-27 11:54:58	13	FS D						STOP	Y			0	00		41802	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14123	2023-11-27 11:54:58	14	FS D						STOP	Y			0	00		41802	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14122	2023-11-27 11:54:58	15	FS D						STOP	Y			0	00		41802	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14121	2023-11-27 11:54:58	16	FS D						STOP	Y			0	00		41802	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14120	2023-11-27 11:54:57	17	FS D						STOP	Y			0	00		41802	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14119	2023-11-27 11:54:57	17	FS D						STOP	Y			0	00		41777	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14118	2023-11-27 11:54:56	18	FS D						STOP	Y			0	00		41777	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14117	2023-11-27 11:54:56	19	FS D						STOP	Y			0	00		41777	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14116	2023-11-27 11:54:56	20	FS D						STOP	Y			0	00		41777	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14115	2023-11-27 11:54:56	20	FS D						STOP	Y			0	00		41752	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14114	2023-11-27 11:54:56	21	FS D						STOP	Y			0	00		41752	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14113	2023-11-27 11:54:55	21	FS D						STOP	Y			0	00		41752	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14112	2023-11-27 11:54:55	21	FS D						STOP	Y			0	00		41752	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14111	2023-11-27 11:54:55	22	FS D						STOP	Y			0	00		41752	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14110	2023-11-27 11:54:55	22	FS D						STOP	Y			0	00		41702	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14109	2023-11-27 11:54:55	23	FS D						STOP	Y			0	00		41702	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14108	2023-11-27 11:54:55	24	FS D						STOP	Y			0	00		41702	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14107	2023-11-27 11:54:54	25	FS D						STOP	Y			0	00		41702	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14106	2023-11-27 11:54:54	26	FS D						STOP	Y			0	00		41702	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14105	2023-11-27 11:54:54	26	FS D						STOP	Y			0	00		41677	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14104	2023-11-27 11:54:54	27	FS D						STOP	Y			0	00		41677	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14103	2023-11-27 11:54:53	28	FS D						STOP	Y			0	00		41677	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14102	2023-11-27 11:54:53	29	FS D						STOP	Y			0	00		41677	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14101	2023-11-27 11:54:53	29	FS D						STOP	Y			0	00		41602	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14100	2023-11-27 11:54:53	30	FS D						STOP	Y			0	00		41602	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14099	2023-11-27 11:54:52	31	FS D						STOP	Y			0	00		41602	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14098	2023-11-27 11:54:52	32	FS D						STOP	Y			0	00		41602	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14097	2023-11-27 11:54:52	32	FS D						STOP	Y			0	00		41577	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14096	2023-11-27 11:54:52	33	FS D						STOP	Y			0	00		41577	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14095	2023-11-27 11:54:52	34	FS D						STOP	Y			0	00		41577	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14094	2023-11-27 11:54:51	35	FS D						STOP	Y			0	00		41577	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14093	2023-11-27 11:54:51	35	FS D						STOP	Y			0	00		41577	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14092	2023-11-27 11:54:51	35	FS D						STOP	Y			0	00		41577	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14091	2023-11-27 11:54:51	36	FS D						STOP	Y			0	00		41577	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14090	2023-11-27 11:54:51	36	FS D						STOP	Y			0	00		41502	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14089	2023-11-27 11:54:51	37	FS D						STOP	Y			0	00		41502	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14088	2023-11-27 11:54:51	38	FS D						STOP	Y			0	00		41502	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14087	2023-11-27 11:54:50	39	FS D						STOP	Y			0	00		41502	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14086	2023-11-27 11:54:50	40	FS D						STOP	Y			0	00		41502	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14085	2023-11-27 11:54:50	41	FS D						STOP	Y			0	00		41502	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14084	2023-11-27 11:54:50	41	FS D						STOP	Y			0	00		41477	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14083	2023-11-27 11:54:50	42	FS D						STOP	Y			0	00		41477	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14082	2023-11-27 11:54:49	43	FS D						STOP	Y			0	00		41477	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14081	2023-11-27 11:54:49	44	FS D						STOP	Y			0	00		41477	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14080	2023-11-27 11:54:49	45	FS D						STOP	Y			0	00		41477	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14079	2023-11-27 11:54:49	45	FS D						STOP	Y			0	00		41402	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14078	2023-11-27 11:54:49	46	FS D						STOP	Y			0	00		41402	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14077	2023-11-27 11:54:48	47	FS D						STOP	Y			0	00		41402	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14076	2023-11-27 11:54:48	48	FS D						STOP	Y			0	00		41402	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14075	2023-11-27 11:54:48	49	FS D						STOP	Y			0	00		41402	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14074	2023-11-27 11:54:48	49	FS D						STOP	Y			0	00		41327	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14073	2023-11-27 11:54:48	50	FS D						STOP	Y			0	00		41327	No Station ID	No Station ID		Y	0.0	0.0	0.0			

Test Run #3A ATC Event Log Data Review

FS BRAKE

STOP CODE

LOSS OF CAB

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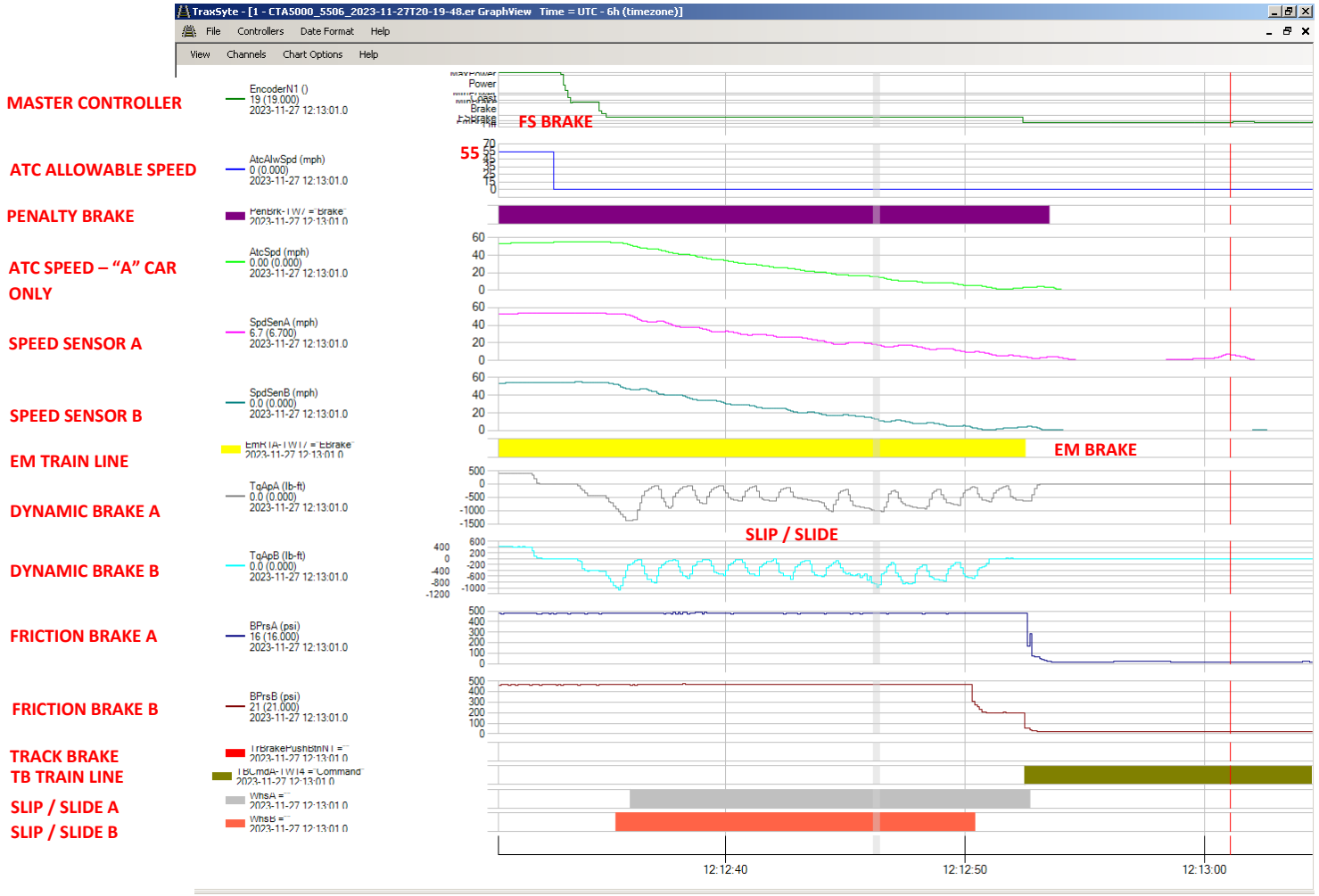
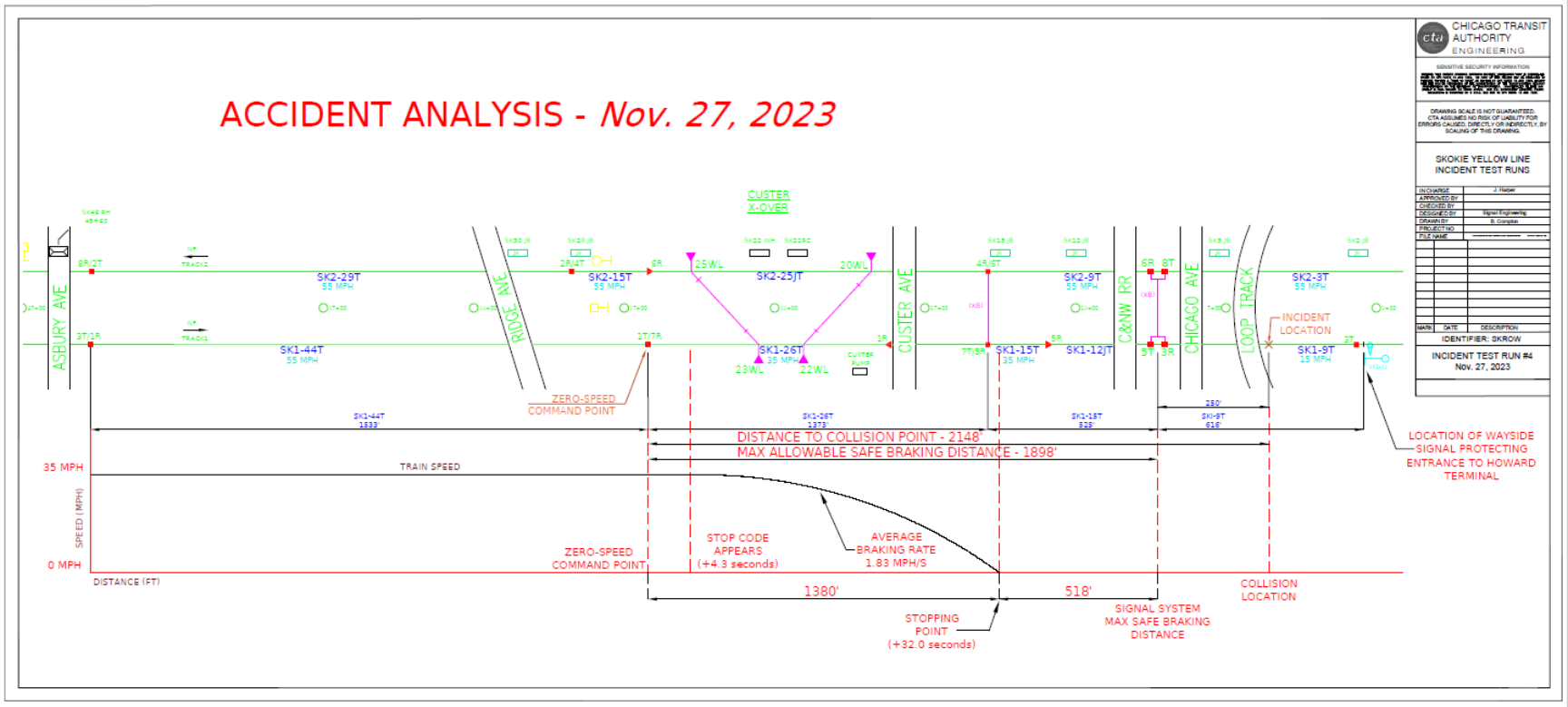
USER TRIGGER	EVENT NUM	DATE TIME	SPEED	MC DETENTS	MC DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAB TR	CAB TR	ACTIVE CODE	XMIT ENFRCE ASP	XMIT VALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TWI74	EXT TRACK R6.1	LATERAL C	LONGITUDE C	VERTICAL C	UZERO	BRR FB	BRR REQ
#	14072	2023-11-27 11:54:48	51	FS D						STOP	Y			0 00	0.066	41327	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14071	2023-11-27 11:54:48	52	FS D	480.0ms	125CPM	60.0ms	12%		STOP	Y			0 00	0.066	41327	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14070	2023-11-27 11:54:47	53	FS D	480.0ms	125CPM	60.0ms	12%		STOP	Y			0 00	0.066	41327	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14069	2023-11-27 11:54:47	54	FS D	480.0ms	125CPM	60.0ms	12%		STOP	Y			0 00	0.066	41327	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14068	2023-11-27 11:54:47	54	FS D	480.0ms	125CPM	60.0ms	12%		STOP	Y			0 00	0.066	41327	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14067	2023-11-27 11:54:47	54	FS D	480.0ms	125CPM	60.0ms	12%		STOP	Y			0 00	0.066	41252	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14066	2023-11-27 11:54:47	54	FS D	480.0ms	125CPM	60.0ms	12%		STOP	Y			0 00	0.066	41252	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14065	2023-11-27 11:54:47	54	D	480.0ms	125CPM	60.0ms	12%		STOP	Y			0 00	0.066	41252	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14064	2023-11-27 11:54:47	55	D	480.0ms	125CPM	60.0ms	12%		STOP	Y			0 00	0.066	41252	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14063	2023-11-27 11:54:47	55	D	448.8ms	134CPM	28.8ms	6%		STOP	Y			0 00	0.066	41252	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14062	2023-11-27 11:54:47	55	D	28.8ms	2087CPM	28.8ms	100%		STOP	Y			0 00	0.066	41252	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14061	2023-11-27 11:54:46	55	mB D	28.8ms	2087CPM	28.8ms	100%		STOP	Y			0 00	0.066	41252	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14060	2023-11-27 11:54:46	55	mB D	28.8ms	2087CPM	28.8ms	100%		STOP	Y			0 00	0.057	41252	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14059	2023-11-27 11:54:46	55	mB D						STOP	Y			0 00		41252	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14058	2023-11-27 11:54:46	55	mB D						STOP	Y			0 00		41152	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14057	2023-11-27 11:54:45	55	CT D						STOP	Y			0 00		41152	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14056	2023-11-27 11:54:45	55	CT D						STOP	Y			0 00		41152	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14055	2023-11-27 11:54:45	55	mP D						STOP	Y			0 00		41152	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14054	2023-11-27 11:54:45	55	D						STOP	Y			0 00		41152	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14053	2023-11-27 11:54:45	55	MP D						STOP	Y			0 00		41152	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14052	2023-11-27 11:54:45	55	MP D						STOP	Y			0 00		41077	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14051	2023-11-27 11:54:45	55	MP D						STOP	Y			0 00		41077	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14050	2023-11-27 11:54:45	55	MP D						STOP	Y			0 00		41077	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14049	2023-11-27 11:54:45	55	MP D						STOP	Y			0 00		41077	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	14048	2023-11-27 11:54:44	54	MP D						CS55	Y			5 20	0.089	41077	No Station ID	No Station ID			0.0	0.0	0.0			
#	14047	2023-11-27 11:54:44	54	MP D						CS55	Y			5 20	0.089	40977	No Station ID	No Station ID			0.0	0.0	0.0			
#	14046	2023-11-27 11:54:44	54	MP D						CS55	Y			5 20	0.084	40977	No Station ID	No Station ID			0.0	0.0	0.0			
#	14045	2023-11-27 11:54:44	54	MP D						CS55	Y			5 20	0.084	40977	No Station ID	No Station ID			0.0	0.0	0.0			
#	14044	2023-11-27 11:54:44	54	MP D						CS55	Y			5 20	0.084	40977	No Station ID	No Station ID			0.0	0.0	0.0			
#	14043	2023-11-27 11:54:43	54	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40977	No Station ID	No Station ID			0.0	0.0	0.0			
#	14042	2023-11-27 11:54:43	54	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40977	No Station ID	No Station ID			0.0	0.0	0.0			
#	14041	2023-11-27 11:54:43	54	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40977	No Station ID	No Station ID			0.0	0.0	0.0			
#	14040	2023-11-27 11:54:43	54	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40927	No Station ID	No Station ID			0.0	0.0	0.0			
#	14039	2023-11-27 11:54:43	53	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40927	No Station ID	No Station ID			0.0	0.0	0.0			
#	14038	2023-11-27 11:54:43	53	MP D						CS55	Y			5 20	0.084	40927	No Station ID	No Station ID			0.0	0.0	0.0			
#	14037	2023-11-27 11:54:42	53	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40927	No Station ID	No Station ID			0.0	0.0	0.0			
#	14036	2023-11-27 11:54:41	53	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40852	No Station ID	No Station ID			0.0	0.0	0.0			
#	14035	2023-11-27 11:54:41	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40852	No Station ID	No Station ID			0.0	0.0	0.0			
#	14034	2023-11-27 11:54:40	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40752	No Station ID	No Station ID			0.0	0.0	0.0			
#	14033	2023-11-27 11:54:40	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40752	No Station ID	No Station ID			0.0	0.0	0.0			
#	14032	2023-11-27 11:54:40	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40752	No Station ID	No Station ID			0.0	0.0	0.0			
#	14031	2023-11-27 11:54:40	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40702	No Station ID	No Station ID			0.0	0.0	0.0			
#	14030	2023-11-27 11:54:40	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40702	No Station ID	No Station ID			0.0	0.0	0.0			
#	14029	2023-11-27 11:54:39	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40702	No Station ID	No Station ID			0.0	0.0	0.0			
#	14028	2023-11-27 11:54:38	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40627	No Station ID	No Station ID			0.0	0.0	0.0			
#	14027	2023-11-27 11:54:38	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40627	No Station ID	No Station ID			0.0	0.0	0.0			
#	14026	2023-11-27 11:54:37	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40527	No Station ID	No Station ID			0.0	0.0	0.0			
#	14025	2023-11-27 11:54:36	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40452	No Station ID	No Station ID			0.0	0.0	0.0			
#	14024	2023-11-27 11:54:35	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40402	No Station ID	No Station ID			0.0	0.0	0.0			
#	14023	2023-11-27 11:54:34	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40302	No Station ID	No Station ID			0.0	0.0	0.0			
#	14022	2023-11-27 11:54:33	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40202	No Station ID	No Station ID			0.0	0.0	0.0			
#	14021	2023-11-27 11:54:33	54	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40202	No Station ID	No Station ID			0.0	0.0	0.0			
#	14020	2023-11-27 11:54:33	54	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40127	No Station ID	No Station ID			0.0	0.0	0.0			
#	14019	2023-11-27 11:54:33	54	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40127	No Station ID	No Station ID			0.0	0.0	0.0			
#	14018	2023-11-27 11:54:33	54	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40127	No Station ID	No Station ID			0.0	0.0	0.0			
#	14017	2023-11-27 11:54:33	54	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40127	No Station ID	No Station ID			0.0	0.0	0.0			
#	14016	2023-11-27 11:54:33	54	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		40127	No Station ID	No Station ID			0.0	0.0	0.0			
#	14015	2023-11-27 11:54:32	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40127	No Station ID	No Station ID			0.0	0.0	0.0			
#	14014	2023-11-27 11:54:32	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40077	No Station ID	No Station ID			0.0	0.0	0.0			
#	14013	2023-11-27 11:54:31	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		40077	No Station ID	No Station ID			0.0	0.0	0.0			
#	14012	2023-11-27 11:54:31	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39977	No Station ID	No Station ID			0.0	0.0	0.0			
#	14011	2023-11-27 11:54:30	53	MP D	OK	OK	OK	OK	CS55	Y			5 20	OK		39977	No Station ID	No Station ID			0.0	0.0	0.0			
#	14010	2023-11-27 11:54:30	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39977	No Station ID	No Station ID			0.0	0.0	0.0			
#	14009	2023-11-27 11:54:29	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39902	No Station ID	No Station ID			0.0	0.0	0.0			
#	14008	2023-11-27 11:54:28	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39827	No Station ID	No Station ID			0.0	0.0	0.0			
#	14007	2023-11-27 11:54:27	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39752	No Station ID	No Station ID			0.0	0.0	0.0			
#	14006	2023-11-27 11:54:27	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39752	No Station ID	No Station ID			0.0	0.0	0.0			
#	14005	2023-11-27 11:54:27	54		OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39752	No Station ID	No Station ID			0.0	0.0	0.0			
#	14004	2023-11-27 11:54:27	54	mP D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39752	No Station ID	No Station ID			0.0	0.0	0.0			
#	14003	2023-11-27 11:54:27	54	CT D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39677	No Station ID	No Station ID			0.0	0.0	0.0			
#	14002	2023-11-27 11:54:27	54	mB D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39677	No Station ID	No Station ID			0.0	0.0	0.0			
#	14001	2023-11-27 11:54:26	55	mB D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39677	No Station ID	No Station ID			0.0	0.0	0.0			
#	14000	2023-11-27 11:54:26	55	mB D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39677	No Station ID	No Station ID			0.0	0.0	0.0			
#	13999	2023-11-27 11:54:26	55	D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39677	No Station ID	No Station ID			0.0	0.0	0.0			
#	13998	2023-11-27 11:54:26	55	D	OK	OK	OK	OK	CS55	Y	270	cpm	5 20	OK		39577	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #3A ERU Event Log



Appendix IV: Test Run #4 Analysis

Test Run #4 Track Circuit Diagram and Vehicle Response



Test Run #4 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #4		
Criteria	**Time**	**Distance**
Loss of Cab	12:25:25	63977
Stop Code	12:25:29	64127
Zero Speed	12:25:47	64602

Rail vehicle speed at loss of cab: **33 mph**

Total distance from brake application to stopping point: **N/A**

Total time from brake application to stopping point: **N/A**

Test Run #4 ATC Event Log Data Review

ZERO SPEED

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USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAB TR	ACTIVE CODE	XIENFORCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW17	EXT RG4	LATERAL C	LONGITUDE G	VERTICAL G	UZERO	BRRFB	BRREQ
#	16397	2023-11-27 12:29:51	0							STOP	Y			0	00		65279	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	16396	2023-11-27 12:29:51	0	FS						STOP	Y			0	00		65279	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	16395	2023-11-27 12:29:43	0	OF						STOP	Y			0	00		65279	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	16394	2023-11-27 12:29:42	0	OF						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	16393	2023-11-27 12:29:42	0	OF						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	16392	2023-11-27 12:29:42	0	OF						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	16391	2023-11-27 12:29:41	0	OF						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	16390	2023-11-27 12:29:41	0	OF						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	16389	2023-11-27 12:29:41	0	OF						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	16388	2023-11-27 12:29:41	0	OF						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	16387	2023-11-27 12:29:41	0	OF						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	16386	2023-11-27 12:29:41	0	OF						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	16385	2023-11-27 12:29:41	0	OF						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	16384	2023-11-27 12:29:41	0	OF						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B
#	16383	2023-11-27 12:29:41	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	16382	2023-11-27 12:29:37	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	16381	2023-11-27 12:29:37	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	16380	2023-11-27 12:29:37	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	16379	2023-11-27 12:29:36	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	16378	2023-11-27 12:29:36	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	16377	2023-11-27 12:29:34	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	16376	2023-11-27 12:29:34	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	16375	2023-11-27 12:29:33	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	16374	2023-11-27 12:29:33	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	16373	2023-11-27 12:29:33	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	16372	2023-11-27 12:29:33	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	16371	2023-11-27 12:29:33	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	16370	2023-11-27 12:29:33	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	16369	2023-11-27 12:28:58	0	OF						STOP				0	00		64602	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	16368	2023-11-27 12:28:58	0	OF						STOP	Y			0	00		64602	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	16367	2023-11-27 12:28:57	0	OF	D					STOP	Y			0	00		64602	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	16366	2023-11-27 12:28:57	0	OF	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16365	2023-11-27 12:28:57	0	FS	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16364	2023-11-27 12:28:39	0	FS	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16363	2023-11-27 12:28:35	0	FS	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16362	2023-11-27 12:27:36	0	FS						STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16361	2023-11-27 12:26:57	0	FS						STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16360	2023-11-27 12:26:05	0	FS						STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16359	2023-11-27 12:26:04	0	FS	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	16358	2023-11-27 12:26:03	0	FS	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	16357	2023-11-27 12:26:03	0	FS	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	16356	2023-11-27 12:26:03	0	FS	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	16355	2023-11-27 12:26:03	0		D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	16354	2023-11-27 12:26:03	0		D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	16353	2023-11-27 12:26:03	0		D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16352	2023-11-27 12:26:03	0		D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16351	2023-11-27 12:26:03	0	mB	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16350	2023-11-27 12:26:03	0	mB	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16349	2023-11-27 12:26:03	0	CT	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16348	2023-11-27 12:26:03	0	mP	D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16347	2023-11-27 12:25:47	0		D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16346	2023-11-27 12:25:46	0		D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16345	2023-11-27 12:25:46	1		D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16344	2023-11-27 12:25:46	2		D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16343	2023-11-27 12:25:46	3		D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16342	2023-11-27 12:25:45	4		D					STOP	Y			0	00		64602	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16341	2023-11-27 12:25:45	4		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16340	2023-11-27 12:25:44	3		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16339	2023-11-27 12:25:43	2		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16338	2023-11-27 12:25:42	1		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16337	2023-11-27 12:25:42	2		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16336	2023-11-27 12:25:42	2		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16335	2023-11-27 12:25:41	3		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	16334	2023-11-27 12:25:41	4		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16333	2023-11-27 12:25:41	5		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16332	2023-11-27 12:25:40	6		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16331	2023-11-27 12:25:40	7		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16330	2023-11-27 12:25:40	8		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16329	2023-11-27 12:25:40	9		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16328	2023-11-27 12:25:39	10		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16327	2023-11-27 12:25:39	11		D					STOP	Y			0	00		64577	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16326	2023-11-27 12:25:39	11		D					STOP	Y			0	00		64552	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16325	2023-11-27 12:25:39	12		D					STOP	Y			0	00		64552	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16324	2023-11-27 12:25:39	13		D					STOP	Y			0	00		64552	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16323	2023-11-27 12:25:38	14		D					STOP	Y			0	00		64552	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B

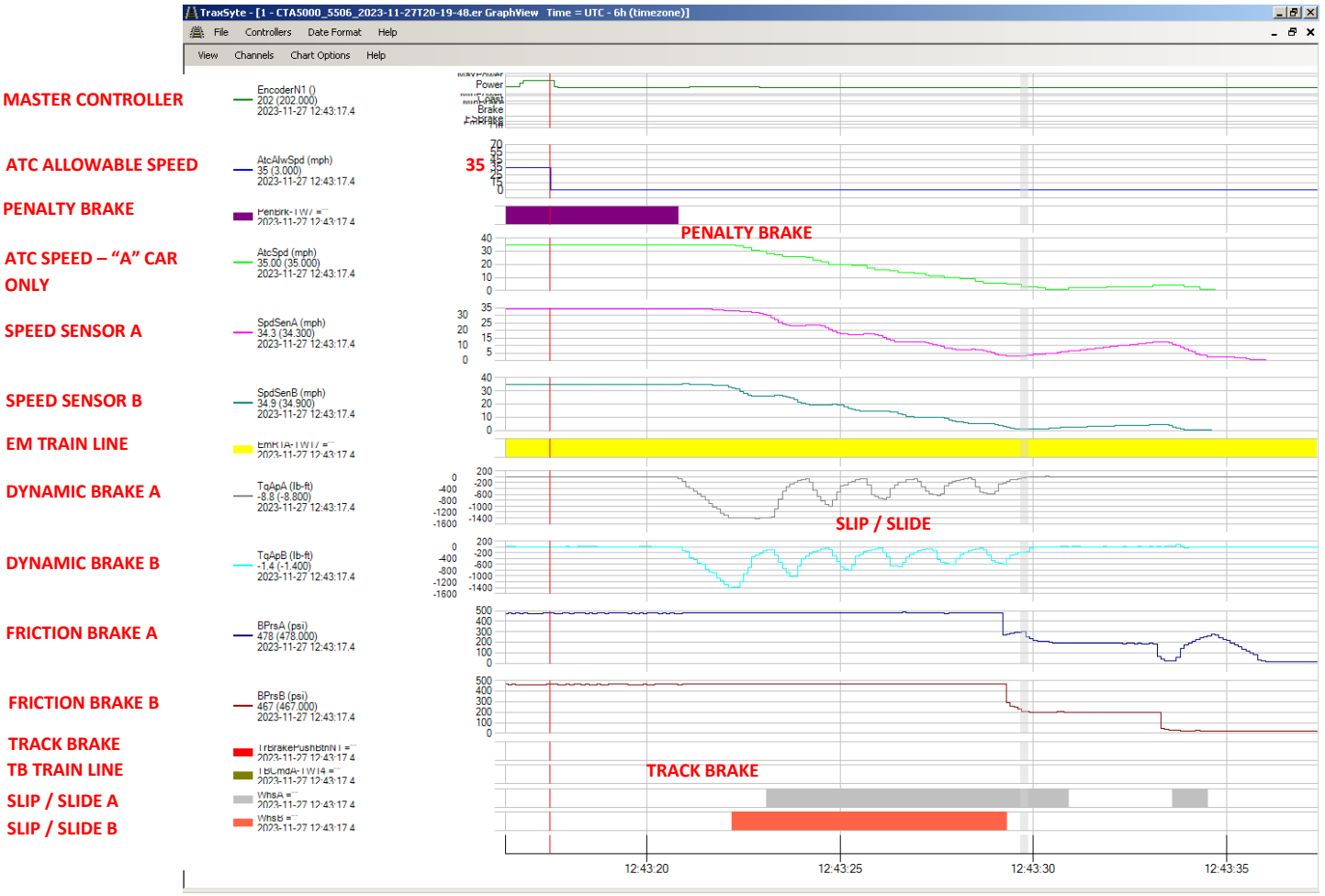
Test Run #4 ATC Event Log Data Review

STOP CODE

LOSS OF CAB

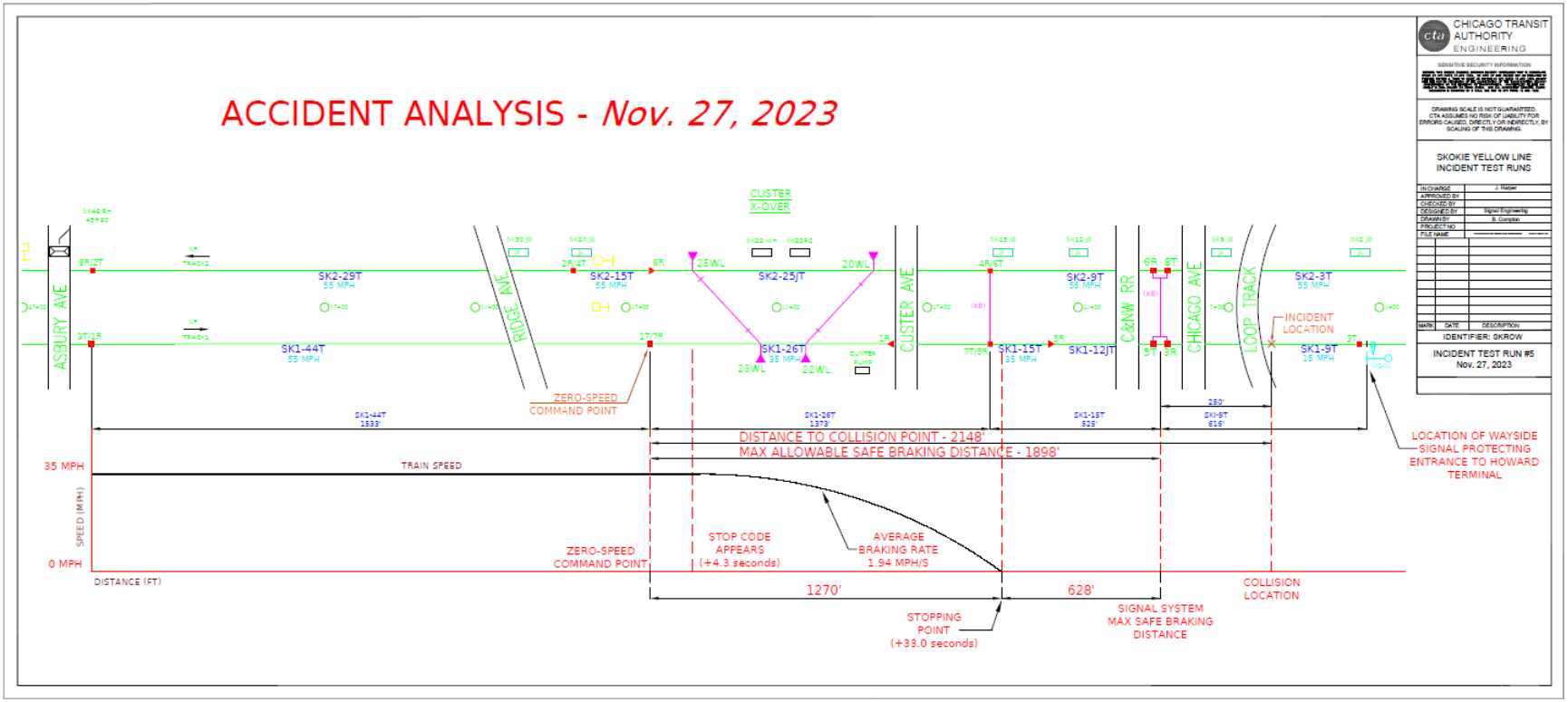
USERTRICGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXTR64	LATERALC	LONGITUDE C	UVERTICAL C	UZERO	BRR FB	BRR REQ
Page 77 November 28, 2023																										
#	16322	2023-11-27 12:25:38	15	D						STOP	Y			0	00		64552	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16321	2023-11-27 12:25:38	16	D						STOP	Y			0	00		64552	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16320	2023-11-27 12:25:37	17	D						STOP	Y			0	00		64552	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16319	2023-11-27 12:25:37	18	D						STOP	Y			0	00		64552	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16318	2023-11-27 12:25:37	18	D						STOP	Y			0	00		64502	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16317	2023-11-27 12:25:37	19	D						STOP	Y			0	00		64502	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16316	2023-11-27 12:25:36	20	D						STOP	Y			0	00		64502	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16315	2023-11-27 12:25:36	21	D						STOP	Y			0	00		64502	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16314	2023-11-27 12:25:36	21	D						STOP	Y			0	00		64477	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16313	2023-11-27 12:25:36	22	D						STOP	Y			0	00		64477	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16312	2023-11-27 12:25:36	23	D						STOP	Y			0	00		64477	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16311	2023-11-27 12:25:36	24	D						STOP	Y			0	00		64477	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16310	2023-11-27 12:25:36	25	D						STOP	Y			0	00		64477	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16309	2023-11-27 12:25:35	26	D						STOP	Y			0	00		64477	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16308	2023-11-27 12:25:35	26	D						STOP	Y			0	00		64452	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16307	2023-11-27 12:25:35	27	D						STOP	Y			0	00		64452	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16306	2023-11-27 12:25:35	28	D						STOP	Y			0	00		64452	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16305	2023-11-27 12:25:35	29	D						STOP	Y			0	00		64452	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16304	2023-11-27 12:25:35	30	D						STOP	Y			0	00		64452	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16303	2023-11-27 12:25:34	31	D						STOP	Y			0	00		64452	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16302	2023-11-27 12:25:34	32	D						STOP	Y			0	00		64452	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16301	2023-11-27 12:25:34	32	D						STOP	Y			0	00		64377	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16300	2023-11-27 12:25:34	33	D						STOP	Y			0	00		64377	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16299	2023-11-27 12:25:34	34	D						STOP	Y			0	00		64377	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16298	2023-11-27 12:25:33	35	D						STOP	Y			0	00		64377	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16297	2023-11-27 12:25:32	35	D						STOP	Y			0	00		64302	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	16296	2023-11-27 12:25:32	35	D						STOP	Y			0	00		64302	No Station ID	No Station ID		Y	0.0	0.0	0.0			B
#	16295	2023-11-27 12:25:32	35	D						STOP	Y			0	00		64277	No Station ID	No Station ID		Y	0.0	0.0	0.0			B
#	16294	2023-11-27 12:25:32	35	D						STOP	Y			0	00		64277	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16293	2023-11-27 12:25:31	35	D						STOP	Y			0	00		64277	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16292	2023-11-27 12:25:30	35	D						STOP	Y			0	00		64227	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16291	2023-11-27 12:25:29	35	D						STOP	Y			0	00		64177	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16290	2023-11-27 12:25:29	35	D						STOP	Y			0	00		64127	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16289	2023-11-27 12:25:29	35	D						STOP	Y			0	00		64127	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16288	2023-11-27 12:25:29	35	D						STOP	Y			0	00		64127	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16287	2023-11-27 12:25:29	35	D						STOP	Y			0	00		64127	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	16286	2023-11-27 12:25:28	35	D						CS35	Y			3	00		64127	No Station ID	No Station ID			0.0	0.0	0.0			
#	16285	2023-11-27 12:25:27	35	D						CS35	Y			3	00		64077	No Station ID	No Station ID			0.0	0.0	0.0			
#	16284	2023-11-27 12:25:27	35	D						CS35	Y			3	00		64027	No Station ID	No Station ID			0.0	0.0	0.0			
#	16283	2023-11-27 12:25:27	34	D						CS35	Y			3	00		64027	No Station ID	No Station ID			0.0	0.0	0.0			
#	16282	2023-11-27 12:25:27	34	D	OK	OK	OK	OK	CS35	Y			3	00	OK	64027	No Station ID	No Station ID			0.0	0.0	0.0			
#	16281	2023-11-27 12:25:27	34	D	OK	OK	OK	OK	CS35	Y			3	00	OK	64027	No Station ID	No Station ID			0.0	0.0	0.0			
#	16280	2023-11-27 12:25:27	34	D	OK	OK	OK	OK	CS35	Y			3	00	OK	64027	No Station ID	No Station ID			0.0	0.0	0.0			
#	16279	2023-11-27 12:25:27	34	D	OK	OK	OK	OK	CS35	Y			3	00	OK	64027	No Station ID	No Station ID			0.0	0.0	0.0			
#	16278	2023-11-27 12:25:26	34	D	OK	OK	OK	OK	CS35	Y			3	00	OK	64027	No Station ID	No Station ID			0.0	0.0	0.0			
#	16277	2023-11-27 12:25:26	34	D	OK	OK	OK	OK	CS35	Y			3	00	OK	63977	No Station ID	No Station ID			0.0	0.0	0.0			
#	16276	2023-11-27 12:25:26	33	D	OK	OK	OK	OK	CS35	Y			3	00	OK	63977	No Station ID	No Station ID			0.0	0.0	0.0			
#	16275	2023-11-27 12:25:25	33	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63977	No Station ID	No Station ID			0.0	0.0	0.0			
#	16274	2023-11-27 12:25:24	33	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63927	No Station ID	No Station ID			0.0	0.0	0.0			
#	16273	2023-11-27 12:25:24	33	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63927	No Station ID	No Station ID			0.0	0.0	0.0			
#	16272	2023-11-27 12:25:24	33	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63927	No Station ID	No Station ID			0.0	0.0	0.0			
#	16271	2023-11-27 12:25:24	33	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63877	No Station ID	No Station ID			0.0	0.0	0.0			
#	16270	2023-11-27 12:25:24	33	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63877	No Station ID	No Station ID			0.0	0.0	0.0			
#	16269	2023-11-27 12:25:23	33	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63877	No Station ID	No Station ID			0.0	0.0	0.0			
#	16268	2023-11-27 12:25:22	33	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63827	No Station ID	No Station ID			0.0	0.0	0.0			
#	16267	2023-11-27 12:25:22	33	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63777	No Station ID	No Station ID			0.0	0.0	0.0			
#	16266	2023-11-27 12:25:21	34	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63777	No Station ID	No Station ID			0.0	0.0	0.0			
#	16265	2023-11-27 12:25:20	34	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63727	No Station ID	No Station ID			0.0	0.0	0.0			
#	16264	2023-11-27 12:25:19	34	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63702	No Station ID	No Station ID			0.0	0.0	0.0			
#	16263	2023-11-27 12:25:18	34	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63627	No Station ID	No Station ID			0.0	0.0	0.0			
#	16262	2023-11-27 12:25:18	34	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63602	No Station ID	No Station ID			0.0	0.0	0.0			
#	16261	2023-11-27 12:25:17	35	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63602	No Station ID	No Station ID			0.0	0.0	0.0			
#	16260	2023-11-27 12:25:17	35	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63527	No Station ID	No Station ID			0.0	0.0	0.0			
#	16259	2023-11-27 12:25:16	35	mP D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63527	No Station ID	No Station ID			0.0	0.0	0.0			
#	16258	2023-11-27 12:25:15	35	mP D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63502	No Station ID	No Station ID			0.0	0.0	0.0			
#	16257	2023-11-27 12:25:14	35	mP D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63427	No Station ID	No Station ID			0.0	0.0	0.0			
#	16256	2023-11-27 12:25:13	35	mP D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63352	No Station ID	No Station ID			0.0	0.0	0.0			
#	16255	2023-11-27 12:25:13	35	mP D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63327	No Station ID	No Station ID			0.0	0.0	0.0			
#	16254	2023-11-27 12:25:12	35	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63327	No Station ID	No Station ID			0.0	0.0	0.0			
#	16253	2023-11-27 12:25:12	35	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63252	No Station ID	No Station ID			0.0	0.0	0.0			
#	16252	2023-11-27 12:25:12	34	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63252	No Station ID	No Station ID			0.0	0.0	0.0			
#	16251	2023-11-27 12:25:12	34	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63252	No Station ID	No Station ID			0.0	0.0	0.0			
#	16250	2023-11-27 12:25:12	34	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63252	No Station ID	No Station ID			0.0	0.0	0.0			
#	16249	2023-11-27 12:25:12	34	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63252	No Station ID	No Station ID			0.0	0.0	0.0			
#	16248	2023-11-27 12:25:11	34	D	OK	OK	OK	OK	CS35	Y	180	cpm	3	00	OK	63252	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #4 ERU Event Log



Appendix V: Test Run #5 Analysis

Test Run #5 Track Circuit Diagram and Vehicle Response



Test Run #5 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #5		
Criteria	**Time**	**Distance**
Loss of Cab	12:10:04	52902
Stop Code	12:10:07	53052
FS Brake	12:10:09	53102
Zero Speed	12:10:26	53477

Rail vehicle speed at loss of cab: **33 mph**

Total distance from brake application to stopping point: **375 feet**

Total time from brake application to stopping point: **17 seconds**

Test Run #5 ATC Event Log Data Review

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USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A	CAR B TTR	ACTIVE CODE	XINFRACE ASP	XVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EXMTW1-74	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRR FB	BRR REQ
Page 90 November 28, 2023																										
#	15347	2023-11-27 12:10:41	4	FS D						STOP	Y			0	00		53677	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15346	2023-11-27 12:10:41	4	FS D						STOP	Y			0	00		53677	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15345	2023-11-27 12:10:41	5	FS D						STOP	Y			0	00		53677	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15344	2023-11-27 12:10:40	6	FS D						STOP	Y			0	00		53677	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15343	2023-11-27 12:10:40	7	FS D						STOP	Y			0	00		53677	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15342	2023-11-27 12:10:40	8	FS D						STOP	Y			0	00		53677	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15341	2023-11-27 12:10:39	9	FS D						STOP	Y			0	00		53677	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15340	2023-11-27 12:10:39	10	FS D						STOP	Y			0	00		53677	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15339	2023-11-27 12:10:39	10	FS D						STOP	Y			0	00		53652	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15338	2023-11-27 12:10:39	11	FS D						STOP	Y			0	00		53652	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15337	2023-11-27 12:10:38	12	FS D						STOP	Y			0	00		53652	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15336	2023-11-27 12:10:38	13	FS D						STOP	Y			0	00		53652	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15335	2023-11-27 12:10:38	14	FS D						STOP	Y			0	00		53652	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15334	2023-11-27 12:10:37	15	FS D						STOP	Y			0	00		53652	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15333	2023-11-27 12:10:37	16	FS D						STOP	Y			0	00		53652	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15332	2023-11-27 12:10:37	16	FS D						STOP	Y			0	00		53652	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15331	2023-11-27 12:10:37	16	FS D						STOP	Y			0	00		53627	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15330	2023-11-27 12:10:37	16	FS D						STOP	Y			0	00		53627	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15329	2023-11-27 12:10:36	17	FS D						STOP	Y			0	00		53627	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15328	2023-11-27 12:10:36	18	FS D						STOP	Y			0	00		53627	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15327	2023-11-27 12:10:36	18	FS D						STOP	Y			0	00		53577	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15326	2023-11-27 12:10:36	19	FS D						STOP	Y			0	00		53577	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15325	2023-11-27 12:10:35	20	FS D						STOP	Y			0	00		53577	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15324	2023-11-27 12:10:35	21	FS D						STOP	Y			0	00		53577	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15323	2023-11-27 12:10:34	21	FS D						STOP	Y			0	00		53552	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15322	2023-11-27 12:10:34	21	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15321	2023-11-27 12:10:34	20	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15320	2023-11-27 12:10:34	19	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15319	2023-11-27 12:10:33	18	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15318	2023-11-27 12:10:33	17	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15317	2023-11-27 12:10:33	16	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15316	2023-11-27 12:10:33	15	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15315	2023-11-27 12:10:33	14	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15314	2023-11-27 12:10:33	13	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15313	2023-11-27 12:10:33	12	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15312	2023-11-27 12:10:33	12	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15311	2023-11-27 12:10:33	11	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15310	2023-11-27 12:10:33	10	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15309	2023-11-27 12:10:32	10	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15308	2023-11-27 12:10:32	9	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15307	2023-11-27 12:10:32	8	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15306	2023-11-27 12:10:32	7	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15305	2023-11-27 12:10:32	6	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15304	2023-11-27 12:10:31	5	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15303	2023-11-27 12:10:31	4	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15302	2023-11-27 12:10:31	4	FS D						STOP	Y			0	00		53527	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15301	2023-11-27 12:10:31	4	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15300	2023-11-27 12:10:30	5	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15299	2023-11-27 12:10:30	6	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15298	2023-11-27 12:10:30	7	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15297	2023-11-27 12:10:29	6	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15296	2023-11-27 12:10:29	5	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15295	2023-11-27 12:10:29	4	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15294	2023-11-27 12:10:29	4	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15293	2023-11-27 12:10:29	4	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15292	2023-11-27 12:10:29	4	D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15291	2023-11-27 12:10:29	4	D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15290	2023-11-27 12:10:29	3	D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15289	2023-11-27 12:10:29	3	MP D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15288	2023-11-27 12:10:29	2	MP D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15287	2023-11-27 12:10:29	2	MP D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15286	2023-11-27 12:10:29	1	MP D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15285	2023-11-27 12:10:29	1	MP D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15284	2023-11-27 12:10:28	1	MP D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15283	2023-11-27 12:10:28	1	D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15282	2023-11-27 12:10:28	1	D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15281	2023-11-27 12:10:28	1	D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15280	2023-11-27 12:10:28	0	D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15279	2023-11-27 12:10:28	0	mP D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15278	2023-11-27 12:10:27	0	mB D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15277	2023-11-27 12:10:26	0	mB D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15276	2023-11-27 12:10:26	0	D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15275	2023-11-27 12:10:26	0	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15274	2023-11-27 12:10:25	0	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	15273	2023-11-27 12:10:25	0	FS D						STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		

ZERO SPEED

Test Run #5 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAB TR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW174	EXTR64	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BRREQ
Page 91 November 28, 2023																											
#	15272	2023-11-27 12:10:25	0	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15271	2023-11-27 12:10:25	0	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15270	2023-11-27 12:10:25	0	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15269	2023-11-27 12:10:24	1	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15268	2023-11-27 12:10:24	2	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15267	2023-11-27 12:10:24	2	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15266	2023-11-27 12:10:24	3	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15265	2023-11-27 12:10:24	4	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15264	2023-11-27 12:10:24	4	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15263	2023-11-27 12:10:23	5	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15262	2023-11-27 12:10:23	5	FS	D					STOP	Y			0	00	0.047	53477	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15261	2023-11-27 12:10:23	5	FS	D	8.8ms	6857CPM	8.8ms	100%	STOP	Y			0	00	0.047	53477	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15260	2023-11-27 12:10:22	4	FS	D	8.8ms	6857CPM	8.8ms	100%	STOP	Y			0	00	0.047	53477	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15259	2023-11-27 12:10:22	4	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15258	2023-11-27 12:10:21	3	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15257	2023-11-27 12:10:21	2	FS	D					STOP	Y			0	00		53477	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15256	2023-11-27 12:10:20	2	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15255	2023-11-27 12:10:20	2	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15254	2023-11-27 12:10:20	2	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15253	2023-11-27 12:10:20	3	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15252	2023-11-27 12:10:20	3	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0	V			
#	15251	2023-11-27 12:10:19	4	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15250	2023-11-27 12:10:19	5	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15249	2023-11-27 12:10:18	6	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15248	2023-11-27 12:10:18	7	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15247	2023-11-27 12:10:18	8	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15246	2023-11-27 12:10:18	9	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15245	2023-11-27 12:10:17	10	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15244	2023-11-27 12:10:17	11	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15243	2023-11-27 12:10:17	12	FS	D					STOP	Y			0	00		53452	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15242	2023-11-27 12:10:17	12	FS	D					STOP	Y			0	00		53427	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15241	2023-11-27 12:10:17	13	FS	D					STOP	Y			0	00	0.074	53427	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15240	2023-11-27 12:10:17	13	FS	D	471.2ms	127CPM	117.5ms	24%	STOP	Y			0	00	0.074	53427	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15239	2023-11-27 12:10:16	14	FS	D	471.2ms	127CPM	117.5ms	24%	STOP	Y			0	00	0.074	53427	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15238	2023-11-27 12:10:16	15	FS	D	471.2ms	127CPM	117.5ms	24%	STOP	Y			0	00	0.068	53427	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15237	2023-11-27 12:10:16	15	FS	D	471.2ms	127CPM	117.5ms	24%	STOP	Y			0	00	0.068	53377	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15236	2023-11-27 12:10:16	16	FS	D	393.8ms	152CPM	40.0ms	10%	STOP	Y			0	00	0.053	53377	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15235	2023-11-27 12:10:16	17	FS	D	600.0ms	100CPM	40.0ms	6%	STOP	Y			0	00	0.053	53377	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15234	2023-11-27 12:10:16	17	FS	D	600.0ms	100CPM	40.0ms	6%	STOP	Y			0	00	0.053	53377	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15233	2023-11-27 12:10:15	18	FS	D	600.0ms	100CPM	40.0ms	6%	STOP	Y			0	00	0.053	53377	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15232	2023-11-27 12:10:15	19	FS	D					STOP	Y			0	00	0.053	53377	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15231	2023-11-27 12:10:15	19	FS	D					STOP	Y			0	00	0.053	53377	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15230	2023-11-27 12:10:15	20	FS	D					STOP	Y			0	00	0.053	53377	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15229	2023-11-27 12:10:15	21	FS	D					STOP	Y			0	00	0.047	53377	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15228	2023-11-27 12:10:15	21	FS	D					STOP	Y			0	00	0.047	53352	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15227	2023-11-27 12:10:14	21	FS	D					STOP	Y			0	00		53352	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15226	2023-11-27 12:10:14	22	FS	D					STOP	Y			0	00		53352	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15225	2023-11-27 12:10:14	23	FS	D					STOP	Y			0	00		53352	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15224	2023-11-27 12:10:14	24	FS	D					STOP	Y			0	00		53352	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15223	2023-11-27 12:10:14	25	FS	D					STOP	Y			0	00		53352	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15222	2023-11-27 12:10:14	25	FS	D					STOP	Y			0	00		53327	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15221	2023-11-27 12:10:14	26	FS	D					STOP	Y			0	00		53327	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15220	2023-11-27 12:10:14	27	FS	D					STOP	Y			0	00		53327	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15219	2023-11-27 12:10:13	28	FS	D					STOP	Y			0	00		53327	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15218	2023-11-27 12:10:13	29	FS	D					STOP	Y			0	00		53327	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15217	2023-11-27 12:10:13	30	FS	D					STOP	Y			0	00		53327	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15216	2023-11-27 12:10:12	30	FS	D					STOP	Y			0	00		53302	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15215	2023-11-27 12:10:12	29	FS	D					STOP	Y			0	00		53302	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15214	2023-11-27 12:10:11	29	FS	D					STOP	Y			0	00		53252	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15213	2023-11-27 12:10:11	30	FS	D					STOP	Y			0	00		53252	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15212	2023-11-27 12:10:11	30	FS	D					STOP	Y			0	00		53252	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15211	2023-11-27 12:10:11	31	FS	D					STOP	Y			0	00		53252	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15210	2023-11-27 12:10:11	31	FS	D					STOP	Y			0	00		53252	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15209	2023-11-27 12:10:11	31	FS	D					STOP	Y			0	00		53202	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15208	2023-11-27 12:10:11	32	FS	D					STOP	Y			0	00		53202	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15207	2023-11-27 12:10:11	33	FS	D					STOP	Y			0	00		53202	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15206	2023-11-27 12:10:10	34	FS	D					STOP	Y			0	00		53202	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15205	2023-11-27 12:10:09	34	FS	D					STOP	Y			0	00		53152	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15204	2023-11-27 12:10:09	34	FS	D					STOP	Y			0	00		53102	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15203	2023-11-27 12:10:09	34	FS	D					STOP	Y			0	00		53102	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15202	2023-11-27 12:10:09	34	FS	D					STOP	Y			0	00		53102	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15201	2023-11-27 12:10:08	34		D					STOP	Y			0	00		53102	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15200	2023-11-27 12:10:08	34	mB	D					STOP	Y			0	00		53102	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15199	2023-11-27 12:10:08	33	mB	D					STOP	Y			0	00		53102	No Station ID	No Station ID	Y	0.0	0.0	0.0				
#	15198	2023-11-27 12:10:08	33		D					STOP	Y			0	00		53102	No Station ID	No Station ID	Y	0.0	0.0	0.0				

FS BRAKE

Test Run #5 ATC Event Log Data Review

STOP CODE

LOSS OF CAB

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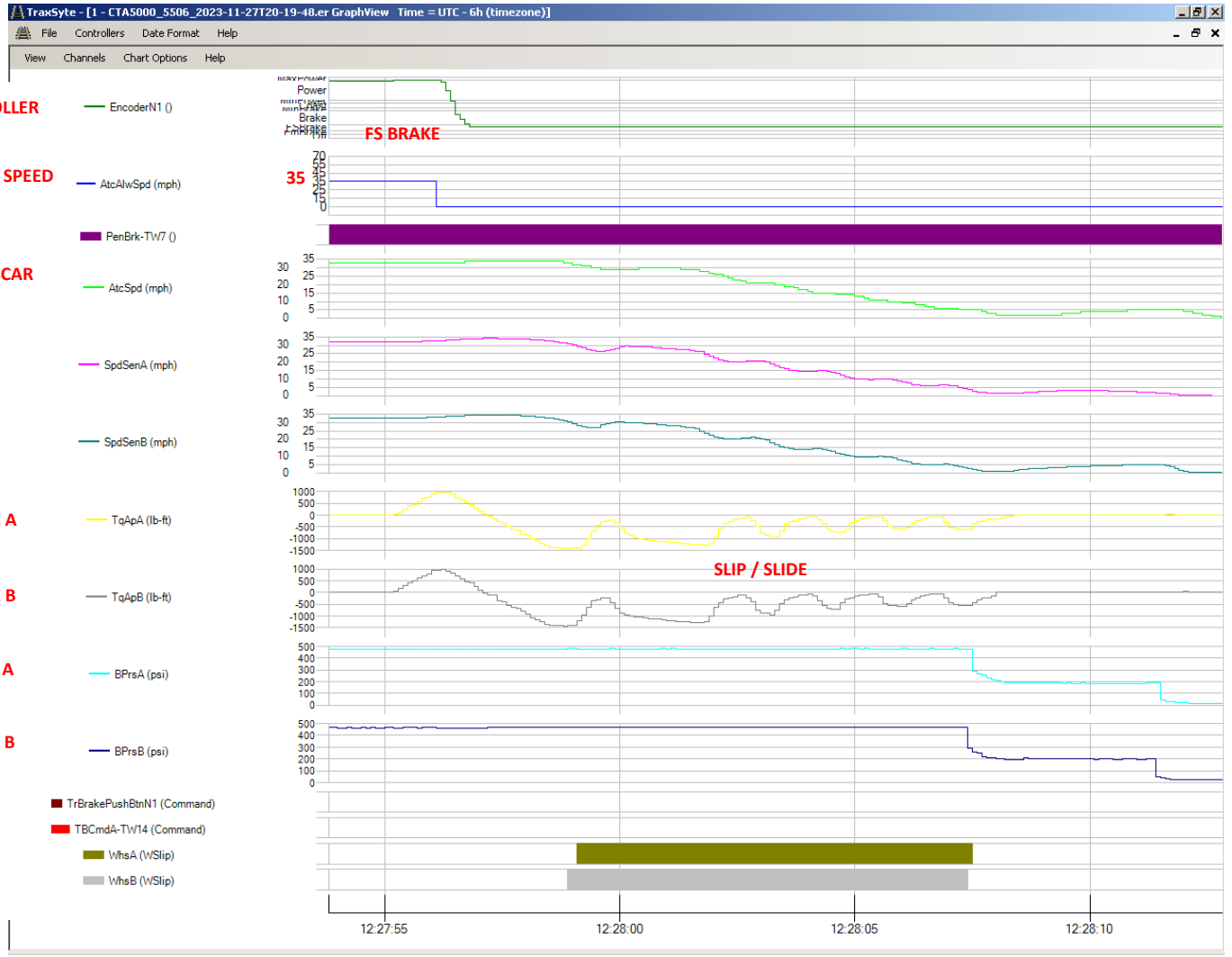
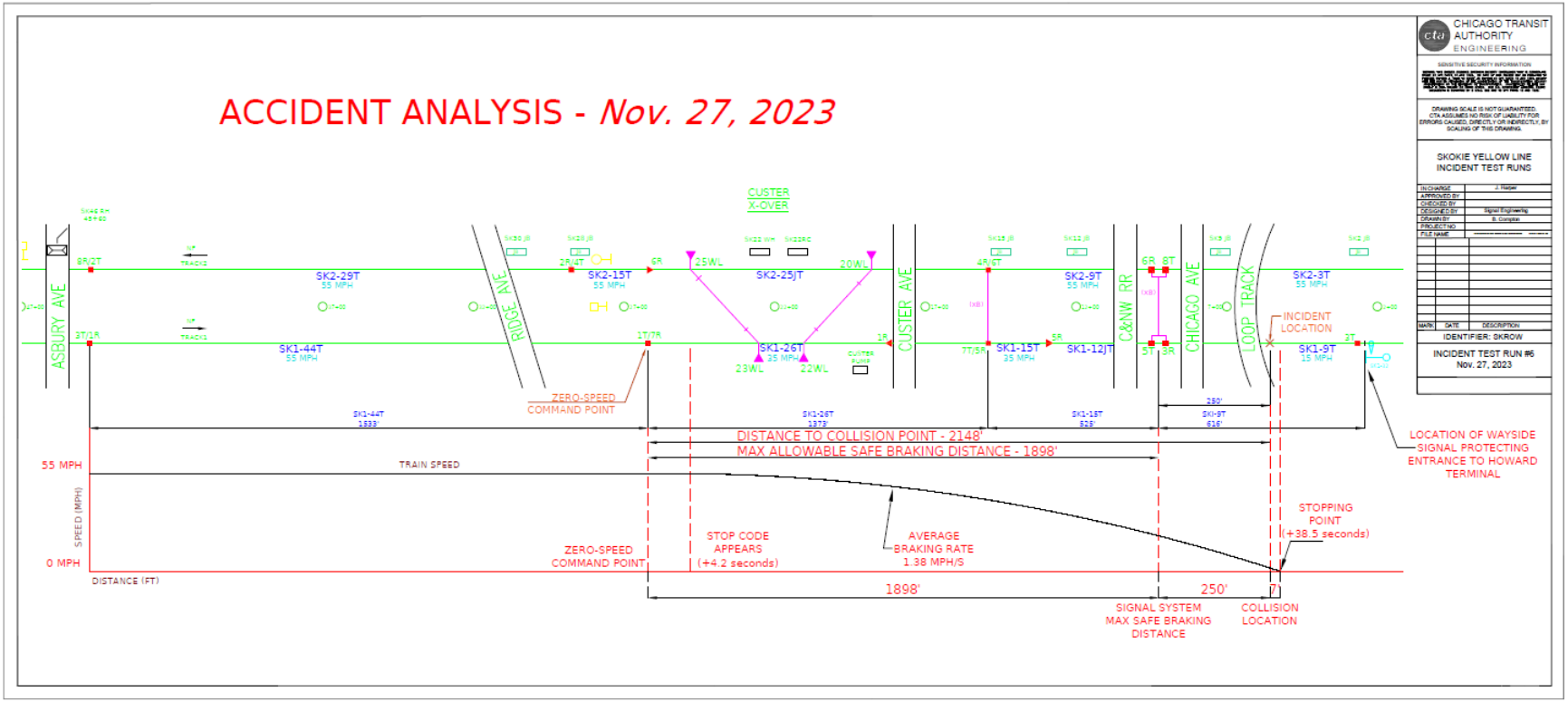
USERTRIGGER	EVENTNUM	DATETIME	SPEED	MCDETENTS	DEADMAN	MEASPERIOD	CODERATE	HALFPERIOD	DUTYCYCLE	ENFORCED CS	CAR TR	CAR BTR	ACTIVECODE	XIENFRCEASP	XIVALIDCODE	TRACKCURR	DISTANCE	NEXTSTATION	ROUTEID	EMEXTTW14	LATERALC	LONCITUDEC	VERTICALC	UZERO	BRRRFB	BRREQ
#	15197	2023-11-27 12:10:08	33	MP D						STOP	Y			0	00		53102	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15196	2023-11-27 12:10:08	33	MP D						STOP	Y			0	00		53102	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15195	2023-11-27 12:10:08	33	MP D						STOP	Y			0	00		53052	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15194	2023-11-27 12:10:08	33	MP D						STOP	Y			0	00		53052	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15193	2023-11-27 12:10:08	33	MP D						STOP	Y			0	00		53052	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15192	2023-11-27 12:10:08	33	MP D						STOP	Y			0	00		53052	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	15191	2023-11-27 12:10:07	33	MP D						CS35	Y			3	08		53052	No Station ID	No Station ID		0.0	0.0	0.0			
#	15190	2023-11-27 12:10:07	33	D						CS35	Y			3	08		53052	No Station ID	No Station ID		0.0	0.0	0.0			
#	15189	2023-11-27 12:10:07	33	D						CS35	Y			3	08		53002	No Station ID	No Station ID		0.0	0.0	0.0			
#	15188	2023-11-27 12:10:07	33	D						CS35	Y			3	08		53002	No Station ID	No Station ID		0.0	0.0	0.0			
#	15187	2023-11-27 12:10:07	33	D						CS35	Y			3	08		53002	No Station ID	No Station ID		0.0	0.0	0.0			
#	15186	2023-11-27 12:10:07	33	D						CS35	Y			3	08		53002	No Station ID	No Station ID		0.0	0.0	0.0			
#	15185	2023-11-27 12:10:06	33	D						CS35	Y			3	08		53002	No Station ID	No Station ID		0.0	0.0	0.0			
#	15184	2023-11-27 12:10:06	33	D						CS35	Y			3	08		52952	No Station ID	No Station ID		0.0	0.0	0.0			
#	15183	2023-11-27 12:10:05	33	D	OK	OK	OK	OK	CS35	Y				3	08	OK	52952	No Station ID	No Station ID		0.0	0.0	0.0			
#	15182	2023-11-27 12:10:05	33	D	OK	OK	OK	OK	CS35	Y				3	08	OK	52902	No Station ID	No Station ID		0.0	0.0	0.0			
#	15181	2023-11-27 12:10:04	33	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52902	No Station ID	No Station ID		0.0	0.0	0.0			
#	15180	2023-11-27 12:10:04	33	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52852	No Station ID	No Station ID		0.0	0.0	0.0			
#	15179	2023-11-27 12:10:03	34	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52852	No Station ID	No Station ID		0.0	0.0	0.0			
#	15178	2023-11-27 12:10:02	34	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52802	No Station ID	No Station ID		0.0	0.0	0.0			
#	15177	2023-11-27 12:10:02	34	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52802	No Station ID	No Station ID		0.0	0.0	0.0			
#	15176	2023-11-27 12:10:02	34	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52802	No Station ID	No Station ID		0.0	0.0	0.0			
#	15175	2023-11-27 12:10:01	34	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52777	No Station ID	No Station ID		0.0	0.0	0.0			
#	15174	2023-11-27 12:10:00	34	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52702	No Station ID	No Station ID		0.0	0.0	0.0			
#	15173	2023-11-27 12:10:00	34	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52677	No Station ID	No Station ID		0.0	0.0	0.0			
#	15172	2023-11-27 12:09:59	35	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52677	No Station ID	No Station ID		0.0	0.0	0.0			
#	15171	2023-11-27 12:09:58	35	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52602	No Station ID	No Station ID		0.0	0.0	0.0			
#	15170	2023-11-27 12:09:57	35	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52577	No Station ID	No Station ID		0.0	0.0	0.0			
#	15169	2023-11-27 12:09:57	35	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52502	No Station ID	No Station ID		0.0	0.0	0.0			
#	15168	2023-11-27 12:09:56	34	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52502	No Station ID	No Station ID		0.0	0.0	0.0			
#	15167	2023-11-27 12:09:56	34	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52502	No Station ID	No Station ID		0.0	0.0	0.0			
#	15166	2023-11-27 12:09:56	34	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52502	No Station ID	No Station ID		0.0	0.0	0.0			
#	15165	2023-11-27 12:09:56	34	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52477	No Station ID	No Station ID		0.0	0.0	0.0			
#	15164	2023-11-27 12:09:56	34	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52477	No Station ID	No Station ID		0.0	0.0	0.0			
#	15163	2023-11-27 12:09:56	34	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52477	No Station ID	No Station ID		0.0	0.0	0.0			
#	15162	2023-11-27 12:09:55	33	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52477	No Station ID	No Station ID		0.0	0.0	0.0			
#	15161	2023-11-27 12:09:55	32	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52477	No Station ID	No Station ID		0.0	0.0	0.0			
#	15160	2023-11-27 12:09:54	32	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52402	No Station ID	No Station ID		0.0	0.0	0.0			
#	15159	2023-11-27 12:09:54	31	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52402	No Station ID	No Station ID		0.0	0.0	0.0			
#	15158	2023-11-27 12:09:53	31	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52377	No Station ID	No Station ID		0.0	0.0	0.0			
#	15157	2023-11-27 12:09:52	31	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52302	No Station ID	No Station ID		0.0	0.0	0.0			
#	15156	2023-11-27 12:09:52	31	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52277	No Station ID	No Station ID		0.0	0.0	0.0			
#	15155	2023-11-27 12:09:51	31	mP D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52277	No Station ID	No Station ID		0.0	0.0	0.0			
#	15154	2023-11-27 12:09:51	31	CT D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52277	No Station ID	No Station ID		0.0	0.0	0.0			
#	15153	2023-11-27 12:09:51	31	CT D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52252	No Station ID	No Station ID		0.0	0.0	0.0			
#	15152	2023-11-27 12:09:50	30	CT D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52252	No Station ID	No Station ID		0.0	0.0	0.0			
#	15151	2023-11-27 12:09:50	31	CT D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52252	No Station ID	No Station ID		0.0	0.0	0.0			
#	15150	2023-11-27 12:09:50	31	CT D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15149	2023-11-27 12:09:50	32	CT D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15148	2023-11-27 12:09:50	32	CT D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15147	2023-11-27 12:09:50	32	CT D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15146	2023-11-27 12:09:50	32	CT D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15145	2023-11-27 12:09:50	32	CT D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15144	2023-11-27 12:09:50	33	CT D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15143	2023-11-27 12:09:50	33	mB D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15142	2023-11-27 12:09:49	33	mB D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15141	2023-11-27 12:09:49	33	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15140	2023-11-27 12:09:49	34	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15139	2023-11-27 12:09:49	34	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15138	2023-11-27 12:09:49	34	FS D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15137	2023-11-27 12:09:49	35	FS D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52177	No Station ID	No Station ID		0.0	0.0	0.0			
#	15136	2023-11-27 12:09:49	35	FS D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52152	No Station ID	No Station ID		0.0	0.0	0.0			
#	15135	2023-11-27 12:09:48	36	FS D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52152	No Station ID	No Station ID		0.0	0.0	0.0			
#	15134	2023-11-27 12:09:48	36	FS D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52077	No Station ID	No Station ID		0.0	0.0	0.0			
#	15133	2023-11-27 12:09:48	36	FS D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52077	No Station ID	No Station ID		0.0	0.0	0.0			
#	15132	2023-11-27 12:09:48	36	FS D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52077	No Station ID	No Station ID		0.0	0.0	0.0			
#	15131	2023-11-27 12:09:48	36	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52077	No Station ID	No Station ID		0.0	0.0	0.0			
#	15130	2023-11-27 12:09:48	36	mB D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52077	No Station ID	No Station ID		0.0	0.0	0.0			
#	15129	2023-11-27 12:09:48	36	mB D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52077	No Station ID	No Station ID		0.0	0.0	0.0			
#	15128	2023-11-27 12:09:48	36	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52077	No Station ID	No Station ID		0.0	0.0	0.0			
#	15127	2023-11-27 12:09:47	36	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52077	No Station ID	No Station ID		0.0	0.0	0.0			
#	15126	2023-11-27 12:09:47	36	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52077	No Station ID	No Station ID		0.0	0.0	0.0			
#	15125	2023-11-27 12:09:47	36	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52077	No Station ID	No Station ID		0.0	0.0	0.0			
#	15124	2023-11-27 12:09:47	35	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52077	No Station ID	No Station ID		0.0	0.0	0.0			
#	15123	2023-11-27 12:09:47	35	D	OK	OK	OK	OK	CS35	Y	180	cpm		3	08	OK	52052	No Station ID	No Station ID		0.0	0.0	0.0			

Test Run #5 ERU Event Log



Appendix VI: Test Run #6 Analysis

Test Run #6 Track Circuit Diagram and Vehicle Response



Test Run #6 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #6		
Criteria	**Time**	**Distance**
Loss of Cab	12:38:37	09541
Stop Code	12:38:41	09766
Zero Speed	12:39:20	11041

Rail vehicle speed at loss of cab: **54 mph**

Total distance from brake application to stopping point: **N/A**

Total time from brake application to stopping point: **N/A**

Test Run #6 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CARD ATR	CARD BTR	ACTIVE CODE	XMITENFRCE ASP	XMITVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW14	EXT R6.	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BRREQ
#	17447	2023-11-27 12:45:46	0	D						STOP	Y			0 00			11041 No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	17446	2023-11-27 12:45:46	0	FS D						STOP	Y			0 00			11041 No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	17445	2023-11-27 12:45:44	0	FS D						STOP	Y			0 00			11041 No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	17444	2023-11-27 12:45:34	0	FS						STOP	Y			0 00			11041 No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	17443	2023-11-27 12:45:33	0	FS						STOP	Y			0 00			11041 No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	17442	2023-11-27 12:45:32	0	FS D						STOP	Y			0 00			11041 No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	17441	2023-11-27 12:45:29	0	FS						STOP	Y			0 00			11041 No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	17440	2023-11-27 12:45:29	0	FS						STOP	Y			0 00			11041 No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	17439	2023-11-27 12:45:28	0	FS						STOP	Y			0 00			11041 No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	17438	2023-11-27 12:45:28	0	FS						STOP	Y			0 00			00000 No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	17437	2023-11-27 12:45:28	0	FS						STOP	Y			0 00			00000 No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
#	17436	2023-11-27 12:45:27	0	FS						STOP	Y			0 00			00000 No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V			
#	17435	2023-11-27 12:45:27	0	FS						STOP	Y			0 00			00000 No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
#	17434	2023-11-27 12:45:27	0	FS						STOP	Y			0 00			00000 No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
#	17433	2023-11-27 12:45:27	0	FS						STOP	Y			0 00			00000 No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
#	17432	2023-11-27 12:45:27	0	FS						STOP	Y			0 00			00000 No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
#	17431	2023-11-27 12:45:27	0	FS						STOP	Y			0 00			00000 No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B		
#	17430	2023-11-27 12:45:27	0	FS						STOP	Y			0 00			00000 No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B	
#	17429	2023-11-27 12:45:26	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17428	2023-11-27 12:45:23	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17427	2023-11-27 12:45:23	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17426	2023-11-27 12:45:23	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17425	2023-11-27 12:45:21	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17424	2023-11-27 12:45:21	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17423	2023-11-27 12:45:21	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17422	2023-11-27 12:45:20	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17421	2023-11-27 12:45:20	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17420	2023-11-27 12:45:19	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17419	2023-11-27 12:45:19	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17418	2023-11-27 12:45:18	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17417	2023-11-27 12:45:18	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B	
#	17416	2023-11-27 12:45:18	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0		B	B	
#	17415	2023-11-27 12:45:18	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0		B	B	
#	17414	2023-11-27 12:45:18	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0		B	B	
#	17413	2023-11-27 12:45:18	0							STOP				0 00			00000 No Station ID	No Station ID	B		0.0	0.0	0.0		B	B	
#	17412	2023-11-27 12:42:00	0	OF						CS15				1 02			11041 No Station ID	No Station ID	B		0.0	0.0	0.0	V			
#	17411	2023-11-27 12:41:59	0	OF		OK	OK	OK	OK	CS15				1 02	OK		11041 No Station ID	No Station ID	B		0.0	0.0	0.0	V			
#	17410	2023-11-27 12:41:59	0	OF		OK	OK	OK	OK	CS15		75 cpm		1 02	OK		11041 No Station ID	No Station ID	B		0.0	0.0	0.0	V			
#	17409	2023-11-27 12:41:58	0	OF		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID	B		0.0	0.0	0.0	V			
#	17408	2023-11-27 12:41:57	9	OF D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID	B		0.0	0.0	0.0	V			
#	17407	2023-11-27 12:41:57	0	OF D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17406	2023-11-27 12:41:57	0	FS D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17405	2023-11-27 12:41:56	0	FS D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17404	2023-11-27 12:41:51	0	FS		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17403	2023-11-27 12:40:37	0	FS		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17402	2023-11-27 12:40:24	0	FS D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17401	2023-11-27 12:39:59	0	FS		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17400	2023-11-27 12:39:27	0	FS		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17399	2023-11-27 12:39:22	0	FS		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17398	2023-11-27 12:39:22	0	FS		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17397	2023-11-27 12:39:22	0	FS		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17396	2023-11-27 12:39:22	0	FS		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17395	2023-11-27 12:39:21	0	FS		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17394	2023-11-27 12:39:21	0	FS D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V			
#	17393	2023-11-27 12:39:20	0	FS D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B		
#	17392	2023-11-27 12:39:20	0	FS D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B		
#	17391	2023-11-27 12:39:20	0	FS D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B		
#	17390	2023-11-27 12:39:20	0	FS D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B	B	
#	17389	2023-11-27 12:39:20	0	FS D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B	B	
#	17388	2023-11-27 12:39:20	0	D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B	B	
#	17387	2023-11-27 12:39:20	0	CT D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B	B	
#	17386	2023-11-27 12:39:20	0	mP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B	B	
#	17385	2023-11-27 12:39:20	0	mP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B	B	
#	17384	2023-11-27 12:39:20	0	D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B	B	
#	17383	2023-11-27 12:39:19	0	MP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B	B	
#	17382	2023-11-27 12:39:19	1	MP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B	B	
#	17381	2023-11-27 12:39:19	2	MP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B	B	
#	17380	2023-11-27 12:39:18	3	MP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0	V	B	B	
#	17379	2023-11-27 12:39:18	4	MP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0		B	B	
#	17378	2023-11-27 12:39:17	5	MP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0		B	B	
#	17377	2023-11-27 12:39:17	6	MP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0		B	B	
#	17376	2023-11-27 12:39:16	7	MP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0		B	B	
#	17375	2023-11-27 12:39:16	8	MP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0		B	B	
#	17374	2023-11-27 12:39:16	9	MP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0		B	B	
#	17373	2023-11-27 12:39:15	10	MP D		OK	OK	OK	OK	CS15	Y	75 cpm		1 02	OK		11041 No Station ID	No Station ID			0.0	0.0	0.0		B	B	

ZERO SPEED

Test Run #6 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CARA TR	CARB TR	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT	EXT TW1.	LATERAL R6	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BREQ
#	17372	2023-11-27 12:39:15	10	MP D	OX	OX	OX	OX	CS15	Y	75 cpm	1	02	OX	11016	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	17371	2023-11-27 12:39:15	11	MP D	OX	OX	OX	OX	CS15	Y	75 cpm	1	02	OX	11016	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	17370	2023-11-27 12:39:15	12	MP D	OX	OX	OX	OX	CS15	Y	75 cpm	1	02	OX	11016	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	17369	2023-11-27 12:39:15	12	MP D	796.2ms	75CPM	396.2ms	49%	CS15	Y	75 cpm	1	02	0.112	11016	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	17368	2023-11-27 12:39:14	12	MP D	796.2ms	75CPM	396.2ms	49%	CS15	Y	75 cpm	1	02	0.106	11016	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	17367	2023-11-27 12:39:14	12	MP D	796.2ms	75CPM	396.2ms	49%	CS15	Y	75 cpm	1	02	0.091	11016	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	17366	2023-11-27 12:39:14	12	MP D	796.2ms	75CPM	396.2ms	49%	CS15	Y	75 cpm	1	02	0.085	11016	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	17365	2023-11-27 12:39:14	13	MP D	796.2ms	75CPM	396.2ms	49%	CS15	Y	75 cpm	1	02	0.085	11016	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	17364	2023-11-27 12:39:14	13	MP D	796.2ms	75CPM	396.2ms	49%	CS15	Y	75 cpm	1	02	0.080	11016	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	17363	2023-11-27 12:39:13	14	MP D	802.5ms	75CPM	396.2ms	49%	STOP	Y		0	00	0.063	11016	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17362	2023-11-27 12:39:13	14	MP D	802.5ms	75CPM	396.2ms	49%	STOP	Y		0	00	0.063	10991	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17361	2023-11-27 12:39:13	15	MP D	802.5ms	75CPM	396.2ms	49%	STOP	Y		0	00	0.063	10991	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17360	2023-11-27 12:39:13	15	MP D	427.5ms	140CPM	21.2ms	4%	STOP	Y		0	00	0.063	10991	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17359	2023-11-27 12:39:13	15	MP D	21.2ms	2824CPM	21.2ms	100%	STOP	Y		0	00	0.053	10991	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17358	2023-11-27 12:39:12	16	MP D	21.2ms	2824CPM	21.2ms	100%	STOP	Y		0	00	0.053	10991	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17357	2023-11-27 12:39:12	17	MP D					STOP	Y		0	00		10991	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17356	2023-11-27 12:39:12	17	MP D					STOP	Y		0	00		10941	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17355	2023-11-27 12:39:11	18	MP D					STOP	Y		0	00		10941	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17354	2023-11-27 12:39:11	18	MP D					STOP	Y		0	00		10916	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17353	2023-11-27 12:39:11	19	MP D					STOP	Y		0	00		10916	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17352	2023-11-27 12:39:10	20	MP D					STOP	Y		0	00		10916	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17351	2023-11-27 12:39:10	21	MP D					STOP	Y		0	00		10916	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17350	2023-11-27 12:39:10	22	MP D					STOP	Y		0	00		10916	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17349	2023-11-27 12:39:09	23	MP D					STOP	Y		0	00		10916	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17348	2023-11-27 12:39:09	23	MP D					STOP	Y		0	00		10891	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17347	2023-11-27 12:39:09	24	MP D					STOP	Y		0	00		10891	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17346	2023-11-27 12:39:08	25	MP D					STOP	Y		0	00		10891	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17345	2023-11-27 12:39:08	25	MP D					STOP	Y		0	00		10816	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17344	2023-11-27 12:39:08	26	MP D					STOP	Y		0	00		10816	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17343	2023-11-27 12:39:07	27	MP D					STOP	Y		0	00		10816	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17342	2023-11-27 12:39:06	27	MP D					STOP	Y		0	00		10791	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17341	2023-11-27 12:39:06	27	MP D					STOP	Y		0	00		10741	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17340	2023-11-27 12:39:05	26	MP D					STOP	Y		0	00		10741	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17339	2023-11-27 12:39:05	25	MP D					STOP	Y		0	00		10741	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17338	2023-11-27 12:39:05	25	MP D					STOP	Y		0	00		10716	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17337	2023-11-27 12:39:05	24	MP D					STOP	Y		0	00		10716	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17336	2023-11-27 12:39:05	23	MP D					STOP	Y		0	00		10716	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17335	2023-11-27 12:39:05	22	MP D					STOP	Y		0	00		10716	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17334	2023-11-27 12:39:04	21	MP D					STOP	Y		0	00		10716	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17333	2023-11-27 12:39:04	20	MP D					STOP	Y		0	00		10716	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17332	2023-11-27 12:39:04	20	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17331	2023-11-27 12:39:04	19	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17330	2023-11-27 12:39:04	18	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17329	2023-11-27 12:39:04	17	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17328	2023-11-27 12:39:04	15	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17327	2023-11-27 12:39:04	14	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17326	2023-11-27 12:39:04	13	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17325	2023-11-27 12:39:04	12	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17324	2023-11-27 12:39:03	11	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17323	2023-11-27 12:39:03	10	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17322	2023-11-27 12:39:03	9	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17321	2023-11-27 12:39:03	8	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17320	2023-11-27 12:39:03	7	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17319	2023-11-27 12:39:02	6	MP D					STOP	Y		0	00		10691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17318	2023-11-27 12:39:02	6	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17317	2023-11-27 12:39:02	5	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17316	2023-11-27 12:39:02	4	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17315	2023-11-27 12:39:02	3	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0	U	B	B
#	17314	2023-11-27 12:39:01	2	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0	U	B	B
#	17313	2023-11-27 12:39:01	2	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0	U	B	B
#	17312	2023-11-27 12:39:00	3	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0	U	B	B
#	17311	2023-11-27 12:39:00	4	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17310	2023-11-27 12:39:00	5	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17309	2023-11-27 12:38:59	6	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17308	2023-11-27 12:38:59	7	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17307	2023-11-27 12:38:59	8	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17306	2023-11-27 12:38:59	9	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17305	2023-11-27 12:38:58	10	MP D					STOP	Y		0	00		10666	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17304	2023-11-27 12:38:58	10	MP D					STOP	Y		0	00		10616	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17303	2023-11-27 12:38:58	11	MP D					STOP	Y		0	00		10616	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17302	2023-11-27 12:38:57	12	MP D					STOP	Y		0	00		10616	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17301	2023-11-27 12:38:56	13	MP D					STOP	Y		0	00		10616	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17229	2023-11-27 12:38:56	14	MP D					STOP	Y		0	00		10616	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17224	2023-11-27 12:38:56	14	MP D					STOP	Y		0	00		10591	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	17223	2023-11-27 12:38:55	15	MP D					STOP	Y		0	00		10591	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B

Test Run #6 ATC Event Log Data Review

USERTRICGER	EVENTNUM	DATETIME	SPEED	MCDETENTS	DEADMAN	MEASPERIOD	CODERATE	HALFPERIOD	DUTYCYCLE	ENFORCEDCS	CARATR	CARBTR	ACTIVECODE	XIENFRCEASP	XIVALIDCODE	TRACKCURR	DISTANCE	NEXTSTATION	ROUTEID	EMTW17	EXTR64	LATERALC	LONGITUDEG	VERTICALG	U2ERO	BRFB	BRREQ
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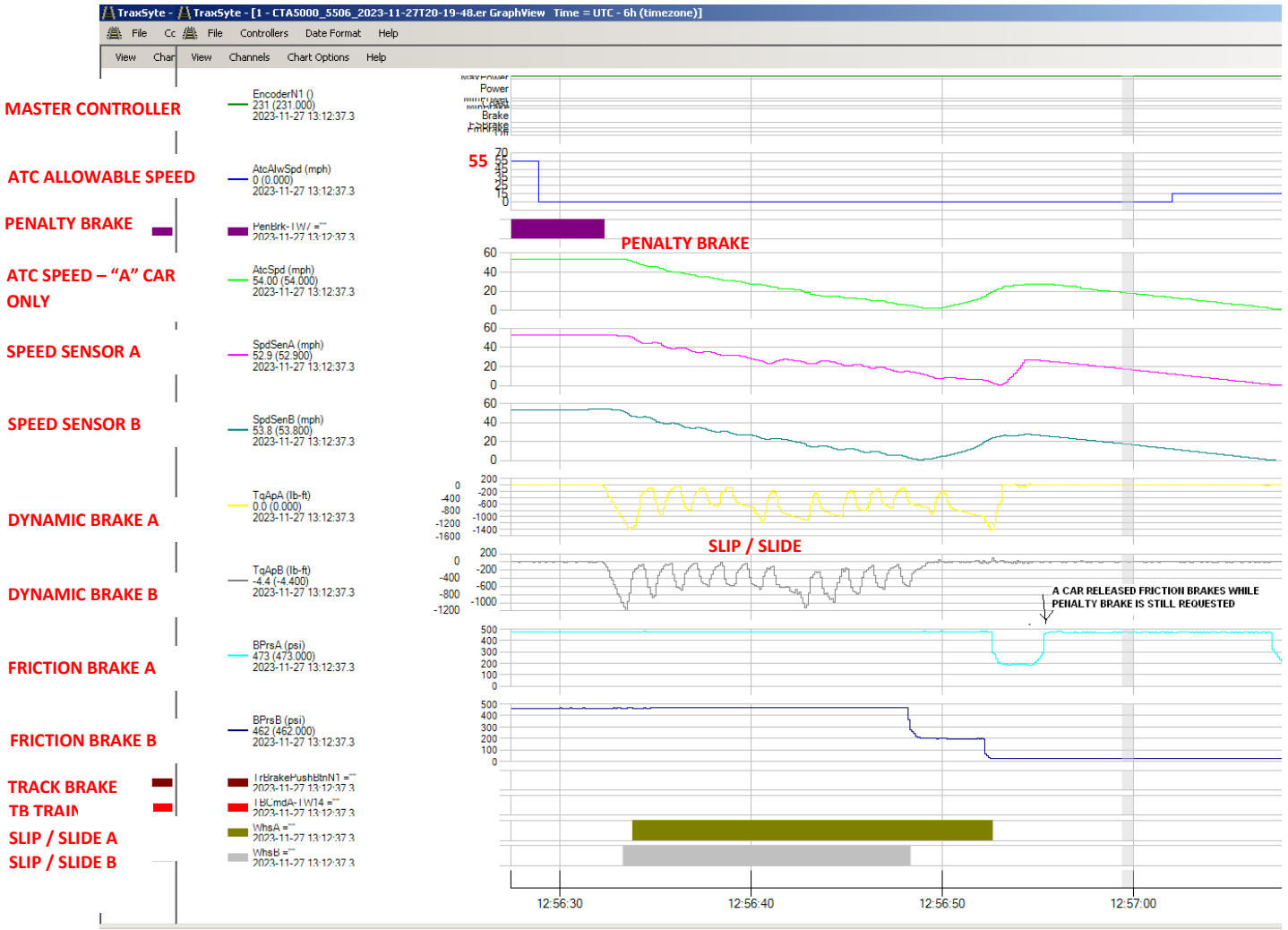
#	17297	2023-11-27 12:38:55	16	MP D						STOP	Y			0	00		10591	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17296	2023-11-27 12:38:55	17	MP D						STOP	Y			0	00		10591	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17295	2023-11-27 12:38:55	18	MP D						STOP	Y			0	00		10591	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17294	2023-11-27 12:38:55	19	MP D						STOP	Y			0	00		10591	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17293	2023-11-27 12:38:54	20	MP D						STOP	Y			0	00		10591	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17292	2023-11-27 12:38:54	21	MP D						STOP	Y			0	00		10591	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17291	2023-11-27 12:38:54	21	MP D						STOP	Y			0	00		10566	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17290	2023-11-27 12:38:54	22	MP D						STOP	Y			0	00		10566	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17289	2023-11-27 12:38:53	23	MP D						STOP	Y			0	00		10566	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17288	2023-11-27 12:38:53	23	MP D						STOP	Y			0	00		10516	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17287	2023-11-27 12:38:53	24	MP D						STOP	Y			0	00		10516	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17286	2023-11-27 12:38:53	25	MP D						STOP	Y			0	00		10516	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17285	2023-11-27 12:38:52	26	MP D						STOP	Y			0	00		10516	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17284	2023-11-27 12:38:52	26	MP D						STOP	Y			0	00		10466	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17283	2023-11-27 12:38:52	27	MP D						STOP	Y			0	00		10466	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17282	2023-11-27 12:38:51	28	MP D						STOP	Y			0	00		10466	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17281	2023-11-27 12:38:51	28	MP D						STOP	Y			0	00		10416	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17280	2023-11-27 12:38:51	29	MP D						STOP	Y			0	00		10416	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17279	2023-11-27 12:38:51	30	MP D						STOP	Y			0	00		10416	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17278	2023-11-27 12:38:50	31	MP D						STOP	Y			0	00		10416	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17277	2023-11-27 12:38:50	31	MP D						STOP	Y			0	00		10391	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17276	2023-11-27 12:38:50	32	MP D						STOP	Y			0	00		10391	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17275	2023-11-27 12:38:50	33	MP D						STOP	Y			0	00		10391	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17274	2023-11-27 12:38:49	34	MP D						STOP	Y			0	00		10391	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17273	2023-11-27 12:38:49	35	MP D						STOP	Y			0	00		10391	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17272	2023-11-27 12:38:49	35	MP D						STOP	Y			0	00		10316	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17271	2023-11-27 12:38:49	36	MP D						STOP	Y			0	00		10316	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17270	2023-11-27 12:38:48	37	MP D						STOP	Y			0	00		10316	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17269	2023-11-27 12:38:48	38	MP D						STOP	Y			0	00		10316	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17268	2023-11-27 12:38:48	38	MP D						STOP	Y			0	00		10291	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17267	2023-11-27 12:38:48	39	MP D						STOP	Y			0	00		10291	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17266	2023-11-27 12:38:47	40	MP D						STOP	Y			0	00		10291	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17265	2023-11-27 12:38:47	41	MP D						STOP	Y			0	00		10291	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17264	2023-11-27 12:38:47	41	MP D						STOP	Y			0	00		10216	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17263	2023-11-27 12:38:47	42	MP D						STOP	Y			0	00		10216	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17262	2023-11-27 12:38:47	43	MP D						STOP	Y			0	00		10216	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17261	2023-11-27 12:38:47	44	MP D						STOP	Y			0	00		10216	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17260	2023-11-27 12:38:47	45	MP D						STOP	Y			0	00		10216	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17259	2023-11-27 12:38:46	46	MP D						STOP	Y			0	00		10216	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17258	2023-11-27 12:38:46	46	MP D						STOP	Y			0	00		10166	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17257	2023-11-27 12:38:46	47	MP D						STOP	Y			0	00		10166	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17256	2023-11-27 12:38:46	48	MP D						STOP	Y			0	00		10166	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17255	2023-11-27 12:38:46	49	MP D						STOP	Y			0	00		10166	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17254	2023-11-27 12:38:46	50	MP D						STOP	Y			0	00		10166	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17253	2023-11-27 12:38:45	51	MP D						STOP	Y			0	00		10166	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17252	2023-11-27 12:38:45	52	MP D						STOP	Y			0	00		10166	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17251	2023-11-27 12:38:45	52	MP D						STOP	Y			0	00		10066	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17250	2023-11-27 12:38:45	53	MP D						STOP	Y			0	00		10066	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17249	2023-11-27 12:38:44	54	MP D						STOP	Y			0	00		10066	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17248	2023-11-27 12:38:44	54	MP D						STOP	Y			0	00		09991	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17247	2023-11-27 12:38:44	54	MP D						STOP	Y			0	00	0.065	09991	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	17246	2023-11-27 12:38:43	54	MP D						STOP	Y			0	00	0.065	09991	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	
#	17245	2023-11-27 12:38:43	54	MP D						STOP	Y			0	00	0.065	09891	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	
#	17244	2023-11-27 12:38:43	54	MP D						STOP	Y			0	00		09891	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	
#	17243	2023-11-27 12:38:43	54	MP D						STOP	Y			0	00		09891	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	17242	2023-11-27 12:38:42	54	MP D						STOP	Y			0	00		09891	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	17241	2023-11-27 12:38:41	54	MP D						STOP	Y			0	00		09841	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	17240	2023-11-27 12:38:41	54	MP D						STOP	Y			0	00		09766	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	17239	2023-11-27 12:38:41	54	MP D						STOP	Y			0	00		09766	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	17238	2023-11-27 12:38:41	54	MP D						STOP	Y			0	00		09766	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	17237	2023-11-27 12:38:41	54	MP D						STOP	Y			0	00		09766	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	17236	2023-11-27 12:38:40	54	MP D						CS55	Y			5	20		09766	No Station ID	No Station ID		0.0	0.0	0.0			
#	17235	2023-11-27 12:38:39	54	MP D						CS55	Y			5	20		09666	No Station ID	No Station ID		0.0	0.0	0.0			
#	17234	2023-11-27 12:38:39	54	MP D						CS55	Y			5	20		09616	No Station ID	No Station ID		0.0	0.0	0.0			
#	17233	2023-11-27 12:38:38	54	MP D	OK	OK	OK	OK	CS55	Y			5	20	OK	09616	No Station ID	No Station ID		0.0	0.0	0.0			
#	17232	2023-11-27 12:38:37	54	MP D	OK	OK	OK	OK	CS55	Y			5	20	OK	09541	No Station ID	No Station ID		0.0	0.0	0.0			
#	17231	2023-11-27 12:38:37	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	09541	No Station ID	No Station ID		0.0	0.0	0.0			
#	17230	2023-11-27 12:38:36	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	09441	No Station ID	No Station ID		0.0	0.0	0.0			
#	17229	2023-11-27 12:38:35	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	09366	No Station ID	No Station ID		0.0	0.0	0.0			
#	17228	2023-11-27 12:38:35	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	09266	No Station ID	No Station ID		0.0	0.0	0.0			
#	17227	2023-11-27 12:38:35	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	09266	No Station ID	No Station ID		0.0	0.0	0.0			
#	17226	2023-11-27 12:38:34	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	09266	No Station ID	No Station ID		0.0	0.0	0.0			
#	17225	2023-11-27 12:38:34	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	09216	No Station ID	No Station ID		0.0	0.0	0.0			
#	17224	2023-11-27 12:38:34	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	09216	No Station ID	No Station ID		0.0	0.0	0.0			
#	17223	2023-11-27 12:38:33	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	09216	No Station ID	No Station ID		0.0	0.0	0.0			

STOP CODE

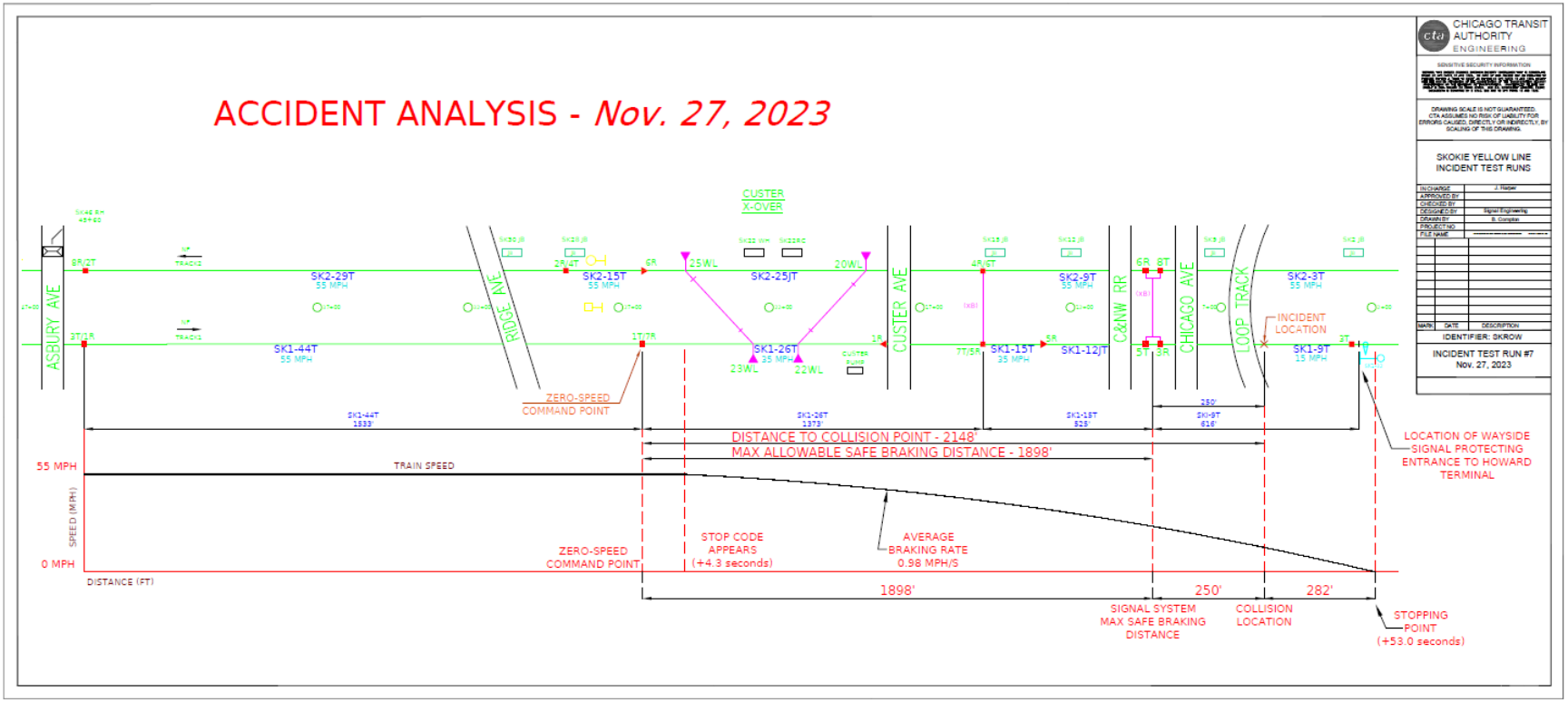
LOSS OF CAB

Test Run #6 ERU Event Log



Appendix VII: Test Run #7 Analysis

Test Run #7 Track Circuit Diagram and Vehicle Response



Test Run #7 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #7		
Criteria	**Time**	**Distance**
Loss of Cab	12:54:47	22341
Stop Code	12:54:49	22566
Zero Speed	12:55:44	24466

Rail vehicle speed at loss of cab: **54 mph**

Total distance from brake application to stopping point: **N/A**

Total time from brake application to stopping point: **N/A**

Test Run #7 ATC Event Log Data Review

ZERO SPEED

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#	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW14	EXT R6.	LATERAL G	LONGITUDE G	VERTICAL G	VERTICAL ZERO	BRR FEQ
#	18497	2023-11-27 12:56:40	0	FS D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	18496	2023-11-27 12:56:27	0	FS D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	18495	2023-11-27 12:55:44	0	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	18494	2023-11-27 12:55:44	0	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	18493	2023-11-27 12:55:44	0	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	18492	2023-11-27 12:55:44	0	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	18491	2023-11-27 12:55:44	0	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	18490	2023-11-27 12:55:43	0	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	18489	2023-11-27 12:55:43	1	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	18488	2023-11-27 12:55:43	1	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	18487	2023-11-27 12:55:43	2	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	
#	18486	2023-11-27 12:55:43	2	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	B
#	18485	2023-11-27 12:55:42	3	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	B
#	18484	2023-11-27 12:55:42	3	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	B
#	18483	2023-11-27 12:55:42	3	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	B
#	18482	2023-11-27 12:55:42	3	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0	V	B B
#	18481	2023-11-27 12:55:42	4	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18480	2023-11-27 12:55:42	5	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18479	2023-11-27 12:55:41	6	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18478	2023-11-27 12:55:41	7	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18477	2023-11-27 12:55:40	8	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18476	2023-11-27 12:55:40	8	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18475	2023-11-27 12:55:40	9	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24466	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18474	2023-11-27 12:55:39	9	FS	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24441	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18473	2023-11-27 12:55:39	9	FS D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24441	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18472	2023-11-27 12:55:39	9	FS D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24441	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18471	2023-11-27 12:55:39	9	D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24441	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18470	2023-11-27 12:55:39	9	mB D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24441	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18469	2023-11-27 12:55:39	10	mB D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24441	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18468	2023-11-27 12:55:39	10	mP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24441	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18467	2023-11-27 12:55:38	10	mP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24441	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18466	2023-11-27 12:55:38	10	mP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24441	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18465	2023-11-27 12:55:38	10	D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24441	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18464	2023-11-27 12:55:38	10	D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24391	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18463	2023-11-27 12:55:37	11	D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24391	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18462	2023-11-27 12:55:36	12	D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24391	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18461	2023-11-27 12:55:35	12	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24366	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18460	2023-11-27 12:55:34	13	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24366	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18459	2023-11-27 12:55:34	14	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24366	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18458	2023-11-27 12:55:33	14	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24341	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18457	2023-11-27 12:55:33	15	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24341	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18456	2023-11-27 12:55:32	15	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24291	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18455	2023-11-27 12:55:31	16	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24291	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18454	2023-11-27 12:55:31	17	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24291	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18453	2023-11-27 12:55:30	17	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24266	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18452	2023-11-27 12:55:30	18	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24266	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18451	2023-11-27 12:55:29	18	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24241	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18450	2023-11-27 12:55:29	19	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24241	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18449	2023-11-27 12:55:28	19	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24216	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18448	2023-11-27 12:55:28	20	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24216	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18447	2023-11-27 12:55:27	20	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24166	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18446	2023-11-27 12:55:26	21	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24166	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18445	2023-11-27 12:55:26	22	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24166	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18444	2023-11-27 12:55:25	22	MP D	OK	OK	OK	OK	CS15	Y			75 cpm	1	02	OK	24141	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18443	2023-11-27 12:55:25	22	MP D	806.2ms	74CPM	401.2ms	49%	CS15	Y			75 cpm	1	02	0.105	24141	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18442	2023-11-27 12:55:25	22	MP D	806.2ms	74CPM	401.2ms	49%	STOP	Y				0	00	0.080	24141	No Station ID	No Station ID			0.0	0.0	0.0		B B
#	18441	2023-11-27 12:55:25	22	MP D	806.2ms	74CPM	401.2ms	49%	STOP	Y				0	00	0.080	24116	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18440	2023-11-27 12:55:25	23	MP D	422.5ms	142CPM	17.5ms	4%	STOP	Y				0	00	0.072	24116	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18439	2023-11-27 12:55:24	23	MP D	422.5ms	142CPM	17.5ms	4%	STOP	Y				0	00	0.066	24116	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18438	2023-11-27 12:55:24	23	MP D	17.5ms	3429CPM	17.5ms	100%	STOP	Y				0	00	0.059	24116	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18437	2023-11-27 12:55:24	23	MP D	17.5ms	3429CPM	17.5ms	100%	STOP	Y				0	00	0.045	24116	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18436	2023-11-27 12:55:24	23	MP D					STOP	Y				0	00		24116	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18435	2023-11-27 12:55:24	23	MP D					STOP	Y				0	00		24066	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18434	2023-11-27 12:55:23	24	MP D					STOP	Y				0	00		24066	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18433	2023-11-27 12:55:22	24	MP D					STOP	Y				0	00		24041	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18432	2023-11-27 12:55:22	25	MP D					STOP	Y				0	00		24041	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18431	2023-11-27 12:55:21	25	MP D					STOP	Y				0	00		23966	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18430	2023-11-27 12:55:21	26	MP D					STOP	Y				0	00		23966	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18429	2023-11-27 12:55:20	26	MP D					STOP	Y				0	00		23941	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18428	2023-11-27 12:55:20	26	MP D					STOP	Y				0	00		23916	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18427	2023-11-27 12:55:19	27	MP D					STOP	Y				0	00		23916	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18426	2023-11-27 12:55:18	27	MP D					STOP	Y				0	00		23866	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18425	2023-11-27 12:55:18	28	MP D					STOP	Y				0	00		23866	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18424	2023-11-27 12:55:17	28	MP D					STOP	Y				0	00		23841	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B
#	18423	2023-11-27 12:55:16	28	MP D					STOP	Y				0	00		23766	No Station ID	No Station ID	Y		0.0	0.0	0.0		B B

Test Run #7 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MCDETENTS	DEADMAN	MEASPERIOD	CODERATE	HALFPERIOD	DUTYCYCLE	ENFORCED	CARCS	CARATR	CARBTR	ACTIVECODE	XIENFRCEASP	XIVALIDCODE	TRACKCURR	DISTANCE	NEXTSTATION	ROUTEID	EMEXTTW17	EMEXTR64	LATERALC	LONGITUDEC	VERTICALC	UZERO	BRREQ	BRRFB
Page 49 November 28, 2023																												
#	18422	2023-11-27 12:55:15	28	MP	D					STOP	Y				0	00		23741	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18421	2023-11-27 12:55:15	28	MP	D					STOP	Y				0	00		23716	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18420	2023-11-27 12:55:14	29	MP	D					STOP	Y				0	00		23716	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18419	2023-11-27 12:55:13	29	MP	D					STOP	Y				0	00		23691	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18418	2023-11-27 12:55:12	29	MP	D					STOP	Y				0	00		23616	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18417	2023-11-27 12:55:11	29	MP	D					STOP	Y				0	00		23591	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18416	2023-11-27 12:55:11	30	MP	D					STOP	Y				0	00		23591	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18415	2023-11-27 12:55:10	30	MP	D					STOP	Y				0	00		23541	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18414	2023-11-27 12:55:09	30	MP	D					STOP	Y				0	00		23491	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18413	2023-11-27 12:55:08	30	MP	D					STOP	Y				0	00		23441	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18412	2023-11-27 12:55:07	30	MP	D					STOP	Y				0	00		23416	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18411	2023-11-27 12:55:07	30	MP	D					STOP	Y				0	00		23416	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18410	2023-11-27 12:55:07	29	MP	D					STOP	Y				0	00		23416	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18409	2023-11-27 12:55:07	28	MP	D					STOP	Y				0	00		23416	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18408	2023-11-27 12:55:07	28	MP	D					STOP	Y				0	00		23391	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18407	2023-11-27 12:55:07	27	MP	D					STOP	Y				0	00		23391	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18406	2023-11-27 12:55:07	26	MP	D					STOP	Y				0	00		23391	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18405	2023-11-27 12:55:06	25	MP	D					STOP	Y				0	00		23391	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18404	2023-11-27 12:55:06	23	MP	D					STOP	Y				0	00		23391	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18403	2023-11-27 12:55:06	21	MP	D					STOP	Y				0	00		23391	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18402	2023-11-27 12:55:06	20	MP	D					STOP	Y				0	00		23391	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18401	2023-11-27 12:55:06	18	MP	D					STOP	Y				0	00		23391	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18400	2023-11-27 12:55:06	17	MP	D					STOP	Y				0	00		23391	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18399	2023-11-27 12:55:06	16	MP	D					STOP	Y				0	00		23391	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18398	2023-11-27 12:55:06	15	MP	D					STOP	Y				0	00		23391	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18397	2023-11-27 12:55:06	15	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18396	2023-11-27 12:55:06	13	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18395	2023-11-27 12:55:06	12	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18394	2023-11-27 12:55:05	11	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18393	2023-11-27 12:55:05	10	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18392	2023-11-27 12:55:05	9	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18391	2023-11-27 12:55:05	8	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18390	2023-11-27 12:55:05	7	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18389	2023-11-27 12:55:05	6	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18388	2023-11-27 12:55:05	5	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18387	2023-11-27 12:55:05	4	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18386	2023-11-27 12:55:05	3	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	18385	2023-11-27 12:55:04	2	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	18384	2023-11-27 12:55:04	1	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	18383	2023-11-27 12:55:04	2	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	18382	2023-11-27 12:55:04	2	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	18381	2023-11-27 12:55:04	3	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	18380	2023-11-27 12:55:04	4	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18379	2023-11-27 12:55:04	5	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18378	2023-11-27 12:55:03	6	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18377	2023-11-27 12:55:03	7	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18376	2023-11-27 12:55:03	8	MP	D					STOP	Y				0	00		23341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18375	2023-11-27 12:55:03	8	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18374	2023-11-27 12:55:03	9	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18373	2023-11-27 12:55:02	10	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18372	2023-11-27 12:55:02	11	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18371	2023-11-27 12:55:02	12	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18370	2023-11-27 12:55:02	13	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18369	2023-11-27 12:55:02	14	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18368	2023-11-27 12:55:02	15	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18367	2023-11-27 12:55:01	16	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18366	2023-11-27 12:55:01	17	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18365	2023-11-27 12:55:01	18	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18364	2023-11-27 12:55:01	19	MP	D					STOP	Y				0	00		23316	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18363	2023-11-27 12:55:01	19	MP	D					STOP	Y				0	00		23291	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18362	2023-11-27 12:55:00	20	MP	D					STOP	Y				0	00		23291	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18361	2023-11-27 12:55:00	21	MP	D					STOP	Y				0	00		23291	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18360	2023-11-27 12:55:00	22	MP	D					STOP	Y				0	00		23291	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18359	2023-11-27 12:55:00	23	MP	D					STOP	Y				0	00		23291	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18358	2023-11-27 12:55:00	23	MP	D					STOP	Y				0	00		23241	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18357	2023-11-27 12:55:00	24	MP	D					STOP	Y				0	00		23241	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18356	2023-11-27 12:55:00	25	MP	D					STOP	Y				0	00		23241	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18355	2023-11-27 12:54:59	26	MP	D					STOP	Y				0	00		23241	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18354	2023-11-27 12:54:59	27	MP	D					STOP	Y				0	00		23241	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18353	2023-11-27 12:54:59	27	MP	D					STOP	Y				0	00		23216	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18352	2023-11-27 12:54:58	28	MP	D					STOP	Y				0	00		23216	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18351	2023-11-27 12:54:58	29	MP	D					STOP	Y				0	00		23216	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18350	2023-11-27 12:54:58	30	MP	D					STOP	Y				0	00		23216	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18349	2023-11-27 12:54:58	31	MP	D					STOP	Y				0	00		23216	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18348	2023-11-27 12:54:58	32	MP	D					STOP	Y				0	00		23216	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B

Test Run #7 ATC Event Log Data Review

STOP CODE

LOSS OF CAB

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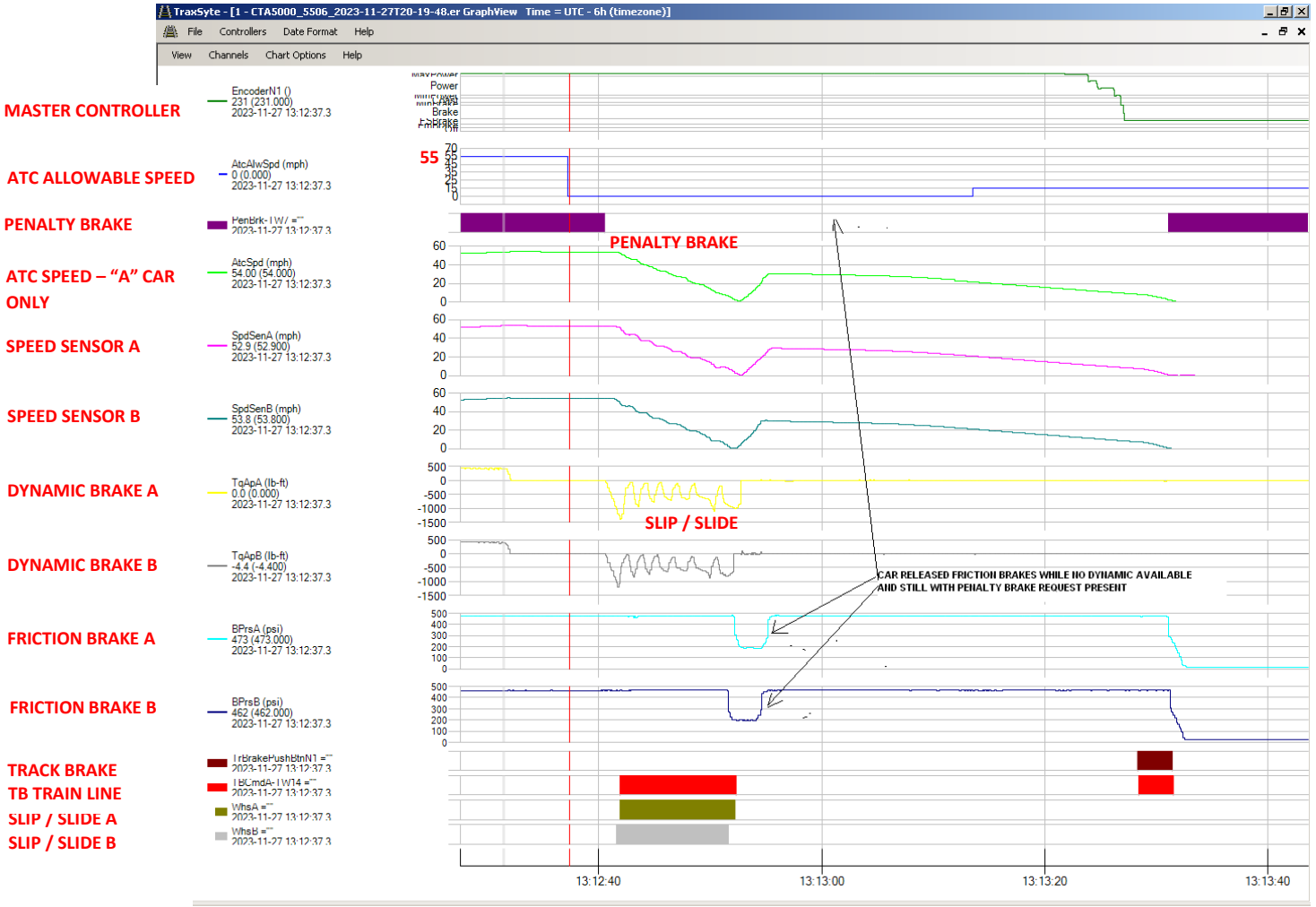
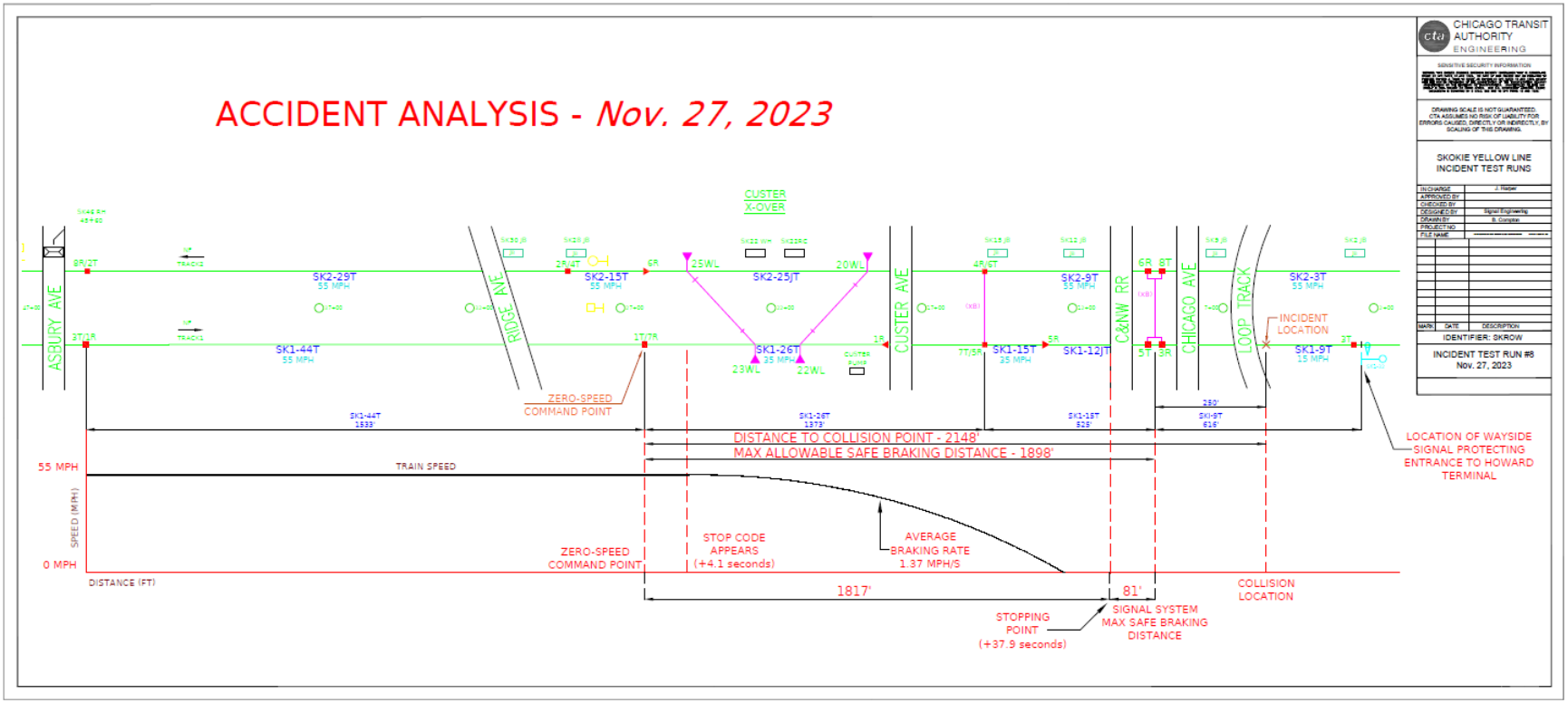
USERTRICGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A	CAR B TR	ACTIVE CODE	XIENFRCE ASP	XIVALDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXTR64	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRRFB	BRREQ
#	18347	2023-11-27 12:54:58	32	MP D						STOP	Y			0	00		23166	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18346	2023-11-27 12:54:57	33	MP D						STOP	Y			0	00		23166	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18345	2023-11-27 12:54:57	34	MP D						STOP	Y			0	00		23166	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18344	2023-11-27 12:54:57	35	MP D						STOP	Y			0	00		23166	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18343	2023-11-27 12:54:57	36	MP D						STOP	Y			0	00		23166	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18342	2023-11-27 12:54:57	36	MP D						STOP	Y			0	00		23091	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18341	2023-11-27 12:54:57	37	MP D						STOP	Y			0	00		23091	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18340	2023-11-27 12:54:56	38	MP D						STOP	Y			0	00		23091	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18339	2023-11-27 12:54:56	38	MP D						STOP	Y			0	00		23091	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18338	2023-11-27 12:54:56	39	MP D						STOP	Y			0	00		23091	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18337	2023-11-27 12:54:56	40	MP D						STOP	Y			0	00		23091	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18336	2023-11-27 12:54:56	40	MP D						STOP	Y			0	00		23066	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18335	2023-11-27 12:54:56	41	MP D						STOP	Y			0	00		23066	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18334	2023-11-27 12:54:55	42	MP D						STOP	Y			0	00		23066	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18333	2023-11-27 12:54:55	43	MP D						STOP	Y			0	00		23066	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18332	2023-11-27 12:54:55	44	MP D						STOP	Y			0	00		23066	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18331	2023-11-27 12:54:55	45	MP D						STOP	Y			0	00		23066	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18330	2023-11-27 12:54:55	46	MP D						STOP	Y			0	00		23066	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18329	2023-11-27 12:54:55	46	MP D						STOP	Y			0	00		22966	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18328	2023-11-27 12:54:54	47	MP D						STOP	Y			0	00		22966	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18327	2023-11-27 12:54:54	48	MP D						STOP	Y			0	00		22966	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18326	2023-11-27 12:54:54	49	MP D						STOP	Y			0	00		22966	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18325	2023-11-27 12:54:54	50	MP D						STOP	Y			0	00		22966	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18324	2023-11-27 12:54:54	51	MP D						STOP	Y			0	00		22966	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18323	2023-11-27 12:54:54	52	MP D						STOP	Y			0	00		22966	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18322	2023-11-27 12:54:54	52	MP D						STOP	Y			0	00		22891	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18321	2023-11-27 12:54:54	53	MP D						STOP	Y			0	00		22891	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18320	2023-11-27 12:54:53	54	MP D						STOP	Y			0	00		22891	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18319	2023-11-27 12:54:52	54	MP D						STOP	Y			0	00		22816	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	18318	2023-11-27 12:54:52	54	MP D						STOP	Y			0	00		22816	No Station ID	No Station ID		Y	0.0	0.0	0.0			B
#	18317	2023-11-27 12:54:51	54	MP D						STOP	Y			0	00		22716	No Station ID	No Station ID		Y	0.0	0.0	0.0			B
#	18316	2023-11-27 12:54:51	54	MP D						STOP	Y			0	00		22716	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	18315	2023-11-27 12:54:51	54	MP D						STOP	Y			0	00		22716	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	18314	2023-11-27 12:54:50	54	MP D						STOP	Y			0	00		22666	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	18313	2023-11-27 12:54:49	54	MP D						STOP	Y			0	00		22566	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	18312	2023-11-27 12:54:49	54	MP D						STOP	Y			0	00		22566	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	18311	2023-11-27 12:54:49	54	MP D						STOP	Y			0	00		22566	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	18310	2023-11-27 12:54:49	54	MP D						STOP	Y			0	00		22566	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	18309	2023-11-27 12:54:49	54	MP D						CS55	Y			5	20		22566	No Station ID	No Station ID			0.0	0.0	0.0			
#	18308	2023-11-27 12:54:48	54	MP D						CS55	Y			5	20		22491	No Station ID	No Station ID			0.0	0.0	0.0			
#	18307	2023-11-27 12:54:47	54	MP D						CS55	Y			5	20		22441	No Station ID	No Station ID			0.0	0.0	0.0			
#	18306	2023-11-27 12:54:47	54	MP D	OK	OK	OK	OK	CS55	Y			5	20	OK	22441	No Station ID	No Station ID			0.0	0.0	0.0			
#	18305	2023-11-27 12:54:47	54	MP D	OK	OK	OK	OK	CS55	Y			5	20	OK	22341	No Station ID	No Station ID			0.0	0.0	0.0			
#	18304	2023-11-27 12:54:47	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	22341	No Station ID	No Station ID			0.0	0.0	0.0			
#	18303	2023-11-27 12:54:46	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	22341	No Station ID	No Station ID			0.0	0.0	0.0			
#	18302	2023-11-27 12:54:45	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	22266	No Station ID	No Station ID			0.0	0.0	0.0			
#	18301	2023-11-27 12:54:44	55	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	22166	No Station ID	No Station ID			0.0	0.0	0.0			
#	18300	2023-11-27 12:54:44	55	MP D	OK	OK	OK	OK	CS55	Y			5	20	OK	22166	No Station ID	No Station ID			0.0	0.0	0.0			
#	18299	2023-11-27 12:54:44	55	MP D	OK	OK	OK	OK	CS55	Y			5	20	OK	22116	No Station ID	No Station ID			0.0	0.0	0.0			
#	18298	2023-11-27 12:54:43	54	MP D	OK	OK	OK	OK	CS55	Y			5	20	OK	22116	No Station ID	No Station ID			0.0	0.0	0.0			
#	18297	2023-11-27 12:54:43	54	MP D	OK	OK	OK	OK	CS55	Y			5	20	OK	22116	No Station ID	No Station ID			0.0	0.0	0.0			
#	18296	2023-11-27 12:54:43	54	MP D	OK	OK	OK	OK	CS55	Y			5	20	OK	22116	No Station ID	No Station ID			0.0	0.0	0.0			
#	18295	2023-11-27 12:54:43	54	MP D	OK	OK	OK	OK	CS55	Y			5	20	OK	22116	No Station ID	No Station ID			0.0	0.0	0.0			
#	18294	2023-11-27 12:54:43	54	MP D	OK	OK	OK	OK	CS55	Y			5	20	OK	22116	No Station ID	No Station ID			0.0	0.0	0.0			
#	18293	2023-11-27 12:54:43	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	22116	No Station ID	No Station ID			0.0	0.0	0.0			
#	18292	2023-11-27 12:54:42	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	22016	No Station ID	No Station ID			0.0	0.0	0.0			
#	18291	2023-11-27 12:54:42	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21941	No Station ID	No Station ID			0.0	0.0	0.0			
#	18290	2023-11-27 12:54:41	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21941	No Station ID	No Station ID			0.0	0.0	0.0			
#	18289	2023-11-27 12:54:40	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21866	No Station ID	No Station ID			0.0	0.0	0.0			
#	18288	2023-11-27 12:54:39	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21766	No Station ID	No Station ID			0.0	0.0	0.0			
#	18287	2023-11-27 12:54:39	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21716	No Station ID	No Station ID			0.0	0.0	0.0			
#	18286	2023-11-27 12:54:39	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21716	No Station ID	No Station ID			0.0	0.0	0.0			
#	18285	2023-11-27 12:54:38	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21716	No Station ID	No Station ID			0.0	0.0	0.0			
#	18284	2023-11-27 12:54:38	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21716	No Station ID	No Station ID			0.0	0.0	0.0			
#	18283	2023-11-27 12:54:38	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21716	No Station ID	No Station ID			0.0	0.0	0.0			
#	18282	2023-11-27 12:54:37	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21641	No Station ID	No Station ID			0.0	0.0	0.0			
#	18281	2023-11-27 12:54:37	53	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21541	No Station ID	No Station ID			0.0	0.0	0.0			
#	18280	2023-11-27 12:54:36	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21541	No Station ID	No Station ID			0.0	0.0	0.0			
#	18279	2023-11-27 12:54:35	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21491	No Station ID	No Station ID			0.0	0.0	0.0			
#	18278	2023-11-27 12:54:34	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21391	No Station ID	No Station ID			0.0	0.0	0.0			
#	18277	2023-11-27 12:54:33	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21316	No Station ID	No Station ID			0.0	0.0	0.0			
#	18276	2023-11-27 12:54:32	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21241	No Station ID	No Station ID			0.0	0.0	0.0			
#	18275	2023-11-27 12:54:31	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21141	No Station ID	No Station ID			0.0	0.0	0.0			
#	18274	2023-11-27 12:54:31	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21091	No Station ID	No Station ID			0.0	0.0	0.0			
#	18273	2023-11-27 12:54:31	54	MP D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	21091	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #7 ERU Event Log



Appendix VIII: Test Run #8 Analysis

Test Run #8 Track Circuit Diagram and Vehicle Response



Test Run #8 ATC Event Log Data Review

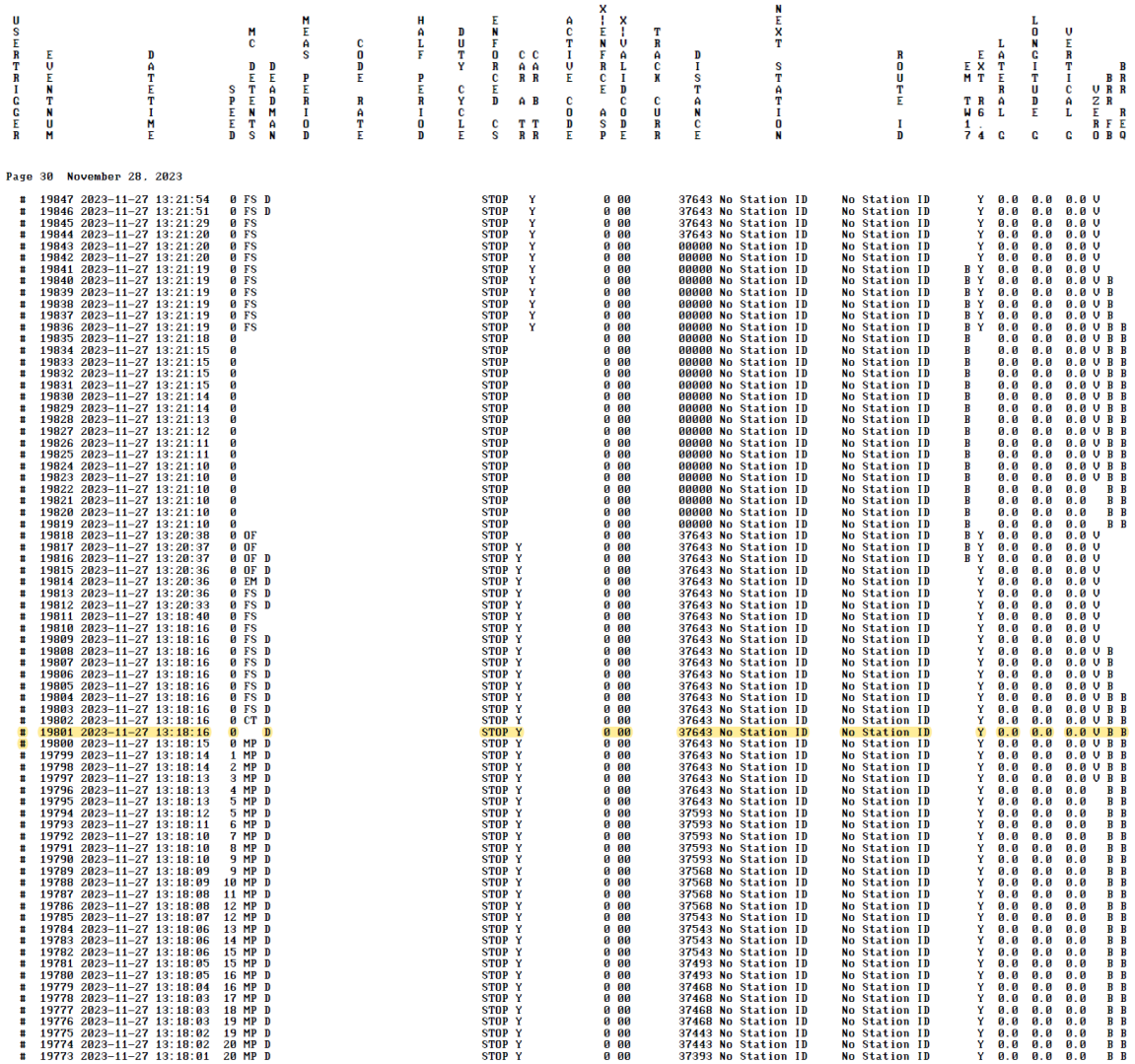
ATC Event Log Data Review – Test Run #8		
Criteria	**Time**	**Distance**
Loss of Cab	13:17:33	36293
Stop Code	13:17:36	36068
Zero Speed	13:18:16	37643

Rail vehicle speed at loss of cab**: 55 mph**

Total distance from brake application to stopping point: **N/A**

Total time from brake application to stopping point: **N/A**

Test Run #8 ATC Event Log Data Review



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USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XINFRCE ASP	XVALDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW14	EXT TR6.	LATERAL G	LONGITUDE G	UERTICAL G	ZERO	BRR FEB	BRR REQ
#	19847	2023-11-27 13:21:54	0	FS D						STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19846	2023-11-27 13:21:51	0	FS D						STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19845	2023-11-27 13:21:29	0	FS						STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19844	2023-11-27 13:21:20	0	FS						STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19843	2023-11-27 13:21:20	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19842	2023-11-27 13:21:20	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19841	2023-11-27 13:21:19	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	19840	2023-11-27 13:21:19	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	19839	2023-11-27 13:21:19	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	19838	2023-11-27 13:21:19	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	19837	2023-11-27 13:21:19	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	
#	19836	2023-11-27 13:21:19	0	FS						STOP	Y			0	00		00000	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V	B	B
#	19835	2023-11-27 13:21:18	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19834	2023-11-27 13:21:15	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19833	2023-11-27 13:21:15	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19832	2023-11-27 13:21:15	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19831	2023-11-27 13:21:15	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19830	2023-11-27 13:21:14	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19829	2023-11-27 13:21:14	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19828	2023-11-27 13:21:13	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19827	2023-11-27 13:21:12	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19826	2023-11-27 13:21:11	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19825	2023-11-27 13:21:11	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19824	2023-11-27 13:21:10	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19823	2023-11-27 13:21:10	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	19822	2023-11-27 13:21:10	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	19821	2023-11-27 13:21:10	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	19820	2023-11-27 13:21:10	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	19819	2023-11-27 13:21:10	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	19818	2023-11-27 13:20:38	0	OF						STOP				0	00		37643	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	19817	2023-11-27 13:20:37	0	OF						STOP	Y			0	00		37643	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	19816	2023-11-27 13:20:37	0	OF	D					STOP	Y			0	00		37643	No Station ID	No Station ID	B	Y	0.0	0.0	0.0	V		
#	19815	2023-11-27 13:20:36	0	OF	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19814	2023-11-27 13:20:36	0	EM	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19813	2023-11-27 13:20:36	0	FS	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19812	2023-11-27 13:20:33	0	FS	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19811	2023-11-27 13:18:40	0	FS						STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19810	2023-11-27 13:18:16	0	FS						STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19809	2023-11-27 13:18:16	0	FS	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V		
#	19808	2023-11-27 13:18:16	0	FS	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	19807	2023-11-27 13:18:16	0	FS	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	19806	2023-11-27 13:18:16	0	FS	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	19805	2023-11-27 13:18:16	0	FS	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	
#	19804	2023-11-27 13:18:16	0	FS	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	19803	2023-11-27 13:18:16	0	FS	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	19802	2023-11-27 13:18:16	0	CT	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	19801	2023-11-27 13:18:16	0		D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	19800	2023-11-27 13:18:15	0	MP	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	19799	2023-11-27 13:18:14	1	MP	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	19798	2023-11-27 13:18:14	2	MP	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	19797	2023-11-27 13:18:13	3	MP	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0	V	B	B
#	19796	2023-11-27 13:18:13	4	MP	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19795	2023-11-27 13:18:13	5	MP	D					STOP	Y			0	00		37643	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19794	2023-11-27 13:18:12	5	MP	D					STOP	Y			0	00		37593	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19793	2023-11-27 13:18:11	6	MP	D					STOP	Y			0	00		37593	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19792	2023-11-27 13:18:10	7	MP	D					STOP	Y			0	00		37593	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19791	2023-11-27 13:18:10	8	MP	D					STOP	Y			0	00		37593	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19790	2023-11-27 13:18:10	9	MP	D					STOP	Y			0	00		37593	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19789	2023-11-27 13:18:09	9	MP	D					STOP	Y			0	00		37568	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19788	2023-11-27 13:18:09	10	MP	D					STOP	Y			0	00		37568	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19787	2023-11-27 13:18:08	11	MP	D					STOP	Y			0	00		37568	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19786	2023-11-27 13:18:08	12	MP	D					STOP	Y			0	00		37568	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19785	2023-11-27 13:18:07	12	MP	D					STOP	Y			0	00		37543	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19784	2023-11-27 13:18:06	13	MP	D					STOP	Y			0	00		37543	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19783	2023-11-27 13:18:06	14	MP	D					STOP	Y			0	00		37543	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19782	2023-11-27 13:18:06	15	MP	D					STOP	Y			0	00		37543	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19781	2023-11-27 13:18:05	15	MP	D					STOP	Y			0	00		37493	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19780	2023-11-27 13:18:05	16	MP	D					STOP	Y			0	00		37493	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19779	2023-11-27 13:18:04	16	MP	D					STOP	Y			0	00		37468	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19778	2023-11-27 13:18:03	17	MP	D					STOP	Y			0	00		37468	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19777	2023-11-27 13:18:03	18	MP	D					STOP	Y			0	00		37468	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19776	2023-11-27 13:18:03	19	MP	D					STOP	Y			0	00		37468	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19775	2023-11-27 13:18:02	19	MP	D					STOP	Y			0	00		37443	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19774	2023-11-27 13:18:02	20	MP	D					STOP	Y			0	00		37443	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	19773	2023-11-27 13:18:01	20	MP	D					STOP	Y			0	00		37393	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B

ZERO SPEED

Test Run #8 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A TR	CAR B TR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW17	EXT R6.4	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BREQ
Page 31 November 28, 2023																											
#	19772	2023-11-27 13:18:01	21	MP D						STOP	Y			0	00		37393	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19771	2023-11-27 13:18:01	21	MP D						STOP	Y			0	00		37393	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19770	2023-11-27 13:18:00	21	MP D						STOP	Y			0	00		37368	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19769	2023-11-27 13:18:00	22	MP D						STOP	Y			0	00		37368	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19768	2023-11-27 13:18:00	23	MP D						STOP	Y			0	00		37368	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19767	2023-11-27 13:17:59	23	MP D						STOP	Y			0	00		37343	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19766	2023-11-27 13:17:59	24	MP D						STOP	Y			0	00		37343	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19765	2023-11-27 13:17:58	24	MP D						STOP	Y			0	00		37318	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19764	2023-11-27 13:17:58	25	MP D						STOP	Y			0	00		37318	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19763	2023-11-27 13:17:58	26	MP D						STOP	Y			0	00		37318	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19762	2023-11-27 13:17:57	26	MP D						STOP	Y			0	00		37268	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19761	2023-11-27 13:17:57	27	MP D						STOP	Y			0	00		37268	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19760	2023-11-27 13:17:56	27	MP D						STOP	Y			0	00		37243	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19759	2023-11-27 13:17:56	28	MP D						STOP	Y			0	00		37243	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19758	2023-11-27 13:17:55	28	MP D						STOP	Y			0	00		37218	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19757	2023-11-27 13:17:55	27	MP D						STOP	Y			0	00		37218	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19756	2023-11-27 13:17:55	26	MP D						STOP	Y			0	00		37218	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19755	2023-11-27 13:17:55	24	MP D						STOP	Y			0	00		37218	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19754	2023-11-27 13:17:55	23	MP D						STOP	Y			0	00		37218	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19753	2023-11-27 13:17:54	23	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19752	2023-11-27 13:17:54	22	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19751	2023-11-27 13:17:54	20	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19750	2023-11-27 13:17:54	18	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19749	2023-11-27 13:17:54	17	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19748	2023-11-27 13:17:54	15	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19747	2023-11-27 13:17:54	14	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19746	2023-11-27 13:17:54	13	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19745	2023-11-27 13:17:54	12	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19744	2023-11-27 13:17:54	11	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19743	2023-11-27 13:17:53	10	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19742	2023-11-27 13:17:53	9	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19741	2023-11-27 13:17:53	8	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19740	2023-11-27 13:17:53	7	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19739	2023-11-27 13:17:53	6	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19738	2023-11-27 13:17:53	5	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19737	2023-11-27 13:17:53	4	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19736	2023-11-27 13:17:53	3	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0	U	B	B
#	19735	2023-11-27 13:17:52	2	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0	U	B	B
#	19734	2023-11-27 13:17:52	3	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0	U	B	B
#	19733	2023-11-27 13:17:52	3	MP D						STOP	Y			0	00		37168	No Station ID	No Station ID	Y	0.0	0.0	0.0	U	B	B
#	19732	2023-11-27 13:17:51	3	MP D						STOP	Y			0	00		37143	No Station ID	No Station ID	Y	0.0	0.0	0.0	U	B	B
#	19731	2023-11-27 13:17:51	4	MP D						STOP	Y			0	00		37143	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19730	2023-11-27 13:17:51	5	MP D						STOP	Y			0	00		37143	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19729	2023-11-27 13:17:51	6	MP D						STOP	Y			0	00		37143	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19728	2023-11-27 13:17:51	7	MP D						STOP	Y			0	00		37143	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19727	2023-11-27 13:17:51	8	MP D						STOP	Y			0	00		37143	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19726	2023-11-27 13:17:50	9	MP D						STOP	Y			0	00		37143	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19725	2023-11-27 13:17:50	10	MP D						STOP	Y			0	00		37143	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19724	2023-11-27 13:17:50	11	MP D						STOP	Y			0	00		37143	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19723	2023-11-27 13:17:50	12	MP D						STOP	Y			0	00		37143	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19722	2023-11-27 13:17:50	13	MP D						STOP	Y			0	00		37143	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19721	2023-11-27 13:17:49	13	MP D						STOP	Y			0	00		37118	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19720	2023-11-27 13:17:49	14	MP D						STOP	Y			0	00		37118	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19719	2023-11-27 13:17:49	15	MP D						STOP	Y			0	00		37118	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19718	2023-11-27 13:17:49	16	MP D						STOP	Y			0	00		37118	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19717	2023-11-27 13:17:49	17	MP D						STOP	Y			0	00		37118	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19716	2023-11-27 13:17:49	18	MP D						STOP	Y			0	00		37118	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19715	2023-11-27 13:17:49	19	MP D						STOP	Y			0	00		37118	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19714	2023-11-27 13:17:48	19	MP D						STOP	Y			0	00		37068	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19713	2023-11-27 13:17:48	20	MP D						STOP	Y			0	00		37068	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19712	2023-11-27 13:17:48	21	MP D						STOP	Y			0	00		37068	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19711	2023-11-27 13:17:48	22	MP D						STOP	Y			0	00		37068	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19710	2023-11-27 13:17:48	23	MP D						STOP	Y			0	00		37068	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19709	2023-11-27 13:17:47	23	MP D						STOP	Y			0	00		37043	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19708	2023-11-27 13:17:47	24	MP D						STOP	Y			0	00		37043	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19707	2023-11-27 13:17:47	25	MP D						STOP	Y			0	00		37043	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19706	2023-11-27 13:17:47	26	MP D						STOP	Y			0	00		37043	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19705	2023-11-27 13:17:47	27	MP D						STOP	Y			0	00		37043	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19704	2023-11-27 13:17:47	28	MP D						STOP	Y			0	00		37043	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19703	2023-11-27 13:17:46	28	MP D						STOP	Y			0	00		36968	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19702	2023-11-27 13:17:46	29	MP D						STOP	Y			0	00		36968	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19701	2023-11-27 13:17:46	30	MP D						STOP	Y			0	00		36968	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19629	2023-11-27 13:17:46	31	MP D						STOP	Y			0	00		36968	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19624	2023-11-27 13:17:46	32	MP D						STOP	Y			0	00		36968	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19623	2023-11-27 13:17:45	32	MP D						STOP	Y			0	00		36943	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B

Test Run #8 ATC Event Log Data Review

STOP CODE

LOSS OF CAB

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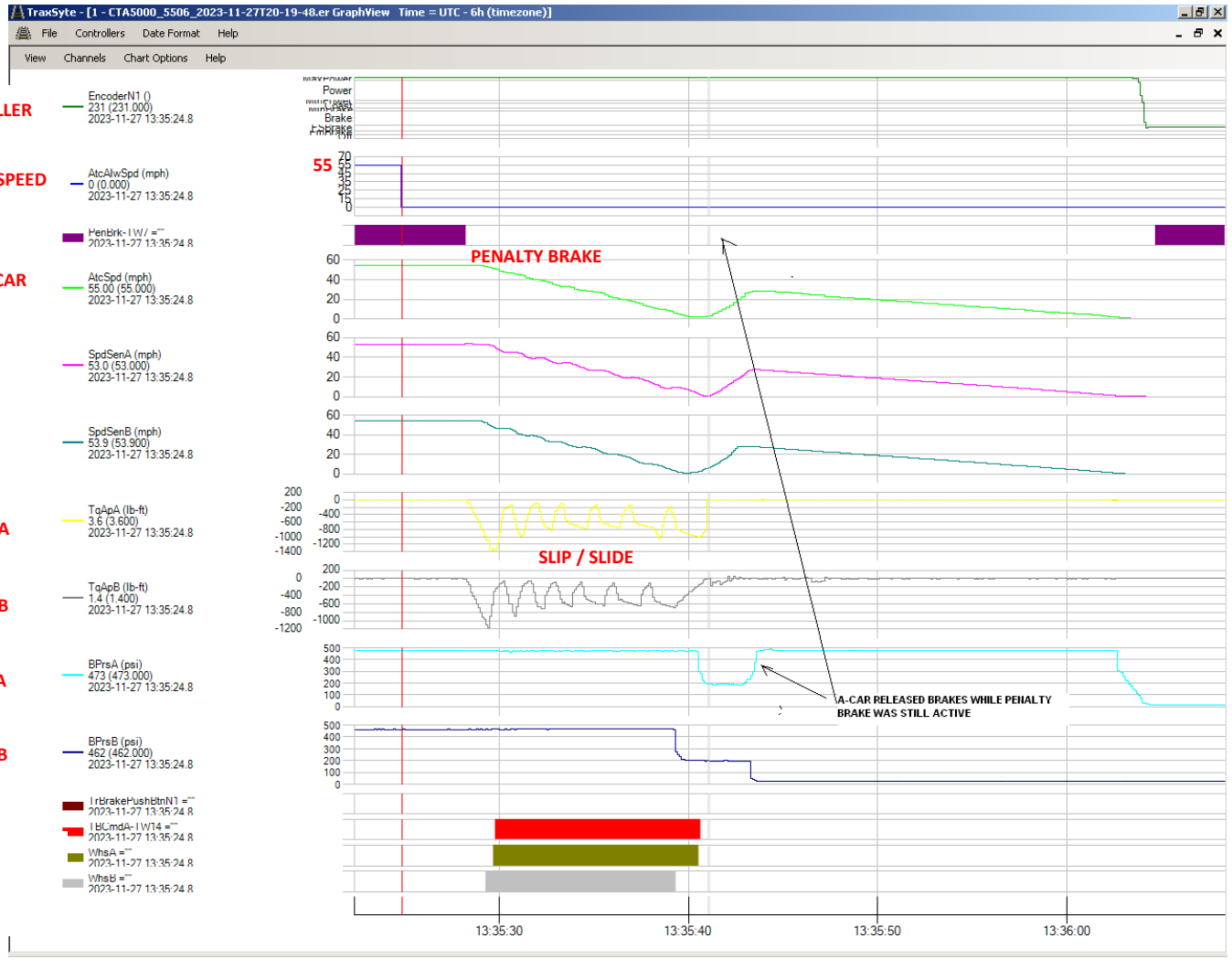
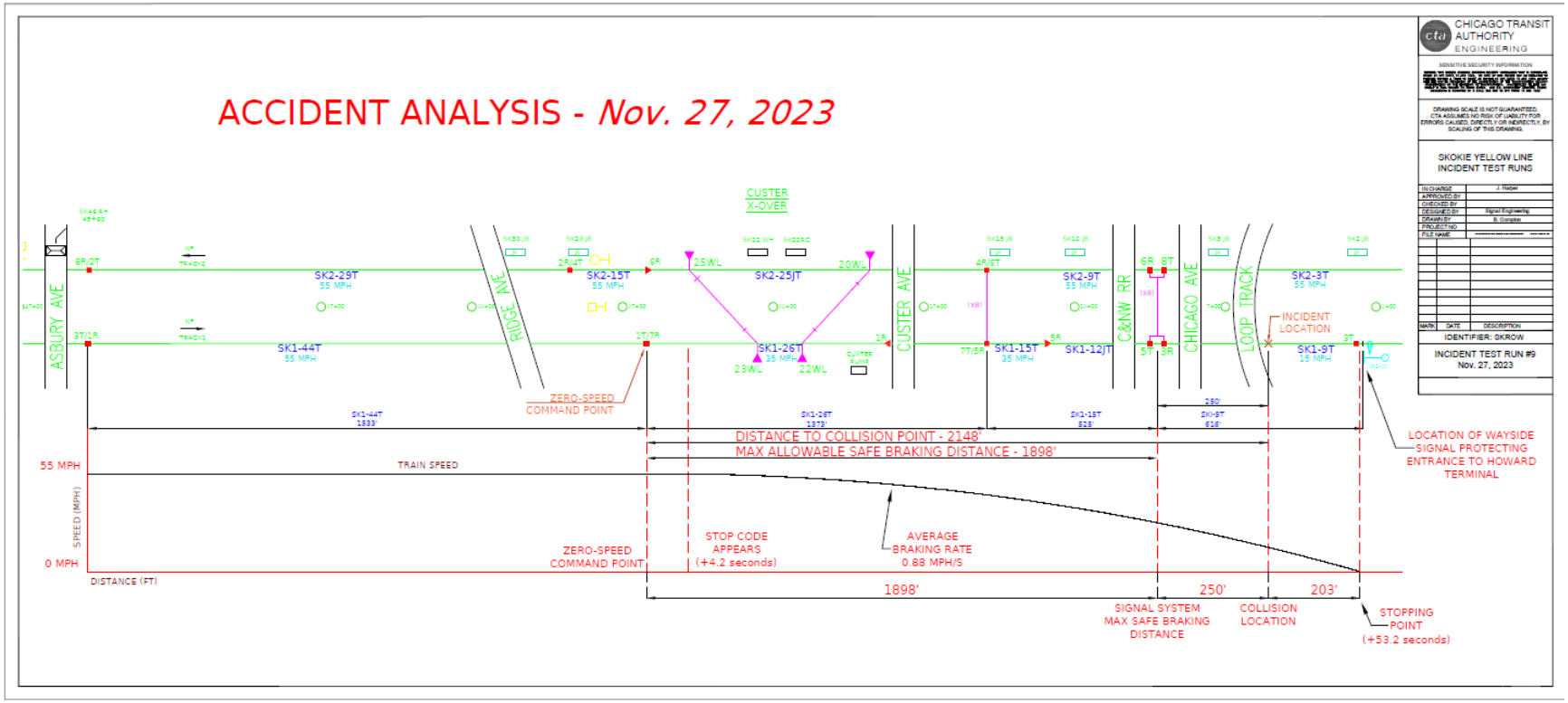
USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR AB	CAR TR	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXTR64	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BREQ
#	19697	2023-11-27 13:17:45	33	MP D						STOP	Y			0	00		36943	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19696	2023-11-27 13:17:45	34	MP D						STOP	Y			0	00		36943	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19695	2023-11-27 13:17:45	35	MP D						STOP	Y			0	00		36943	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19694	2023-11-27 13:17:44	35	MP D						STOP	Y			0	00		36868	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19693	2023-11-27 13:17:44	36	MP D						STOP	Y			0	00		36868	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19692	2023-11-27 13:17:44	37	MP D						STOP	Y			0	00		36868	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19691	2023-11-27 13:17:44	38	MP D						STOP	Y			0	00		36868	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19690	2023-11-27 13:17:44	39	MP D						STOP	Y			0	00		36868	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19689	2023-11-27 13:17:44	40	MP D						STOP	Y			0	00		36868	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19688	2023-11-27 13:17:43	40	MP D						STOP	Y			0	00		36818	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19687	2023-11-27 13:17:43	40	MP D						STOP	Y			0	00		36818	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19686	2023-11-27 13:17:43	41	MP D						STOP	Y			0	00		36818	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19685	2023-11-27 13:17:43	42	MP D						STOP	Y			0	00		36818	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19684	2023-11-27 13:17:43	43	MP D						STOP	Y			0	00		36818	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19683	2023-11-27 13:17:43	44	MP D						STOP	Y			0	00		36818	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19682	2023-11-27 13:17:43	45	MP D						STOP	Y			0	00		36818	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19681	2023-11-27 13:17:43	46	MP D						STOP	Y			0	00		36818	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19680	2023-11-27 13:17:42	46	MP D						STOP	Y			0	00		36743	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19679	2023-11-27 13:17:42	47	MP D						STOP	Y			0	00		36743	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19678	2023-11-27 13:17:42	48	MP D						STOP	Y			0	00		36743	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19677	2023-11-27 13:17:42	49	MP D						STOP	Y			0	00		36743	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19676	2023-11-27 13:17:42	50	MP D						STOP	Y			0	00		36743	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19675	2023-11-27 13:17:42	51	MP D						STOP	Y			0	00		36743	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19674	2023-11-27 13:17:41	51	MP D						STOP	Y			0	00		36693	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19673	2023-11-27 13:17:41	52	MP D						STOP	Y			0	00		36693	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19672	2023-11-27 13:17:41	53	MP D						STOP	Y			0	00		36693	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19671	2023-11-27 13:17:41	54	MP D						STOP	Y			0	00		36693	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19670	2023-11-27 13:17:41	55	MP D						STOP	Y			0	00		36693	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19669	2023-11-27 13:17:40	55	MP D						STOP	Y			0	00		36618	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	B
#	19668	2023-11-27 13:17:40	55	MP D						STOP	Y			0	00		36618	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	
#	19667	2023-11-27 13:17:39	55	MP D						STOP	Y			0	00		36518	No Station ID	No Station ID	Y	0.0	0.0	0.0		B	
#	19666	2023-11-27 13:17:39	55	MP D						STOP	Y			0	00		36518	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	19665	2023-11-27 13:17:39	55	MP D						STOP	Y			0	00		36518	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	19664	2023-11-27 13:17:38	55	MP D						STOP	Y			0	00		36443	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	19663	2023-11-27 13:17:37	55	MP D						STOP	Y			0	00		36343	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	19662	2023-11-27 13:17:36	55	MP D						STOP	Y			0	00		36293	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	19661	2023-11-27 13:17:36	55	MP D						STOP	Y			0	00		36293	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	19660	2023-11-27 13:17:36	55	MP D						STOP	Y			0	00		36293	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	19659	2023-11-27 13:17:36	55	MP D						STOP	Y			0	00		36293	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	19658	2023-11-27 13:17:36	55	MP D						CS55	Y			5	20		36293	No Station ID	No Station ID		0.0	0.0	0.0			
#	19657	2023-11-27 13:17:35	55	MP D						CS55	Y			5	20		36218	No Station ID	No Station ID		0.0	0.0	0.0			
#	19656	2023-11-27 13:17:34	55	MP D						CS55	Y			5	20		36118	No Station ID	No Station ID		0.0	0.0	0.0			
#	19655	2023-11-27 13:17:34	55	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	36118	No Station ID	No Station ID		0.0	0.0	0.0			
#	19654	2023-11-27 13:17:33	55	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	36068	No Station ID	No Station ID		0.0	0.0	0.0			
#	19653	2023-11-27 13:17:33	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	36068	No Station ID	No Station ID		0.0	0.0	0.0			
#	19652	2023-11-27 13:17:32	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35968	No Station ID	No Station ID		0.0	0.0	0.0			
#	19651	2023-11-27 13:17:31	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35893	No Station ID	No Station ID		0.0	0.0	0.0			
#	19650	2023-11-27 13:17:31	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35893	No Station ID	No Station ID		0.0	0.0	0.0			
#	19649	2023-11-27 13:17:31	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35893	No Station ID	No Station ID		0.0	0.0	0.0			
#	19648	2023-11-27 13:17:31	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35893	No Station ID	No Station ID		0.0	0.0	0.0			
#	19647	2023-11-27 13:17:31	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35893	No Station ID	No Station ID		0.0	0.0	0.0			
#	19646	2023-11-27 13:17:31	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35893	No Station ID	No Station ID		0.0	0.0	0.0			
#	19645	2023-11-27 13:17:30	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35818	No Station ID	No Station ID		0.0	0.0	0.0			
#	19644	2023-11-27 13:17:29	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35743	No Station ID	No Station ID		0.0	0.0	0.0			
#	19643	2023-11-27 13:17:29	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35743	No Station ID	No Station ID		0.0	0.0	0.0			
#	19642	2023-11-27 13:17:28	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35668	No Station ID	No Station ID		0.0	0.0	0.0			
#	19641	2023-11-27 13:17:27	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35593	No Station ID	No Station ID		0.0	0.0	0.0			
#	19640	2023-11-27 13:17:27	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35593	No Station ID	No Station ID		0.0	0.0	0.0			
#	19639	2023-11-27 13:17:27	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35593	No Station ID	No Station ID		0.0	0.0	0.0			
#	19638	2023-11-27 13:17:27	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35593	No Station ID	No Station ID		0.0	0.0	0.0			
#	19637	2023-11-27 13:17:27	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35593	No Station ID	No Station ID		0.0	0.0	0.0			
#	19636	2023-11-27 13:17:27	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35593	No Station ID	No Station ID		0.0	0.0	0.0			
#	19635	2023-11-27 13:17:26	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35543	No Station ID	No Station ID		0.0	0.0	0.0			
#	19634	2023-11-27 13:17:25	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35443	No Station ID	No Station ID		0.0	0.0	0.0			
#	19633	2023-11-27 13:17:24	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35368	No Station ID	No Station ID		0.0	0.0	0.0			
#	19632	2023-11-27 13:17:24	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35368	No Station ID	No Station ID		0.0	0.0	0.0			
#	19631	2023-11-27 13:17:23	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35268	No Station ID	No Station ID		0.0	0.0	0.0			
#	19630	2023-11-27 13:17:22	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35218	No Station ID	No Station ID		0.0	0.0	0.0			
#	19629	2023-11-27 13:17:21	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35143	No Station ID	No Station ID		0.0	0.0	0.0			
#	19628	2023-11-27 13:17:20	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	35043	No Station ID	No Station ID		0.0	0.0	0.0			
#	19627	2023-11-27 13:17:19	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	34968	No Station ID	No Station ID		0.0	0.0	0.0			
#	19626	2023-11-27 13:17:19	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	34968	No Station ID	No Station ID		0.0	0.0	0.0			
#	19625	2023-11-27 13:17:19	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	34968	No Station ID	No Station ID		0.0	0.0	0.0			
#	19624	2023-11-27 13:17:19	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	34968	No Station ID	No Station ID		0.0	0.0	0.0			
#	19623	2023-11-27 13:17:19	55	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	34968	No Station ID	No Station ID		0.0	0.0	0.0			

Test Run #8 ERU Event Log



Appendix IX: Test Run #9 Analysis

Test Run #9 Track Circuit Diagram and Vehicle Response



Test Run #9 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #9		
Criteria	**Time**	**Distance**
Loss of Cab	13:30:09	48318
Stop Code	13:30:12	48568
Zero Speed	13:31:14	50368

Rail vehicle speed at loss of cab**: 55 mph**

Total distance from brake application to stopping point: **N/A**

Total time from brake application to stopping point: **N/A**

Test Run #9 ATC Event Log Data Review

ZERO SPEED

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USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A TR	CAR B TR	ACTIVE CODE	X!ENFRCE ASP	X!VALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW17	EXTR6.4	LATERAL G	LONGITUDE G	VERTICAL G	VZERO	BRRFB	BRRREQ
#	20822	2023-11-27 13:35:33	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	20821	2023-11-27 13:35:31	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	20820	2023-11-27 13:35:31	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	20819	2023-11-27 13:35:30	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	20818	2023-11-27 13:35:30	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0	V	B	B
#	20817	2023-11-27 13:35:30	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	20816	2023-11-27 13:35:30	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	20815	2023-11-27 13:35:30	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	20814	2023-11-27 13:35:30	0							STOP				0	00		00000	No Station ID	No Station ID	B		0.0	0.0	0.0		B	B
#	20813	2023-11-27 13:34:50	0	OF						CS15				1	02		50368	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	20812	2023-11-27 13:34:49	0	OF		OK	OK	OK	OK	CS15				1	02	OK	50368	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	20811	2023-11-27 13:34:49	0	OF		OK	OK	OK	OK	CS15			75 cpm	1	02	OK	50368	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	20810	2023-11-27 13:34:48	0	OF		OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50368	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	20809	2023-11-27 13:34:47	0	OF	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50368	No Station ID	No Station ID	B		0.0	0.0	0.0	V		
#	20808	2023-11-27 13:34:47	0	OF	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50368	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20807	2023-11-27 13:34:47	0	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50368	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20806	2023-11-27 13:34:47	0	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50368	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20805	2023-11-27 13:34:42	0	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50368	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20804	2023-11-27 13:33:20	0	FS		OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50368	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20803	2023-11-27 13:33:06	0	FS		OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50368	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20802	2023-11-27 13:33:05	0	FS		OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50491	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20801	2023-11-27 13:33:03	0	FS		OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50368	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20800	2023-11-27 13:32:52	0	FS		OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50491	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20799	2023-11-27 13:31:14	0	FS		OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50491	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20798	2023-11-27 13:31:11	0	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50491	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20797	2023-11-27 13:31:11	0	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50491	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20796	2023-11-27 13:31:10	1	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50491	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20795	2023-11-27 13:31:09	2	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50491	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20794	2023-11-27 13:31:08	3	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50491	No Station ID	No Station ID			0.0	0.0	0.0	V		
#	20793	2023-11-27 13:31:08	3	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50491	No Station ID	No Station ID			0.0	0.0	0.0	V	B	
#	20792	2023-11-27 13:31:08	3	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50441	No Station ID	No Station ID			0.0	0.0	0.0	V	B	
#	20791	2023-11-27 13:31:08	3	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50441	No Station ID	No Station ID			0.0	0.0	0.0	V	B	
#	20790	2023-11-27 13:31:08	3	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50441	No Station ID	No Station ID			0.0	0.0	0.0	V	B	
#	20789	2023-11-27 13:31:08	3	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50441	No Station ID	No Station ID			0.0	0.0	0.0	V	B	
#	20788	2023-11-27 13:31:08	3	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50441	No Station ID	No Station ID			0.0	0.0	0.0	V	B	B
#	20787	2023-11-27 13:31:07	4	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50441	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20786	2023-11-27 13:31:06	5	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50441	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20785	2023-11-27 13:31:05	6	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50441	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20784	2023-11-27 13:31:04	7	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50441	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20783	2023-11-27 13:31:03	7	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50416	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20782	2023-11-27 13:31:02	8	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50416	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20781	2023-11-27 13:31:01	9	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50416	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20780	2023-11-27 13:31:01	10	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50416	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20779	2023-11-27 13:31:00	10	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50391	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20778	2023-11-27 13:30:59	11	FS	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50391	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20777	2023-11-27 13:30:59	11		D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50391	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20776	2023-11-27 13:30:59	11		D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50391	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20775	2023-11-27 13:30:59	11		D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50391	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20774	2023-11-27 13:30:59	11		D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50341	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20773	2023-11-27 13:30:58	12		D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50341	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20772	2023-11-27 13:30:58	13		D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50341	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20771	2023-11-27 13:30:57	13	mB	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50341	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20770	2023-11-27 13:30:57	13	CT	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50341	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20769	2023-11-27 13:30:57	13	mP	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50341	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20768	2023-11-27 13:30:57	13	mP	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50316	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20767	2023-11-27 13:30:56	14	mP	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50316	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20766	2023-11-27 13:30:56	15	mP	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50316	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20765	2023-11-27 13:30:55	15	mP	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50316	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20764	2023-11-27 13:30:55	15		D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50316	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20763	2023-11-27 13:30:55	16		D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50316	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20762	2023-11-27 13:30:54	16		D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50291	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20761	2023-11-27 13:30:54	16		D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50266	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20760	2023-11-27 13:30:53	17		D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50266	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20759	2023-11-27 13:30:53	17	MP	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50266	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20758	2023-11-27 13:30:53	17	MP	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50266	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20757	2023-11-27 13:30:53	17	MP	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50216	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20756	2023-11-27 13:30:52	18	MP	D	OK	OK	OK	OK	CS15	Y		75 cpm	1	02	OK	50216	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20755	2023-11-27 13:30:52	18	MP	D	802.5ms	75CPM	397.5ms	49%	CS15	Y		75 cpm	1	02	0.108	50216	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20754	2023-11-27 13:30:52	18	MP	D	806.2ms	74CPM	397.5ms	49%	CS15	Y		75 cpm	1	02	0.080	50216	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20753	2023-11-27 13:30:52	18	MP	D	806.2ms	74CPM	397.5ms	49%	CS15	Y		75 cpm	1	02	0.080	50191	No Station ID	No Station ID			0.0	0.0	0.0		B	B
#	20752	2023-11-27 13:30:52	19	MP	D	783.8ms	77CPM	375.0ms	47%	STOP	Y			0	00	0.080	50191	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20751	2023-11-27 13:30:52	19	MP	D	783.8ms	77CPM	375.0ms	47%	STOP	Y			0	00	0.074	50191	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20750	2023-11-27 13:30:51	19	MP	D	783.8ms	77CPM	375.0ms	47%	STOP	Y			0	00	0.068	50191	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20749	2023-11-27 13:30:51	19	MP	D	375.0ms	160CPM	375.0ms	100%	STOP	Y			0	00	0.049	50191	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20748	2023-11-27 13:30:51	19	MP	D					STOP	Y			0	00	0.049	50191	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B

Test Run #9 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CARA TR	CARB TR	ACTIVE CODE	XIENFRCE ASP	XVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW14	EXTR6.4	LATERAL G	LONGITUDE G	VERTICAL G	UZERO	BRFB	BREQ
Page 18 November 28, 2023																											
#	20747	2023-11-27 13:30:51	19	MP D						STOP	Y		0	00		50191	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20746	2023-11-27 13:30:50	20	MP D						STOP	Y		0	00		50191	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20745	2023-11-27 13:30:50	20	MP D						STOP	Y		0	00		50166	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20744	2023-11-27 13:30:49	21	MP D						STOP	Y		0	00		50166	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20743	2023-11-27 13:30:48	21	MP D						STOP	Y		0	00		50116	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20742	2023-11-27 13:30:48	22	MP D						STOP	Y		0	00		50116	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20741	2023-11-27 13:30:48	22	MP D						STOP	Y		0	00		50091	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20740	2023-11-27 13:30:47	22	D						STOP	Y		0	00		50091	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20739	2023-11-27 13:30:47	23	D						STOP	Y		0	00		50091	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20738	2023-11-27 13:30:46	23	D						STOP	Y		0	00		50066	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20737	2023-11-27 13:30:46	23	D						STOP	Y		0	00		50016	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20736	2023-11-27 13:30:45	24	D						STOP	Y		0	00		50016	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20735	2023-11-27 13:30:45	24	MP D						STOP	Y		0	00		50016	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20734	2023-11-27 13:30:44	24	MP D						STOP	Y		0	00		49991	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20733	2023-11-27 13:30:44	24	MP D						STOP	Y		0	00		49966	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20732	2023-11-27 13:30:43	25	MP D						STOP	Y		0	00		49966	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20731	2023-11-27 13:30:42	25	MP D						STOP	Y		0	00		49916	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20730	2023-11-27 13:30:41	25	MP D						STOP	Y		0	00		49891	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20729	2023-11-27 13:30:41	25	MP D						STOP	Y		0	00		49816	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20728	2023-11-27 13:30:40	26	MP D						STOP	Y		0	00		49816	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20727	2023-11-27 13:30:39	26	MP D						STOP	Y		0	00		49791	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20726	2023-11-27 13:30:38	26	MP D						STOP	Y		0	00		49766	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20725	2023-11-27 13:30:37	26	MP D						STOP	Y		0	00		49741	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20724	2023-11-27 13:30:37	26	MP D						STOP	Y		0	00		49691	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20723	2023-11-27 13:30:36	27	MP D						STOP	Y		0	00		49691	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20722	2023-11-27 13:30:35	27	MP D						STOP	Y		0	00		49666	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20721	2023-11-27 13:30:34	27	MP D						STOP	Y		0	00		49641	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20720	2023-11-27 13:30:33	27	MP D						STOP	Y		0	00		49566	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20719	2023-11-27 13:30:33	28	MP D						STOP	Y		0	00		49566	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20718	2023-11-27 13:30:33	28	MP D						STOP	Y		0	00		49541	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20717	2023-11-27 13:30:32	28	MP D						STOP	Y		0	00		49541	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20716	2023-11-27 13:30:32	28	MP D						STOP	Y		0	00		49491	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20715	2023-11-27 13:30:31	29	MP D						STOP	Y		0	00		49491	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20714	2023-11-27 13:30:31	29	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20713	2023-11-27 13:30:30	28	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20712	2023-11-27 13:30:30	27	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20711	2023-11-27 13:30:30	26	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20710	2023-11-27 13:30:30	25	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20709	2023-11-27 13:30:30	24	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20708	2023-11-27 13:30:30	23	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20707	2023-11-27 13:30:30	21	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20706	2023-11-27 13:30:30	20	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20705	2023-11-27 13:30:30	18	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20704	2023-11-27 13:30:30	17	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20703	2023-11-27 13:30:29	16	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20702	2023-11-27 13:30:29	14	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20701	2023-11-27 13:30:29	13	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20700	2023-11-27 13:30:29	12	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20699	2023-11-27 13:30:29	11	MP D						STOP	Y		0	00		49441	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20698	2023-11-27 13:30:29	11	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20697	2023-11-27 13:30:29	10	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20696	2023-11-27 13:30:29	9	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20695	2023-11-27 13:30:29	8	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20694	2023-11-27 13:30:28	7	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20693	2023-11-27 13:30:28	6	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20692	2023-11-27 13:30:28	5	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20691	2023-11-27 13:30:28	4	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20690	2023-11-27 13:30:28	3	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0	0.0	V	B	B
#	20689	2023-11-27 13:30:28	2	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0	0.0	V	B	B
#	20688	2023-11-27 13:30:27	1	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0	0.0	V	B	B
#	20687	2023-11-27 13:30:27	2	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0	0.0	V	B	B
#	20686	2023-11-27 13:30:27	2	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0	0.0	V	B	B
#	20685	2023-11-27 13:30:27	3	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0	0.0	V	B	B
#	20684	2023-11-27 13:30:27	4	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20683	2023-11-27 13:30:27	5	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20682	2023-11-27 13:30:26	6	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20681	2023-11-27 13:30:26	7	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20680	2023-11-27 13:30:26	8	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20679	2023-11-27 13:30:26	9	MP D						STOP	Y		0	00		49391	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20678	2023-11-27 13:30:26	9	MP D						STOP	Y		0	00		49366	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20677	2023-11-27 13:30:26	10	MP D						STOP	Y		0	00		49366	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20676	2023-11-27 13:30:25	11	MP D						STOP	Y		0	00		49366	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20675	2023-11-27 13:30:25	12	MP D						STOP	Y		0	00		49366	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20674	2023-11-27 13:30:25	13	MP D						STOP	Y		0	00		49366	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B
#	20673	2023-11-27 13:30:25	14	MP D						STOP	Y		0	00		49366	No Station ID	No Station ID		Y	0.0	0.0	0.0			B	B

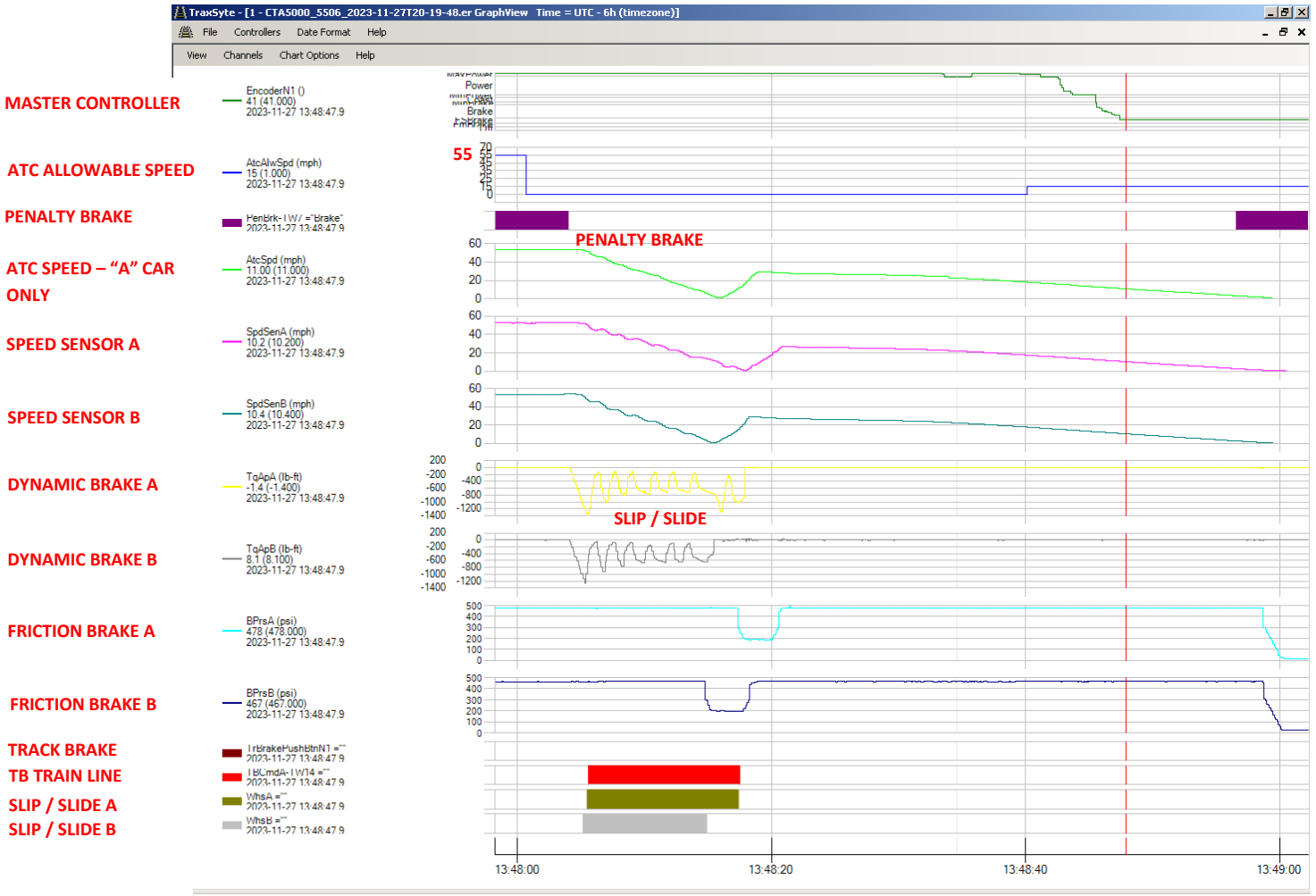
Test Run #9 ATC Event Log Data Review

USERTRICGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A TR	CAR B TR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMTW174	EXTR6.4	LATERAL C	LONGITUDE C	VERTICAL C	ZERO	BRRFB	BRREQ
Page 19 November 28, 2023																											
#	20672	2023-11-27 13:30:25	15	MP D						STOP	Y			0	00		49366	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20671	2023-11-27 13:30:24	16	MP D						STOP	Y			0	00		49366	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20670	2023-11-27 13:30:24	17	MP D						STOP	Y			0	00		49366	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20669	2023-11-27 13:30:24	18	MP D						STOP	Y			0	00		49366	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20668	2023-11-27 13:30:24	18	MP D						STOP	Y			0	00		49341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20667	2023-11-27 13:30:24	19	MP D						STOP	Y			0	00		49341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20666	2023-11-27 13:30:23	20	MP D						STOP	Y			0	00		49341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20665	2023-11-27 13:30:23	21	MP D						STOP	Y			0	00		49341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20664	2023-11-27 13:30:23	22	MP D						STOP	Y			0	00		49341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20663	2023-11-27 13:30:23	23	MP D						STOP	Y			0	00		49341	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20662	2023-11-27 13:30:23	23	MP D						STOP	Y			0	00		49291	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20661	2023-11-27 13:30:23	24	MP D						STOP	Y			0	00		49291	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20660	2023-11-27 13:30:22	25	MP D						STOP	Y			0	00		49291	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20659	2023-11-27 13:30:22	26	MP D						STOP	Y			0	00		49291	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20658	2023-11-27 13:30:22	27	MP D						STOP	Y			0	00		49291	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20657	2023-11-27 13:30:22	27	MP D						STOP	Y			0	00		49266	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20656	2023-11-27 13:30:22	28	MP D						STOP	Y			0	00		49266	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20655	2023-11-27 13:30:21	29	MP D						STOP	Y			0	00		49266	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20654	2023-11-27 13:30:21	30	MP D						STOP	Y			0	00		49266	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20653	2023-11-27 13:30:21	31	MP D						STOP	Y			0	00		49266	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20652	2023-11-27 13:30:21	31	MP D						STOP	Y			0	00		49118	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20651	2023-11-27 13:30:21	32	MP D						STOP	Y			0	00		49118	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20650	2023-11-27 13:30:20	33	MP D						STOP	Y			0	00		49118	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20649	2023-11-27 13:30:20	34	MP D						STOP	Y			0	00		49118	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20648	2023-11-27 13:30:20	35	MP D						STOP	Y			0	00		49118	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20647	2023-11-27 13:30:20	36	MP D						STOP	Y			0	00		49118	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20646	2023-11-27 13:30:20	36	MP D						STOP	Y			0	00		49166	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20645	2023-11-27 13:30:20	37	MP D						STOP	Y			0	00		49166	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20644	2023-11-27 13:30:19	38	MP D						STOP	Y			0	00		49166	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20643	2023-11-27 13:30:19	39	MP D						STOP	Y			0	00		49166	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20642	2023-11-27 13:30:19	40	MP D						STOP	Y			0	00		49166	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20641	2023-11-27 13:30:19	41	MP D						STOP	Y			0	00		49166	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20640	2023-11-27 13:30:19	41	MP D						STOP	Y			0	00		49116	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20639	2023-11-27 13:30:19	42	MP D						STOP	Y			0	00		49116	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20638	2023-11-27 13:30:19	42	MP D						STOP	Y			0	00		49116	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20637	2023-11-27 13:30:19	43	MP D						STOP	Y			0	00		49116	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20636	2023-11-27 13:30:19	44	MP D						STOP	Y			0	00		49116	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20635	2023-11-27 13:30:18	45	MP D						STOP	Y			0	00		49116	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20634	2023-11-27 13:30:18	46	MP D						STOP	Y			0	00		49116	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20633	2023-11-27 13:30:18	46	MP D						STOP	Y			0	00		48918	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20632	2023-11-27 13:30:18	47	MP D						STOP	Y			0	00		48918	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20631	2023-11-27 13:30:18	48	MP D						STOP	Y			0	00		48918	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20630	2023-11-27 13:30:17	49	MP D						STOP	Y			0	00		48918	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20629	2023-11-27 13:30:17	50	MP D						STOP	Y			0	00		48918	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20628	2023-11-27 13:30:17	51	MP D						STOP	Y			0	00		48918	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20627	2023-11-27 13:30:17	52	MP D						STOP	Y			0	00		48918	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20626	2023-11-27 13:30:17	53	MP D						STOP	Y			0	00		48918	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20625	2023-11-27 13:30:17	53	MP D						STOP	Y			0	00		48966	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20624	2023-11-27 13:30:16	54	MP D						STOP	Y			0	00		48966	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20623	2023-11-27 13:30:16	54	MP D						STOP	Y			0	00		48793	No Station ID	No Station ID		Y	0.0	0.0	0.0		B	B
#	20622	2023-11-27 13:30:15	54	MP D						STOP	Y			0	00		48793	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	20621	2023-11-27 13:30:15	54	MP D						STOP	Y			0	00		48693	No Station ID	No Station ID		Y	0.0	0.0	0.0			B
#	20620	2023-11-27 13:30:15	54	MP D						STOP	Y			0	00		48693	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	20619	2023-11-27 13:30:14	54	MP D						STOP	Y			0	00		48693	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	20618	2023-11-27 13:30:13	54	MP D						STOP	Y			0	00		48618	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	20617	2023-11-27 13:30:12	54	MP D						STOP	Y			0	00		48568	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	20616	2023-11-27 13:30:12	54	MP D						STOP	Y			0	00		48568	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	20615	2023-11-27 13:30:12	54	MP D						STOP	Y			0	00		48568	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	20614	2023-11-27 13:30:12	54	MP D						STOP	Y			0	00		48568	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	20613	2023-11-27 13:30:12	54	MP D						CS55	Y			5	20		48568	No Station ID	No Station ID			0.0	0.0	0.0			
#	20612	2023-11-27 13:30:11	54	MP D						CS55	Y			5	20		48468	No Station ID	No Station ID			0.0	0.0	0.0			
#	20611	2023-11-27 13:30:10	54	MP D						CS55	Y			5	20		48393	No Station ID	No Station ID			0.0	0.0	0.0			
#	20610	2023-11-27 13:30:10	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	48393	No Station ID	No Station ID			0.0	0.0	0.0			
#	20609	2023-11-27 13:30:09	54	MP D	OX	OX	OX	OX	CS55	Y			5	20	OX	48318	No Station ID	No Station ID			0.0	0.0	0.0			
#	20608	2023-11-27 13:30:09	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	48318	No Station ID	No Station ID			0.0	0.0	0.0			
#	20607	2023-11-27 13:30:08	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	48243	No Station ID	No Station ID			0.0	0.0	0.0			
#	20606	2023-11-27 13:30:07	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	48168	No Station ID	No Station ID			0.0	0.0	0.0			
#	20605	2023-11-27 13:30:06	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	48093	No Station ID	No Station ID			0.0	0.0	0.0			
#	20604	2023-11-27 13:30:06	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	47993	No Station ID	No Station ID			0.0	0.0	0.0			
#	20603	2023-11-27 13:30:06	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	47993	No Station ID	No Station ID			0.0	0.0	0.0			
#	20602	2023-11-27 13:30:06	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	47993	No Station ID	No Station ID			0.0	0.0	0.0			
#	20601	2023-11-27 13:30:06	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	47993	No Station ID	No Station ID			0.0	0.0	0.0			
#	20600	2023-11-27 13:30:05	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	47993	No Station ID	No Station ID			0.0	0.0	0.0			
#	20599	2023-11-27 13:30:05	54	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	47943	No Station ID	No Station ID			0.0	0.0	0.0			
#	20598	2023-11-27 13:30:04	53	MP D	OX	OX	OX	OX	CS55	Y	270	cpm	5	20	OX	47943	No Station ID	No Station ID			0.0	0.0	0.0			

STOP CODE

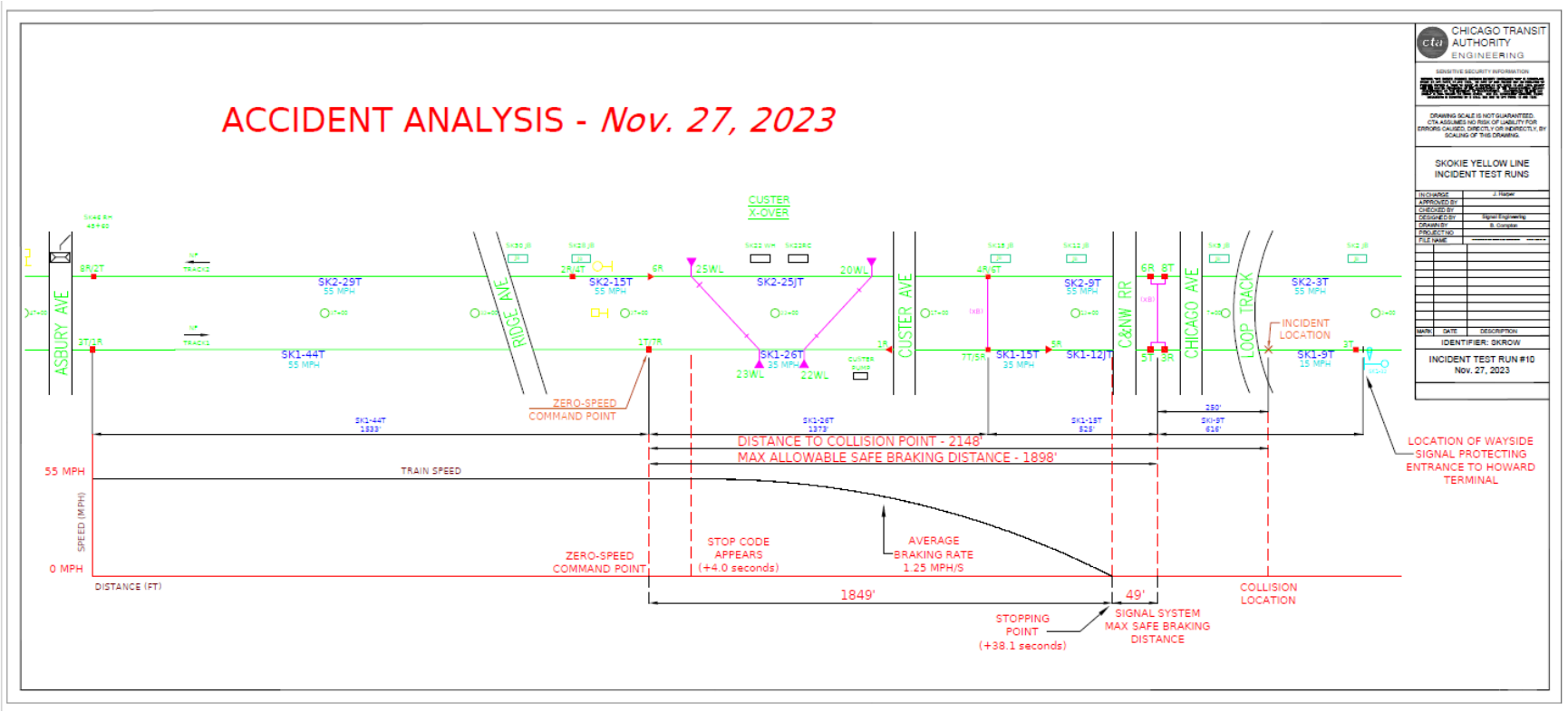
LOSS OF CAB

Test Run #9 ERU Event Log



Appendix X: Test Run #10 Analysis

Test Run #10 Track Circuit Diagram and Vehicle Response



Test Run #10 ATC Event Log Data Review

ATC Event Log Data Review – Test Run #10		
Criteria	**Time**	**Distance**
Loss of Cab	13:47:16	61518
Stop Code	13:47:19	61793
Zero Speed	13:48:02	63068

Rail vehicle speed at loss of cab**: 54 mph**

Total distance from brake application to stopping point: **N/A**

Total time from brake application to stopping point: **N/A**

Test Run #10 ATC Event Log Data Review

ZERO SPEED

USERTRIGGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A	CAR TR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EM TW17	EXT TR64	LATERAL C	LONGITUDE C	VERTICAL C	ZERO	BRR FB	BRR REQ
#	21984	2023-11-27 13:49:22	0	FS					STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21983	2023-11-27 13:48:02	0	FS					STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21982	2023-11-27 13:48:01	0	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21981	2023-11-27 13:48:01	0	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21980	2023-11-27 13:48:01	0	mB	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21979	2023-11-27 13:48:01	0	CT	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21978	2023-11-27 13:48:00	0		D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21977	2023-11-27 13:48:00	0	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21976	2023-11-27 13:47:59	0	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21975	2023-11-27 13:47:59	0	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21974	2023-11-27 13:47:59	0	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21973	2023-11-27 13:47:59	0	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21972	2023-11-27 13:47:59	0	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21971	2023-11-27 13:47:58	1	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21970	2023-11-27 13:47:58	2	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21969	2023-11-27 13:47:57	3	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0	V		
#	21968	2023-11-27 13:47:57	4	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21967	2023-11-27 13:47:57	5	FS	D				STOP	Y				0	00		63068	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21966	2023-11-27 13:47:56	5	FS	D				STOP	Y				0	00		63018	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21965	2023-11-27 13:47:56	5	FS	D				STOP	Y				0	00		63018	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21964	2023-11-27 13:47:56	6	FS	D				STOP	Y				0	00		63018	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21963	2023-11-27 13:47:56	6	FS	D				STOP	Y				0	00		63018	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21962	2023-11-27 13:47:55	7	FS	D				STOP	Y				0	00		63018	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21961	2023-11-27 13:47:54	8	FS	D				STOP	Y				0	00		63018	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21960	2023-11-27 13:47:54	9	FS	D				STOP	Y				0	00		63018	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21959	2023-11-27 13:47:53	9	FS	D				STOP	Y				0	00		62993	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21958	2023-11-27 13:47:53	10	FS	D				STOP	Y				0	00		62993	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21957	2023-11-27 13:47:52	11	FS	D				STOP	Y				0	00		62993	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21956	2023-11-27 13:47:52	12	FS	D				STOP	Y				0	00		62993	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21955	2023-11-27 13:47:52	12	FS	D				STOP	Y				0	00		62993	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21954	2023-11-27 13:47:52	12	FS	D				STOP	Y				0	00		62993	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21953	2023-11-27 13:47:51	12	FS	D				STOP	Y				0	00		62968	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21952	2023-11-27 13:47:50	13	FS	D				STOP	Y				0	00		62968	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21951	2023-11-27 13:47:50	14	FS	D				STOP	Y				0	00		62968	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21950	2023-11-27 13:47:50	15	FS	D				STOP	Y				0	00		62968	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21949	2023-11-27 13:47:49	15	FS	D				STOP	Y				0	00		62918	No Station ID	No Station ID	Y	0.0	0.0	0.0			
#	21948	2023-11-27 13:47:49	16	FS	D				STOP	Y				0	00		62918	No Station ID	No Station ID	Y	0.0	0.0	0.0			

Test Run #10 ATC Event Log Data Review

USER TRICCER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR A TR	CAR B TR	ACTIVE CODE	XIENFRCE ASP	XIVALDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EM TW 1.7	EXT TRG	LATERAL C	LONGITUDE C	UERTICAL C	UZERO	BRRFB	BRREQ
Page 2 November 28, 2023																											
#	21947	2023-11-27 13:47:48	16	FS D					STOP	Y				0	00	62893	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21946	2023-11-27 13:47:48	17	FS D					STOP	Y				0	00	62893	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21945	2023-11-27 13:47:48	18	FS D					STOP	Y				0	00	62893	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21944	2023-11-27 13:47:47	18	FS D					STOP	Y				0	00	62893	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21943	2023-11-27 13:47:47	18	FS D					STOP	Y				0	00	62893	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21942	2023-11-27 13:47:47	19	FS D					STOP	Y				0	00	62893	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21941	2023-11-27 13:47:46	19	FS D					STOP	Y				0	00	62868	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21940	2023-11-27 13:47:46	20	FS D					STOP	Y				0	00	62868	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21939	2023-11-27 13:47:45	20	FS D					STOP	Y				0	00	62818	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21938	2023-11-27 13:47:45	21	FS D					STOP	Y				0	00	62818	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21937	2023-11-27 13:47:44	21	FS D					STOP	Y				0	00	62793	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21936	2023-11-27 13:47:44	22	FS D					STOP	Y				0	00	62793	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21935	2023-11-27 13:47:44	23	FS D					STOP	Y				0	00	62793	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21934	2023-11-27 13:47:43	23	FS D					STOP	Y				0	00	62768	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21933	2023-11-27 13:47:43	23	FS D					STOP	Y				0	00	62768	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21932	2023-11-27 13:47:43	23	FS D					STOP	Y				0	00	62768	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21931	2023-11-27 13:47:43	24	FS D					STOP	Y				0	00	62768	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21930	2023-11-27 13:47:42	24	FS D					STOP	Y				0	00	62743	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21929	2023-11-27 13:47:42	25	FS D					STOP	Y				0	00	62743	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21928	2023-11-27 13:47:41	25	FS D					STOP	Y				0	00	62693	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21927	2023-11-27 13:47:41	26	FS D					STOP	Y				0	00	62693	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21926	2023-11-27 13:47:41	27	FS D					STOP	Y				0	00	62693	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21925	2023-11-27 13:47:40	27	FS D					STOP	Y				0	00	62668	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21924	2023-11-27 13:47:40	28	FS D					STOP	Y				0	00	62668	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21923	2023-11-27 13:47:39	28	FS D					STOP	Y				0	00	62593	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21922	2023-11-27 13:47:39	29	FS D					STOP	Y				0	00	62593	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21921	2023-11-27 13:47:39	29	FS D					STOP	Y				0	00	62593	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21920	2023-11-27 13:47:39	29	FS D					STOP	Y				0	00	62593	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21919	2023-11-27 13:47:39	30	FS D					STOP	Y				0	00	62593	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21918	2023-11-27 13:47:38	30	FS D					STOP	Y				0	00	62568	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21917	2023-11-27 13:47:38	31	FS D					STOP	Y				0	00	62568	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21916	2023-11-27 13:47:37	31	FS D					STOP	Y				0	00	62543	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21915	2023-11-27 13:47:37	30	FS D					STOP	Y				0	00	62543	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21914	2023-11-27 13:47:37	29	FS D					STOP	Y				0	00	62543	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21913	2023-11-27 13:47:37	28	FS D					STOP	Y				0	00	62543	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21912	2023-11-27 13:47:37	27	FS D					STOP	Y				0	00	62543	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21911	2023-11-27 13:47:37	26	FS D					STOP	Y				0	00	62543	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21910	2023-11-27 13:47:37	25	FS D					STOP	Y				0	00	62543	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21909	2023-11-27 13:47:36	25	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21908	2023-11-27 13:47:36	24	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21907	2023-11-27 13:47:36	23	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21906	2023-11-27 13:47:36	22	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21905	2023-11-27 13:47:36	21	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21904	2023-11-27 13:47:36	20	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21903	2023-11-27 13:47:36	19	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21902	2023-11-27 13:47:36	18	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21901	2023-11-27 13:47:35	17	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21900	2023-11-27 13:47:35	16	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21899	2023-11-27 13:47:35	15	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21898	2023-11-27 13:47:35	14	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21897	2023-11-27 13:47:35	13	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21896	2023-11-27 13:47:35	12	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21895	2023-11-27 13:47:35	11	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21894	2023-11-27 13:47:35	11	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21893	2023-11-27 13:47:35	10	FS D					STOP	Y				0	00	62468	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21892	2023-11-27 13:47:34	10	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21891	2023-11-27 13:47:34	9	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21890	2023-11-27 13:47:34	9	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21889	2023-11-27 13:47:34	8	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21888	2023-11-27 13:47:34	7	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21887	2023-11-27 13:47:34	6	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21886	2023-11-27 13:47:34	5	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21885	2023-11-27 13:47:33	4	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21884	2023-11-27 13:47:33	3	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	21883	2023-11-27 13:47:33	2	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	21882	2023-11-27 13:47:32	1	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	21881	2023-11-27 13:47:32	1	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	21880	2023-11-27 13:47:32	2	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	21879	2023-11-27 13:47:32	3	FS D					STOP	Y				0	00	62443	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	21878	2023-11-27 13:47:31	3	FS D					STOP	Y				0	00	62393	No Station ID	No Station ID		Y	0.0	0.0	0.0	V			
#	21877	2023-11-27 13:47:31	4	FS D					STOP	Y				0	00	62393	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21876	2023-11-27 13:47:31	5	FS D					STOP	Y				0	00	62393	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21875	2023-11-27 13:47:31	6	FS D					STOP	Y				0	00	62393	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21874	2023-11-27 13:47:31	7	FS D					STOP	Y				0	00	62393	No Station ID	No Station ID		Y	0.0	0.0	0.0				
#	21873	2023-11-27 13:47:31	8	FS D					STOP	Y				0	00	62393	No Station ID	No Station ID		Y	0.0	0.0	0.0				

Test Run #10 ATC Event Log Data Review

USERTRIGGER	EVENTNUM	DATETIME	MC DETENTS	SPEED	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR ATR	CAR BTR	ACTIVE CODE	XIENFRCE ASP	XIVALIDCODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMT TW17	EXT R64	LATERAL C	LONGITUDE C	VERTICAL C	UZERO	BRFB	BRREQ
Page 3 November 28, 2023																											
#	21872	2023-11-27 13:47:30	9 FS	D						STOP	Y			0	00		62393	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21871	2023-11-27 13:47:30	9 FS	D						STOP	Y			0	00		62393	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21870	2023-11-27 13:47:30	10 FS	D						STOP	Y			0	00		62393	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21869	2023-11-27 13:47:30	11 FS	D						STOP	Y			0	00		62393	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21868	2023-11-27 13:47:30	11 FS	D						STOP	Y			0	00		62393	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21867	2023-11-27 13:47:30	12 FS	D						STOP	Y			0	00		62393	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21866	2023-11-27 13:47:30	13 FS	D						STOP	Y			0	00		62393	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21865	2023-11-27 13:47:30	14 FS	D						STOP	Y			0	00		62393	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21864	2023-11-27 13:47:29	14 FS	D						STOP	Y			0	00		62368	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21863	2023-11-27 13:47:29	15 FS	D						STOP	Y			0	00		62368	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21862	2023-11-27 13:47:29	16 FS	D						STOP	Y			0	00		62368	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21861	2023-11-27 13:47:29	17 FS	D						STOP	Y			0	00		62368	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21860	2023-11-27 13:47:29	18 FS	D						STOP	Y			0	00		62368	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21859	2023-11-27 13:47:29	19 FS	D						STOP	Y			0	00		62368	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21858	2023-11-27 13:47:28	19 FS	D						STOP	Y			0	00		62343	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21857	2023-11-27 13:47:28	20 FS	D						STOP	Y			0	00		62343	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21856	2023-11-27 13:47:28	21 FS	D						STOP	Y			0	00		62343	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21855	2023-11-27 13:47:28	22 FS	D						STOP	Y			0	00		62343	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21854	2023-11-27 13:47:27	22 FS	D						STOP	Y			0	00		62293	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21853	2023-11-27 13:47:27	23 FS	D						STOP	Y			0	00		62293	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21852	2023-11-27 13:47:27	24 FS	D						STOP	Y			0	00		62293	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21851	2023-11-27 13:47:27	25 FS	D						STOP	Y			0	00		62293	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21850	2023-11-27 13:47:27	26 FS	D						STOP	Y			0	00		62293	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21849	2023-11-27 13:47:27	27 FS	D						STOP	Y			0	00		62293	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21848	2023-11-27 13:47:27	28 FS	D						STOP	Y			0	00		62293	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21847	2023-11-27 13:47:26	28 FS	D						STOP	Y			0	00		62243	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21846	2023-11-27 13:47:26	29 FS	D						STOP	Y			0	00		62243	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21845	2023-11-27 13:47:26	29 FS	D						STOP	Y			0	00		62243	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21844	2023-11-27 13:47:26	30 FS	D						STOP	Y			0	00		62243	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21843	2023-11-27 13:47:26	31 FS	D						STOP	Y			0	00		62243	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21842	2023-11-27 13:47:26	31 FS	D						STOP	Y			0	00		62243	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21841	2023-11-27 13:47:26	32 FS	D						STOP	Y			0	00		62243	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21840	2023-11-27 13:47:26	33 FS	D						STOP	Y			0	00		62243	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21839	2023-11-27 13:47:25	33 FS	D						STOP	Y			0	00		62218	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21838	2023-11-27 13:47:25	34 FS	D						STOP	Y			0	00		62218	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21837	2023-11-27 13:47:25	35 FS	D						STOP	Y			0	00		62218	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21836	2023-11-27 13:47:25	36 FS	D						STOP	Y			0	00		62218	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21835	2023-11-27 13:47:25	37 FS	D						STOP	Y			0	00		62218	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21834	2023-11-27 13:47:24	37 FS	D						STOP	Y			0	00		62143	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21833	2023-11-27 13:47:24	38 FS	D						STOP	Y			0	00		62143	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21832	2023-11-27 13:47:24	39 FS	D						STOP	Y			0	00		62143	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21831	2023-11-27 13:47:24	40 FS	D						STOP	Y			0	00		62143	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21830	2023-11-27 13:47:24	41 FS	D						STOP	Y			0	00		62143	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21829	2023-11-27 13:47:24	42 FS	D						STOP	Y			0	00		62143	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21828	2023-11-27 13:47:23	42 FS	D						STOP	Y			0	00		62068	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21827	2023-11-27 13:47:23	43 FS	D						STOP	Y			0	00		62068	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21826	2023-11-27 13:47:23	44 FS	D						STOP	Y			0	00		62068	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21825	2023-11-27 13:47:23	45 FS	D						STOP	Y			0	00		62068	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21824	2023-11-27 13:47:23	46 FS	D						STOP	Y			0	00		62068	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21823	2023-11-27 13:47:23	47 FS	D						STOP	Y			0	00		62068	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21822	2023-11-27 13:47:23	47 FS	D						STOP	Y			0	00	0.049	62068	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21821	2023-11-27 13:47:22	47 FS	D						STOP	Y			0	00	0.049	62018	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21820	2023-11-27 13:47:22	47 FS	D						STOP	Y			0	00	0.049	62018	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21819	2023-11-27 13:47:22	48 FS	D						STOP	Y			0	00	0.049	62018	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21818	2023-11-27 13:47:22	49 FS	D						STOP	Y			0	00	0.049	62018	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21817	2023-11-27 13:47:22	50 FS	D						STOP	Y			0	00	0.049	62018	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21816	2023-11-27 13:47:22	50 FS	D						STOP	Y			0	00	0.049	62018	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21815	2023-11-27 13:47:22	51 FS	D						STOP	Y			0	00	0.049	62018	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21814	2023-11-27 13:47:22	52 FS	D						STOP	Y			0	00		62018	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21813	2023-11-27 13:47:22	52 FS	D						STOP	Y			0	00		61918	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21812	2023-11-27 13:47:21	52 FS	D						STOP	Y			0	00		61918	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21811	2023-11-27 13:47:21	53 FS	D						STOP	Y			0	00		61918	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21810	2023-11-27 13:47:21	54 FS	D						STOP	Y			0	00		61918	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21809	2023-11-27 13:47:21	55 FS	D						STOP	Y			0	00		61918	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21808	2023-11-27 13:47:20	55 FS	D						STOP	Y			0	00		61843	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21807	2023-11-27 13:47:20	55 D							STOP	Y			0	00		61843	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21806	2023-11-27 13:47:20	55 D							STOP	Y			0	00		61843	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21805	2023-11-27 13:47:20	55 D							STOP	Y			0	00		61843	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21804	2023-11-27 13:47:20	55 D							STOP	Y			0	00		61843	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21803	2023-11-27 13:47:20	55 mB	D						STOP	Y			0	00		61843	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21802	2023-11-27 13:47:20	55 CT	D						STOP	Y			0	00		61843	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21801	2023-11-27 13:47:20	55 mP	D						STOP	Y			0	00		61843	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21800	2023-11-27 13:47:19	55 D							STOP	Y			0	00		61793	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21799	2023-11-27 13:47:19	55 MP	D						STOP	Y			0	00		61793	No Station ID	No Station ID		Y	0.0	0.0	0.0			
#	21798	2023-11-27 13:47:19	55 MP	D						STOP	Y			0	00		61793	No Station ID	No Station ID		Y	0.0	0.0	0.0			

Test Run #10 ATC Event Log Data Review

STOP CODE

LOSS OF CAB

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USERTRICGER	EVENTNUM	DATETIME	SPEED	MC DETENTS	DEADMAN	MEAS PERIOD	CODE RATE	HALF PERIOD	DUTY CYCLE	ENFORCED CS	CAR TR	CAR AB	ACTIVE CODE	XIENFRCE ASP	XIVALID CODE	TRACK CURR	DISTANCE	NEXT STATION	ROUTE ID	EMEXT TWT17	TR64	LATERAL C	LONGITUDE C	VERTICAL C	UZERO	BRFB	BRREQ
#	21797	2023-11-27 13:47:19	55	MP	D					STOP	Y			0	00		61793	No Station ID	No Station ID	Y		0.0	0.0	0.0			
#	21796	2023-11-27 13:47:19	55	MP	D					STOP	Y			0	00		61793	No Station ID	No Station ID	Y		0.0	0.0	0.0			
#	21795	2023-11-27 13:47:19	55	MP	D					STOP	Y			0	00		61793	No Station ID	No Station ID	Y		0.0	0.0	0.0			
#	21794	2023-11-27 13:47:19	55	MP	D					CS55	Y			5	20		61793	No Station ID	No Station ID			0.0	0.0	0.0			
#	21793	2023-11-27 13:47:18	55	MP	D					CS55	Y			5	20		61693	No Station ID	No Station ID			0.0	0.0	0.0			
#	21792	2023-11-27 13:47:18	55	MP	D					CS55	Y			5	20	0.063	61693	No Station ID	No Station ID			0.0	0.0	0.0			
#	21791	2023-11-27 13:47:18	55	MP	D	10.0ms	6000CPM	10.0ms	100%	CS55	Y			5	20	0.063	61693	No Station ID	No Station ID			0.0	0.0	0.0			
#	21790	2023-11-27 13:47:17	55	MP	D	10.0ms	6000CPM	10.0ms	100%	CS55	Y			5	20	0.063	61618	No Station ID	No Station ID			0.0	0.0	0.0			
#	21789	2023-11-27 13:47:17	55	MP	D	10.0ms	6000CPM	10.0ms	100%	CS55	Y			5	20	0.057	61618	No Station ID	No Station ID			0.0	0.0	0.0			
#	21788	2023-11-27 13:47:17	55	MP	D	10.0ms	6000CPM	10.0ms	100%	CS55	Y			5	20	0.057	61618	No Station ID	No Station ID			0.0	0.0	0.0			
#	21787	2023-11-27 13:47:17	55	MP	D	10.0ms	6000CPM	10.0ms	100%	CS55	Y			5	20	0.057	61618	No Station ID	No Station ID			0.0	0.0	0.0			
#	21786	2023-11-27 13:47:17	55	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	61618	No Station ID	No Station ID			0.0	0.0	0.0			
#	21785	2023-11-27 13:47:17	55	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	61618	No Station ID	No Station ID			0.0	0.0	0.0			
#	21784	2023-11-27 13:47:17	55	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	61618	No Station ID	No Station ID			0.0	0.0	0.0			
#	21783	2023-11-27 13:47:17	54	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	61618	No Station ID	No Station ID			0.0	0.0	0.0			
#	21782	2023-11-27 13:47:16	54	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	61518	No Station ID	No Station ID			0.0	0.0	0.0			
#	21781	2023-11-27 13:47:16	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61518	No Station ID	No Station ID			0.0	0.0	0.0			
#	21780	2023-11-27 13:47:15	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61443	No Station ID	No Station ID			0.0	0.0	0.0			
#	21779	2023-11-27 13:47:15	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61443	No Station ID	No Station ID			0.0	0.0	0.0			
#	21778	2023-11-27 13:47:14	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61393	No Station ID	No Station ID			0.0	0.0	0.0			
#	21777	2023-11-27 13:47:13	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61293	No Station ID	No Station ID			0.0	0.0	0.0			
#	21776	2023-11-27 13:47:12	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61218	No Station ID	No Station ID			0.0	0.0	0.0			
#	21775	2023-11-27 13:47:12	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61218	No Station ID	No Station ID			0.0	0.0	0.0			
#	21774	2023-11-27 13:47:12	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61218	No Station ID	No Station ID			0.0	0.0	0.0			
#	21773	2023-11-27 13:47:12	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61218	No Station ID	No Station ID			0.0	0.0	0.0			
#	21772	2023-11-27 13:47:12	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61218	No Station ID	No Station ID			0.0	0.0	0.0			
#	21771	2023-11-27 13:47:11	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61168	No Station ID	No Station ID			0.0	0.0	0.0			
#	21770	2023-11-27 13:47:10	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61068	No Station ID	No Station ID			0.0	0.0	0.0			
#	21769	2023-11-27 13:47:10	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	61068	No Station ID	No Station ID			0.0	0.0	0.0			
#	21768	2023-11-27 13:47:09	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60993	No Station ID	No Station ID			0.0	0.0	0.0			
#	21767	2023-11-27 13:47:08	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60918	No Station ID	No Station ID			0.0	0.0	0.0			
#	21766	2023-11-27 13:47:07	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60818	No Station ID	No Station ID			0.0	0.0	0.0			
#	21765	2023-11-27 13:47:07	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60818	No Station ID	No Station ID			0.0	0.0	0.0			
#	21764	2023-11-27 13:47:06	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60768	No Station ID	No Station ID			0.0	0.0	0.0			
#	21763	2023-11-27 13:47:05	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60693	No Station ID	No Station ID			0.0	0.0	0.0			
#	21762	2023-11-27 13:47:04	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60593	No Station ID	No Station ID			0.0	0.0	0.0			
#	21761	2023-11-27 13:47:04	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60593	No Station ID	No Station ID			0.0	0.0	0.0			
#	21760	2023-11-27 13:47:04	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60593	No Station ID	No Station ID			0.0	0.0	0.0			
#	21759	2023-11-27 13:47:04	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60543	No Station ID	No Station ID			0.0	0.0	0.0			
#	21758	2023-11-27 13:47:04	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60543	No Station ID	No Station ID			0.0	0.0	0.0			
#	21757	2023-11-27 13:47:03	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60543	No Station ID	No Station ID			0.0	0.0	0.0			
#	21756	2023-11-27 13:47:03	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60543	No Station ID	No Station ID			0.0	0.0	0.0			
#	21755	2023-11-27 13:47:02	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60443	No Station ID	No Station ID			0.0	0.0	0.0			
#	21754	2023-11-27 13:47:02	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60443	No Station ID	No Station ID			0.0	0.0	0.0			
#	21753	2023-11-27 13:47:01	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60368	No Station ID	No Station ID			0.0	0.0	0.0			
#	21752	2023-11-27 13:47:00	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60293	No Station ID	No Station ID			0.0	0.0	0.0			
#	21751	2023-11-27 13:46:59	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60243	No Station ID	No Station ID			0.0	0.0	0.0			
#	21750	2023-11-27 13:46:58	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60143	No Station ID	No Station ID			0.0	0.0	0.0			
#	21749	2023-11-27 13:46:58	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60143	No Station ID	No Station ID			0.0	0.0	0.0			
#	21748	2023-11-27 13:46:58	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60143	No Station ID	No Station ID			0.0	0.0	0.0			
#	21747	2023-11-27 13:46:58	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60143	No Station ID	No Station ID			0.0	0.0	0.0			
#	21746	2023-11-27 13:46:58	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60143	No Station ID	No Station ID			0.0	0.0	0.0			
#	21745	2023-11-27 13:46:57	53	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60068	No Station ID	No Station ID			0.0	0.0	0.0			
#	21744	2023-11-27 13:46:57	53	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	60068	No Station ID	No Station ID			0.0	0.0	0.0			
#	21743	2023-11-27 13:46:56	53	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	60018	No Station ID	No Station ID			0.0	0.0	0.0			
#	21742	2023-11-27 13:46:56	54	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	60018	No Station ID	No Station ID			0.0	0.0	0.0			
#	21741	2023-11-27 13:46:56	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	60018	No Station ID	No Station ID			0.0	0.0	0.0			
#	21740	2023-11-27 13:46:55	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59918	No Station ID	No Station ID			0.0	0.0	0.0			
#	21739	2023-11-27 13:46:54	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59843	No Station ID	No Station ID			0.0	0.0	0.0			
#	21738	2023-11-27 13:46:53	54	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59743	No Station ID	No Station ID			0.0	0.0	0.0			
#	21737	2023-11-27 13:46:53	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59743	No Station ID	No Station ID			0.0	0.0	0.0			
#	21736	2023-11-27 13:46:52	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59693	No Station ID	No Station ID			0.0	0.0	0.0			
#	21735	2023-11-27 13:46:51	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59618	No Station ID	No Station ID			0.0	0.0	0.0			
#	21734	2023-11-27 13:46:50	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59518	No Station ID	No Station ID			0.0	0.0	0.0			
#	21733	2023-11-27 13:46:49	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59443	No Station ID	No Station ID			0.0	0.0	0.0			
#	21732	2023-11-27 13:46:48	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59393	No Station ID	No Station ID			0.0	0.0	0.0			
#	21731	2023-11-27 13:46:47	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59293	No Station ID	No Station ID			0.0	0.0	0.0			
#	21730	2023-11-27 13:46:46	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59218	No Station ID	No Station ID			0.0	0.0	0.0			
#	21729	2023-11-27 13:46:45	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59118	No Station ID	No Station ID			0.0	0.0	0.0			
#	21728	2023-11-27 13:46:44	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59068	No Station ID	No Station ID			0.0	0.0	0.0			
#	21727	2023-11-27 13:46:44	55	MP	D	OK	OK	OK	OK	CS55	Y			5	20	OK	59068	No Station ID	No Station ID			0.0	0.0	0.0			
#	21726	2023-11-27 13:46:44	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	59068	No Station ID	No Station ID			0.0	0.0	0.0			
#	20756	2023-11-27 13:46:43	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	58968	No Station ID	No Station ID			0.0	0.0	0.0			
#	20749	2023-11-27 13:46:42	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	58893	No Station ID	No Station ID			0.0	0.0	0.0			
#	20748	2023-11-27 13:46:41	55	MP	D	OK	OK	OK	OK	CS55	Y	270	cpm	5	20	OK	58818	No Station ID	No Station ID			0.0	0.0	0.0			

Test Run #10 ERU Event Log