National Transportation Safety Board
Office of Railroad, Pipeline and Hazardous Materials
Washington, DC 20594

INVESTIGATIVE REPORT

<Select type report>

May 31, 2023

TABLE OF CONTENTS

ACCIDENT

Location: Bessemer, AL
Date: December 13, 2022
Time: 12:01 a.m. CST (local time)
Train: A55A712, Norfolk Southern Railway Company (NS) Employee Fatality

SUMMARY

For a summary of the accident, see NTSB docket.

ACCIDENT NARRATIVE

1.0 Circumstances Prior to the Incident

On December 12, 2022, there were two different NS train crews that handled the cars containing the suspect gondola car that exhibited a loose top of car railing repair. The first crew that handled the cars was the crew of train A39A712 (A39). They performed a pick-up of the cars and spotted the cars onto the Hill track that were from U. S. Pipe on December 12, 2022, during daylight hours, by coupling to a string of 17 cars and pulled them out of the plant facility and eventually spotted them on the Hill track.

Train 340, while en route to Birmingham on December 12, 2022, during night time hours, was the second crew to handle the gondola cars from U. S. Pipe and Foundry Company (U. S. Pipe) after they received information via their Mobile Train Reporting app to stop and pick up 21 cars from the Hill track which is only accessible from NS's main track one.

ACCIDENT NARRATIVE

On December 12, 2022, around 11:15 p.m. CST, as northbound train 340 (340) neared the pick-up location, the dispatcher lined 340 from single track main one onto main track one to have access to the Hill track and the cars to be picked up. The crew stopped short of a set of two crossover switches that provided access to the Hill track. The crew cut off the locomotive from the train and left the balance of their train on main track one and clear of the switch leading into the Hill track and proceeded southward toward the cut of cars on the Hill track. While going towards the cut of empty gondola cars, the conductor and conductor trainee (CT) rode the locomotives to the coupling.

According to their interviews, they coupled up and pulled the cars out of the Hill track back (north) towards the main track. Once the cut of cars cleared the main track crossover switch, they examined the switch points after lining the switch for main track movement. Next the conductor and CT coupled the cars to the standing train and laced up the air hose and proceeded to make a "transfer brake test" of the cars they picked up. According to the conductor of 340, the CT and conductor focused their inspection of the cars from the west side of the cars as they did not want to be inspecting the east side knowing of the oncoming A55 train movement on main track two. Operating rules allow for this type of brake test because the train had less than 20 miles before terminating at the Norris Yard.

According to the conductor of 340, while he and the CT were walking northward towards the locomotive, he heard "chatter" (meaning radio transmissions) from train A55 approaching their position on main track two in a northbound direction. The conductor and CT proceeded to board their locomotive and job brief about updating the MTR data and inspecting the east side of the pick-up cut of cars after the A55 went by their location. However, as the A55 went by them they heard the engineer of A55 announcing the need for emergency assistance for his crew. Unbeknownst to the 340 crew, one of the gondolas had a protruding piece of angle iron fouling the operating window of main track two that had pierced through the lead locomotive west door leading into where the CT and conductor of train A55 were seated.

The engineer of A55 continued to call for assistance as his train proceeded north after he initiated an emergency brake application. The A55 came to a stop about 699 feet past 32nd Street. The engineer of A55 stated in his interview that he quickly decided to reverse the head of the train back to the crossing location to facilitate an emergency personnel response. The CT of A55 had received fatal injuries from the angle iron and the conductor received non-life threatening injury and was later transported to a local hospital for medical attention. (Note: For further details of track layouts, see On Site Visit section of this report.)

DETAILS OF THE INVESTIGATION

2.0 Description of NS AGS South Subdivision

The AGS South Subdivision extends from milepost AG 136.8, 20th Street near Birmingham to milepost AG 295.4, or Meridian, MS in a timetable south—north direction for a total of about 158.6 miles. The subdivision consists of mostly single main track with multiple passing sidings; however, NS operates and maintains double main tracks from milepost 156.2 to 20th Street. Maximum authorized timetable speed in the vicinity of the incident is 79 mph for passenger trains and 60 mph for freight trains. All of the double main track territory (from 20th Street to Burstall) is governed by Rule 261 (signal for movement on both mains in both directions) with a Positive Train Control (PTC) overlay.

The crew of A55 consisted of a locomotive engineer, conductor, and a conductor trainee. The assigned train consisted of two locomotives, 8 loads and 62 empties, 3,046 tons, and was 3,742 feet long. The train originated in Tuscaloosa, AL and was destined for Birmingham, AL. The crew went on duty December 12th at 8:00 p.m. The crew of train 340 consisted of a locomotive engineer, a conductor and a conductor trainee. Their train consisted of three locomotives, 48 loads and 37 empties after the pick-up from the Hill track. They went on duty at 4:30 p.m. at Meridian, MS and were destined for Birmingham, AL. Train 340 had 7,242 tons.

ON-SCENE INTERVIEWS

NS Personnel

Investigators conducted in-person interviews on December 15, 2022, at the meeting room for the investigation. The conductor of train A39, the train that handled the cars from U.S. Pipe over to the Hill track, was interviewed first. Then engineer and conductor of the accident train, A55 were interviewed. The local trainmaster was then interviewed, followed by the engineer and conductor of train 340, the train that made the pickup of the empty gondola cars.

Conductor A3912 (CA39)

CA39 stated that he hired out in 2008 and became an engineer in 2015; he then exercised his seniority by flowing back to the conductor craft in 2020 and has worked the same assignment, A39, since fall of 2020.[1] The conductor described his job responsibilities as switching cars at the McCalla Yard and pulling and placing cars into industries around the McCalla, Bessemer, Alabama, area.[2]

[1] See A39 conductor's interview page 7, lines 6—12.
[2] See A39 conductor's interview page 7, lines 13—21.

CA39 stated that he is a certified conductor and that he feels he has received sufficient training to perform his duties.[3]

The conductor explained that he went on duty at 9:01 a.m. and that the only work he had was to place 15 cars into U. S. Pipe and pull 19 cars.[4] He described that after preparing the cars for delivery to U.S. Pipe, they shoved the 15 cars into U. S. Pipe with his conductor trainee (CT) riding on the west side and directing the shove move.[5] The conductor went on to say that after stopping, he checked and tied a couple of handbrakes and proceeded to the rear of the fence track where the cars to be picked up were located.[6] The conductor said that as he walked from the rear of the fence track, he laced up air hoses, checked the position of the hand brakes and was doing part of his inspection on the cars and would have walked past the car in question not noticing anything out of the ordinary on that car.[7] The conductor described that he walked on both sides of the cars, finished lacing up air hoses, turned the angle cocks and was inspecting cars before doubling all of the cars on the two separate tracks (fence track and pile track) onto U.S. Pipe track one to be pulled out of U. S. Pipe and that they "C102'd them" before instructing the engineer to pull the cars out of U. S. Pipe.[8,9] [Note: C100 and C102 are two different rules.]

The conductor said that he and the CT walked toward the gate, close it and restored the derail locking everything backup.[10] After departing U. S. Pipe, the conductor described that he and the CT were on both sides of the cars while they made switching moves while they were putting the 19 cars together before taking those 19 cars over to the Hill track and adding two other cars to the 19 cars.[11]

The conductor explained that U.S. Pipe was the only work his crew had; however, he did stop at another industry before returning to the yard and going off duty at 5:17 p.m.[12]

The conductor responded that when he was in U. S. Pipe that as he was walking by the cars inspecting them that he did not want to become injured stepping on scrap on the ground and that the focus of inspecting the cars was on air hoses; brake rigging; wheels; handbrakes; making sure everything is on the rail and that the use of the term "C102'd them" was to check the effectiveness of the handbrakes.[13]

---

[3] See A39 conductor's interview, page 8, lines 1–14.
[4] See A39 conductor's interview, page 8, lines 15–25; page 9, lines 1–5.
[5] See A39 conductor's interview, page 9, lines 8–15.
[6] See A39 conductor's interview, page 9, lines 16–22.
[7] See A39 conductor's interview, page 10, lines 5–15.
[8] See A39 conductor's interview, page 11, lines 1–11.
[9] "Doubling" is a term meaning that the crew coupled to railroad cars in one track and moved those cars on top of other cars in another track. The purpose is then to pull all of the now coupled cars out of the final track, thus "doubled."
[10] See A39 conductor's interview, page 11, lines 12–13.
[11] See A39 conductor's interview, page 11, lines 14–25; page 12, lines 1–20.
[12] See A39 conductor's interview, page 13, lines 14–25; page 14, lines 1–7.
[13] See A39 conductor's interview, page 15, lines 6–25; page 16, lines 1–13.

The conductor explained that as he walked the fence and pile tracks, he always makes a hand-written list of the cars they are pulling from U. S. Pipe.[14] The conductor answered that he printed out the work orders at the beginning of the day to go over them with the crew and that he is constantly communicating with the crew throughout the day (job briefing).[15] The conductor said that he had worked job A39 since 2020 and that it goes into U. S. Pipe several times a week and that in the past (maybe six months to a year ago) he has run into a situation of a bad order car in there and that he has an option to report that to a trainmaster so somebody can fix the car.[16]

The conductor reaffirmed that he conducted a C102 (effectiveness of the handbrakes) on the loaded cars being delivered while in the U. S. Pipe plant and that a C100 inspection of the unloaded cars being pulled on December 12, 2022, is a separate thing (inspection). A transfer brake test was conducted once they had everything together back on the SA line.[17] [Note: C100 is a car inspection rule. See C100 rule in this report on page 48.]

When asked about observing any concerns with the suspect car, the conductor replied, "I did not see any concerns with the suspect car…. and my CT didn't mention anything to me that he saw anything out of the ordinary."[18] The conductor added that if he had seen anything wrong with the car that I would have just left the cars and everything behind the bad ordered car in the track right where it sat.[19] The conductor was asked if anyone at U. S. Pipe reported to him a damaged car, the conductor replied, "no."[20]

The conductor affirmed that he completed a C100 test, a general inspection of the cars, at U. S. Pipe.[21] To answer whether or not he performed a brake test when the crew added two additional cars to the ones they picked up at U. S. Pipe after they were placed them on the transfer track, the conductor said that he did not because he just moved them from the yard onto the cars and that it would have been for the train picking them up to do the brake test (the train moving them to the main line).[22]

[14] See A39 conductor's interview, page 16, lines 21–25; page 17, lines 1–11.
[15] See A39 conductor's interview, page 17, lines 13–25; page 18, lines 1–11.
[16] See A39 conductor's interview, page 21, lines 21–25; page 22, lines 1–11; page 27, lines 16--23.
[17] See A39 conductor's interview, page 24, lines 22–25; page 25, lines 1–25; page 26, lines 1–21.
[18] See A39 conductor's interview, page 30, lines 14–25.
[19] See A39 conductor's interview, page 31, lines 1–8.
[20] See A39 conductor's interview, page 32, lines 14–16.
[21] See A39 conductor's interview, page 35, lines 20–25.
[22] See A39 conductor's interview, page 32, lines 17–25; page 33, lines 1--9.

Engineer A55 (EA55)

EA55 stated that he was hired in 1997 as a conductor and became an engineer in 2000 and has held that position until present in which as a certified engineer he is in charge of locomotives and running a train.[23]

In describing the events prior to the incident, EA55 said that he went on duty at Tuscaloosa 8 p.m. where he, the conductor and conductor trainee (CT) talked about what they had to get out of Tuscaloosa Yard to take to Birmingham.[24] The engineer stated that they departed Tuscaloosa Yard around 10 o'clock and ended up following 340 north and they had green lights to Birmingham where the last signal he received there was a clear at the "Bessemer signal" onto main track two.[25] The engineer described that their trip up to the incident was "uneventful, normal" and that as their train was moving about 55-60 mph as it approached the 340 stopped on main track one.[26]

The engineer described that as they continued northbound on main track two he observed at the last minute a piece a steel sticking out from main track when the impact happened and immediately put the train into emergency and contacted the dispatcher for help while the train was still moving.[27] The engineer described that the dispatcher answered his call "within two seconds" whereupon he requested permission to back the train to a crossing for the emergency responders after the train recovered its air pressure.[28] The engineer described that as the train moved forward he called out to the other crewmembers, flipped on the light in the cab and became aware of the CT's injuries and that the conductor was distressed.[29] The engineer described that he could tell the CT "was gone" and that at 12:09 a.m. he called the trainmaster who informed him the emergency responders were en route; the engineer said he noticed on his phone at 12:13 a.m. he saw them coming over the hill towards the crossing.[30]

The engineer said that after he and the conductor left the train, he was interviewed by NS about 6:00 a.m. at the McCalla Intermodal Facility before he was taken home.[31]

---

[23] See A55 engineer's interview, page 7, lines 7–14; page 13, lines 10–22.
[24] See A55 engineer's interview, page 7, line 25; page 8, lines 1–3.
[25] See A55 engineer's interview, page 8, lines 4–13.
[26] See A55 engineer's interview, page 11, lines 5–23.
[27] See A55 engineer's interview, page 8, lines 13–17.
[28] See A55 engineer's interview, page 8, lines 18–25; page 9, lines 1–2.
[29] See A55 engineer's interview, page 9, lines 2–15.
[30] See A55 engineer's interview, page 9, lines 16–25; page 10, lines 1–13.
[31] See A55 engineer's interview, page 10, lines 14–25; page 11, lines 1–4.

The engineer questioned why equipment like the gondola with bulges was allowed to be "out here" and indicated that he had seen cars (gondolas) with chains across them.[32] Regarding his thoughts about preventing a reoccurrence, the engineer stated, "send a qualified car man to the industry on scrap cars, let them inspect them, if they're bulging, get rid of them."[33] The engineer asked to speak to the FRA's role in safety and the inspection of cars at industry plants, whereupon a representative of FRA characterized their role in monitoring safety.[34]

Conductor A55 (CA55)

The conductor of A55 said he was hired in December of 2014 and has held the position of conductor for eight years and had been working "this job" (A55) on and off for a couple of months.[35] The conductor described his duties stating that he is and responsible for the paperwork, the consist, clearance, building of the train, cars good to go, brakes are knocked off, rules compliance, pick up cars, set up cars, do brake tests, if need be, and he agreed that he is in charge of the train.[36]

In describing the events prior to the incident, the conductor said he went on duty at 8:00 p.m., Monday night of the 12th, in Tuscaloosa, and normally after picking up their cars and heading for Birmingham, their destination, and once there they would pick up cars at Birmingham to bring back to Tuscaloosa.[37]

The conductor recalled that after leaving Crab Tree, milepost 200, going all the way through Bessemer, on track two, the conductor trainee was sitting in front of him, he heard 340 on track one was stationary and done with their pickup and starting their brake test, and the A55 was going just like we normally would when the engineer of A55 shouted out, "look out, look out."[38] The conductor described the incident by saying that prior to impact he moved to the left, and that is when the steel beam went through the window causing glass to be everywhere, in his hair and eyes, and that he noticed the conductor trainee had been struck in the head before the conductor saw that the beam had knocked the conductor trainee sideways.[39] The conductor said that once he freed himself, he heard the engineer asking if they were ok and that once the light was turned on in the locomotive, he observed that the conductor trainee's was "dangling lifelessly."[40]

[32] See A55 engineer's interview, page 15, lines 15–25; page 16, line 1.
[33] See A55 engineer's interview, page 16, lines 2–8.
[34] See A55 engineer's interview, page 16, lines 16–25; pages 17–20, lines 1–25; page 21, lines 1–19.
[35] See A55 conductor's interview, page 7, lines 21–25; page 8, lines 1–5.
[36] See A55 conductor's interview, page 8, lines 8–18.
[37] See A55 conductor's interview, page 8, lines 19–25; page 9, lines 1–10.
[38] See A55 conductor's interview, page 9, lines 11–25; page 10, line 1.
[39] See A55 conductor's interview, page 10, lines 2–21.
[40] See A55 conductor's interview, page 10, lines 22–25; page 11, lines 1–25; page 12, lines 1–3.

The conductor said he called out to the conductor trainee several times while the engineer was toning up 911 requesting emergency assistance and that once the light was turned on, he saw the beam through the conductor trainee's chest and into the back wall and that it had missed his (the conductor's) head by six inches.[41] The conductor went on to say that he realized that had the engineer not warned them that the incident would have had two fatalities and so he thank the engineer and told investigators that it could have been worse than it was and it was the worst thing he had ever witnessed in his life.[42]

The conductor described that the engineer shoved the train back to a crossing and that he exited the locomotive and that train 340 had pulled up near the crossing and the conductor assisted in helping remove glass from his face before he (conductor A55) departed the scene and was transported to a hospital for his injuries.[43] The conductor recalled that at the hospital removing all of the glass was difficult but that he was treated and released before he met with a local trainmaster and provided him with a hand-written statement at 8:45 a.m. before the conductor returned to his residence.[44]

The conductor thought that using a different type of locomotive (wide body) might have prevented the incident.[45]

Conductor 340 (C340)

The C340 stated that he was hired in the summer of 2014 as a conductor trainee and was later promoted in November of 2014 to a conductor, his present position.[46] In describing his duties and responsibilities as a conductor, he said that it is adhering to rule compliance, that the train is billed correctly, going over the paperwork, finding out where the engines are and job briefing his crewmembers, and that he couples engines and cars, fixes hoses or calls somebody to make repairs.[47]

The conductor agreed that their trip was uneventful until Bessemer and he described the pickup at Bessemer where he let the conductor trainee (CT) take charge of the movement from the main track to the coupling of the cars on the Hill track where the CT requested three-step protection before he cut in the air and then proceeded to walk the west side of the cars checking and knocking off the hand brakes and then

[41] See A55 conductor's interview, page 12, lines 4–19.
[42] See A55 conductor's interview, page 12, lines 20–25; page 13, lines 1–8.
[43] See A55 conductor's interview, page 13, lines 9–25; page 14, lines 1–23.
[44] See A55 conductor's interview, page 14, lines 24–25; page 15, lines 1–25; page 16, lines 1–8.
[45] See A55 conductor's interview, page 19, lines 11–25; page 20, lines 1–19.
[46] See 340 conductor's interview, page 7, lines 1–12.
[47] See 340 conductor's interview, page 7, lines 13–25; page 8, lines 1–4.

told the engineer to pull the cars out to the main track.[48] The conductor said he and the CT were looking at the 21 cars as the engineer pulled them out to the main and clear of the main track switch before returning the switch normal so that they could couple to their train, stretched the coupling, again requesting three-step protection, cut in the air and waited until the engineer said the brakes were applied before they returned to the locomotive.[49] The conductor stated that they were doing their transfer test, inspecting the west side of the cars inside the safety of the yard while he was instructing the CT about car counts when he heard static on the radio indicating to him that a train was approaching on main track two prior to them returning to the locomotive to update their paperwork.[50]

The conductor of the 340 said that while they were updating their car information, he heard radio traffic that sounded like the engineer of A55 and so he confirmed that it was and that the A55 engineer indicated that he was backing his train to a crossing.[51] The conductor said he waited at the crossing but he could see the steel and that the A55 conductor was on the back of the engine when the A55 engineer told the A340 conductor not to come up (into the locomotive cab).[52]

The C340 conductor stated that he and his CT assisted the A55 conductor by removing glass from his face and that the emergency responders arrived whereupon the 340 crew was transported to McCalla Yard where they were interviewed before going off duty after the trainmaster took them to their vehicles.[53]

The conductor recalled and described that when they made the pickup of the cars from the Hill track that they rode the locomotive to the coupling, walked the west side of the cars and knocked off three hand brakes, but as the cars were pulled up the hill they watched the move from the west side because they were not able to walk on the east side of the cars because there is no access—"it's a hill, an incline, there's not walking space to be on that side, and bad footing on that side."[54]

The conductor said that when they coupled the cars onto their train on the main that is when we check the pistons, the pads, but "nothing was a problem on the west side."[55] Regarding the lighting conditions where they coupled the cars onto their train, the conductor said they look where they shine their lights (hand held lanterns) but that they were on the "shadow side" (west side) of the light from a street light on the opposite side of where they were.[56] The conductor explained that neither he or the CT were on the east side was because the CT needs to stay with him and

[48] See 340 conductor's interview, page 9, lines 1–23.
[49] See 340 conductor's interview, page 9, lines 24–25; page 10, lines 1–9.
[50] See 340 conductor's interview, page 10, lines 10–18.
[51] See 340 conductor's interview, page 11, lines 2–20.
[52] See 340 conductor's interview, page 11, lines 21–25; page 12, line 1.
[53] See 340 conductor's interview, page 12, lines 1–17.
[54] See 340 conductor's interview, page 12, lines 18–25; page 13, lines 1–17; page 16, lines 21–25.
[55] See 340 conductor's interview, page 13, lines 18–25.
[56] See 340 conductor's interview, page 14, lines 13–24.

they had the protection of the yard on the west side of the cars and because the east side of the cars would have placed them by a "live track."[57]

The conductor was asked if he had any intention of inspecting the east side of the cars, the conductor explained that inspecting the east side while the cars were going through the yard that "there's not a really a good way to see the east side" and went on to say that when he job briefed the CT while they were on the locomotive that they needed to "we got to walk the other side" but that they had to wait on a train to get by me first.[58]

The conductor was asked about rule C100, inspecting cars, and if he and the CT inspected the 21 cars "from top to bottom", the conductor replied that they were looking at the whole body, "top to bottom."[59]

The conductor also explained that he told by the CT he had about six weeks of experience.[60]

In discussing the C100 rule, the conductor explained that where he can inspect both sides of the cars, they pick up at various locations that he does that "every time" but that the Bessemer pickup they do a "transfer test" which is just testing the brakes because they are within 20 miles of where they are going to deliver those cars.[61]

When asked if he had any suggestions on how to prevent this from happening in the future, he said, "Get them crappy scrap cars inspected or done away with it…--have somebody to be able to inspect them."[62]

Engineer 340 (E340)

The 340 engineer stated that he was hired in 2005 and became an engineer in 2008 and has held that position until present and he agreed that his duties and responsibilities include moving the train safely, complying with the rules, he is in charge of moving the train, the conductor is in charge of the train.[63]

The engineer described that his crew went on duty at in Meridian on Train 340 at 5:30 and they were assigned to take the 340 train to Birmingham and that the trip was "uneventful" until they arrived at Bessemer.[64] The engineer said that when they got to Bessemer that the dispatcher routed them onto main track one to make a

[57] See 340 conductor's interview, page 17, lines 6–22.
[58] See 340 conductor's interview, page 19, lines 1–22.
[59] See 340 conductor's interview, page 19, lines 23–25; page 20, lines 1–19.
[60] See 340 conductor's interview, page 22, lines 22–25; page 23, lines 1–3.
[61] See 340 conductor's interview, page 24, lines 13–25; page 25, lines 1–22.
[62] See 340 conductor's interview, page 21, lines 14–20; page 35, lines 20–25; page 36, lines 1–8.
[63] See 340 engineer's interview, page 7, lines 5–20.
[64] See 340 engineer's interview, page 7, lines 23–25; page 8, lines 1–25; page 9, lines 1–25.

pickup of 21 cars off of the Hill track per the MTR (mobile train reporting) notification and after cutting off their cars (and applying hand brakes) clear of the switch they went into the Hill track with light locomotives to reach in grab the 21 cars and return to their train to couple up and complete a brake test.[65] The engineer stated that after safely coupling the 21 cars onto their train on the main that he was instructed to pump the air and that they crew completed a "transfer brake test" because they were within 20 miles of where they would deliver the cars; he said he checked that rule and decided the conductor was right; he also described that the conductor and CT were walking on the west side of the cars and that he later became aware that the piece sticking out "was on the other side."[66] The engineer recalled that while they completed the transfer test that he heard the engineer of A55 call out signals and heard the hot box detector go off as the A55 train approached their position and that they were on the locomotive verifying and updating the 21 car pick up on their device then the head end of A55 passed by their location and that the accident had already happened[67]

The engineer described that as the crew was talking, and as the A55 went by he was monitoring the radio and he saw a piece of steel sticking out up on the hood of the engine and heard the A55 engineer instantly call out on the radio for help, then heard a tone and heard the A55 engineer place the train into emergency and also that the A55 engineer and dispatcher were arranging for an emergency response.[68]

The 340 engineer said that he heard the A55 engineer get permission to back up his train to the closest crossing and that the 340 crew moved their train towards the same crossing where the conductor and CT left the locomotive to assist the other crew while the emergency responders were on their way there and then arrived.[69]

The engineer stated that he thought the 340 crew was transported to McCalla around 5:30 a.m. but he was not sure and that once there provided an audio statement and then taken to their cars in North Shore [Norris Yard] by a trainmaster.[70]

The engineer agreed that being on the east side of the pickup when it was placed on the main that it would placing an employee in harm's way and he went to say that he believed that nobody saw the defective condition (a piece of steel sticking out four feet) before the incident or would have seen a condition like that and not taken action.[71]

---

[65] See 340 engineer's interview, page 10--12, lines 1–25; page 13, lines 1–20; page 21, lines 14–25; page 21, lines 1–16.
[66] See 340 engineer's interview, page 13, lines 21–25; page 14, lines 1–25; page 15, lines 1–15.
[67] See 340 engineer's interview, page 15, lines 16–25; page 1–22.
[68] See 340 engineer's interview, page 16, lines 23–25; page 17, lines 1–25; page 18, lines 1–11.
[69] See 340 engineer's interview, page 18, lines 12–25; page 19, lines 1–25; page 20, lines 1–13.
[70] See 340 engineer's interview, page 20, lines 14–25; page 21, lines 1–2.
[71] See 340 engineer's interview, page 25, lines 4–25; page 26, lines 1–25; page 27, lines 1–2.

The engineer confirmed that the when the conductor and CT walked the west side of the cars after they were placed on the main that the brakes were still applied and that during a transfer brake test, they are not observing the brakes being off.[72]

The engineer responded as to whether the cars should have been inspected while at the Hill track; he stated that he believed he would never have done it there; the engineer also stated that the 340 crew watched the A55 by their location from the locomotive cab and that crews do not have to be on the ground to watch a train go by.[73]

The engineer described that after the impact the conductor and CT went towards the crossing as the A55 was reversing to the crossing and he then pulled the 340 up towards the crossing and that emergency responders arrived but that none of them went back to inspect their train because they were at the crossing consoling the conductor.[74]

The engineer was asked for the time that he had been an engineer if he had an occasion where he had to deal with bad order cars, he replied as cars get inspected by the car department that if they cannot fix them in-train that the car would get orange tagged and never make it into the train or it has to be pulled back out of the train which is something the crew has to do.[75]

The engineer stated that he was not sure if the incidence of bad order cars has increased or decreased since he was hired and that he does not see quiet as much of the cars from where he sits.[76]

The engineer explained that he has an MTR as a backup for the conductor's MTR and that when they make pickups that they update that information via the MTR.[77] When asked about ever noticing cars with unusual conditions at Bessemer Yard, the engineer described that scrap cars are "heads and shoulders different than all other cars" and his opinion was that "maybe we need a higher standard for these scrap cars."[78]

The engineer explained that as part of the process of picking up and adding cars to his train, he or the conductor uses the MTR (an iPhone) to accurately update the consist for the PTC (positive train control) system to ensure correct train length and tonnage.[79]

---

[72] See 340 engineer's interview, page 27, lines 3–25.
[73] See 340 engineer's interview, page 34, lines 24–25; pages 35–37, lines 1–25; page 38, lines 1–11.
[74] See 340 engineer's interview, page 38, lines 12–25; page 39, lines 1–20.
[75] See 340 engineer's interview, page 39, lines 22-25; page 40, lines 1–25; page 41, lines 1–7.
[76] See 340 engineer's interview, page 41, lines 8–25; page 42, lines 1–17.
[77] See 340 engineer's interview, page 42, lines 18–25; page 43, lines 1–25; page 44, lines 1–15.
[78] See 340 engineer's interview, pages 44–46, lines 1–25.
[79] See 340 engineer's interview, pages 47–48, lines 1–25; page 49, lines 1–11.

The engineer was asked what he thought about a rule to perform a C100 before cars are placed on the main, he replied, "it might not be a bad idea… to keep exactly what's happened from happening."[80] The engineer agreed that NS requires a C100 inspection prior to pulling cars from an industry; the crew needs to know if a derail is in place, a dock plate might be attached, if there is something falling between the cars but that on the day in question he did not see anything projecting from the cars.[81] The engineer was asked what FRA could do to prevent this from happening again and the engineer replied that "I don't know that you guys can;" the engineer said the gondolas that have the buckled sides, "maybe we need to bring the scrap cars up to the same standard that we have for all the other cars."[82]

The engineer was asked if the Hill track was the only place where he observed scrap gondolas in the condition like he described, he replied, "scrap steel cars, I mean, they're everywhere in the system…they're not all bad" and the engineer went on to say, "the issue is why is thing fracturing? Why are we having these cars -- in this particular case, how did this happen?"[83]

NS Road Manager (RM)

The RM stated that he was hired as a management trainee in 2017, then was promoted to an assistant after a year and a half and then promoted to the lead trainmaster position on the AGS South for the past two years; he added that he is responsible for the AGS District with 184 employees; three locals in the Birmingham area; six locals in the Tuscaloosa area; 35 customers and approximately 35 trains in a 24-hour period.[84]

The RM said the locals get their switching information from their MTR's and that with U.S. Pipe that if USP does not have room for a delivery of cars that the crew could leave them outside the plant.[85] The RM explained that if a local crew finds a bad order that they can input that information into their MTR and he can handle that with the mechanical department for the necessary repairs; he also said that "everything" is done off of the MTR but that he does have one contact at USP for car movements.[86]

---

[80] See 340 engineer's interview, page 49, lines 23–25; page 50, lines 1–25; page 51, lines 1–7.
[81] See 340 engineer's interview, page 51, lines 23–25; page 52, lines 1–25; page 53, lines 1–2.
[82] See 340 engineer's interview, page 53, lines 3–25, pages 54–55, lines 1–25; page 57, lines 1–7.
[83] See 340 engineer's interview, page 60, lines 7–25; pages 61–62, lines 1–25.
[84] See RM's interview, page 7, lines 4–25; page 8, lines 1–16.
[85] See RM's interview, page 8, lines 17–25; page 9, lines 1–18.
[86] See RM's interview, page 9, lines 19–25; page 10, lines 1–25; page 11, lines 1–5; page 12, lines 21–25; page 13, lines 1–17.

The RM explained that his five-day-a-week local has two types of customers, open and closed gate, and that USP was an open gate meaning that when they had cars to be delivered that those cars would brought to their plant after the crew assesses their MTR information.[87]

The RM said that on the 12th he job briefed with the A39 crew that included the new CT.[88] The RM said that a CT in training needs to be in 100 feet of the conductor and that the crew is required to inspect the freight cars "top to bottom" when the cars leave the plant and ensure that those cars are solid and prepared for pickup including a required brake test.[89] Regarding the lighting at Bessemer Yard, the RM described that it is a remote location, probably not very bright but that nobody has ever complained to him about lighting in Bessemer Yard to him.[90]

The RM believed the C100 rule includes the words "car body" and that he did not think he ever had issues with car bodies reported to him from USP since he has been there but that mechanical repairs are usually made at the facility.[91]

The RM described there are three tracks at Bessemer Yard, or the SA line, with a capacity of about 15 cars each near USP and that the yard (depot or crew reporting location) was shut down about 2–3 years ago and they moved everything down to McCalla.[92]

The RM related that the A39 conductor performs a "transfer brake test" when the cars leave USP because the distance is three mile and the A340 conductor tells his crew about road work events at Bessemer from information he receives from his MTR and they are required to do a Class 1 brake test and that the A340 terminates in Birmingham.[93]

The RM explained that his territory does have a safety committee that meets monthly and that he has conducted safety audits on C100 but not at USP but he has done required operational testing of a crew at USP.[94] The RM also explained that it is very uncommon not to have a CT on each crew and that although he does not do any initial training with CT, when he sees them in a switching yard he does observe them and asks if they have any issues, concerns, questions and how the training is going.[95]

---

[87] See RM's interview, page 11, lines 6–25; page 12, lines 1–21.
[88] See RM's interview, page 14, lines 5–25; page 15, line1.
[89] See RM's interview, page 17, lines 17–25; page 18, lines 1–16.
[90] See RM's interview, page 19, lines 9–20.
[91] See RM's interview, page 19, lines 22–25; pages 20–21, lines 1–25; page 22, lines 1–5.
[92] See RM's interview, page 22, lines 19–25; page 23, lines 1–12.
[93] See RM's interview, page 28, lines 17–25; page 29, lines 1–17.
[94] See RM's interview, page 29, line 18–25; page 30, lines 1–25; page 31, lines 1–5.
[95] See RM's interview, page 31, lines 6–25; page 32, lines 1–7.

Regarding the time in service of the deceased, the RM thought he hired in June [of 2022].[96]

The RM described that train and enginemen employees take an annual rules training, and physical characteristics and he recalled that when he hired on he went through training at McDonough for three weeks where he was taught how to do a C100 with the expectation of making sure the wheels were on the track, check safety appliances, air hoses, cut levers, car body but that he never was told he was a qualified mechanical inspector nor did he feel like one but that he had been shown the basics.[97]

The RM said that USP is switched four time per week with more cars being pulled towards the beginning of the week.[98]

The RM clarified that all CT go through standardized training at McDonough and that the MTR device is actually a company issued cell phone with the MTR app on it and there was another app with a track view like the dispatcher's screen but with a five-minute delay.[99] The RM said that he and others do check rides with CT's to gauge where they think the CT's are with their training, periodic observations and assessments to figure out their on-the-job application.[100]

The RM was asked if there would be a problem with overloading at USP and the RM said there would not be because they unload at USP but that the conductors would be responsible to check for those conditions.[101] The RM explained that he has a training coordinator and conductors who work with CT to require the CT's have at least two evaluations and two trains runs before they markup time.[102]

About the CT on A55, the RM said it was his understanding that he had just finished two or three days and finished his road training and was just getting into local training.[103] The RM was asked if he knew the A340 conductor and the RM said he did and that the A340 conductor was qualified to go back forth from Birmingham and Meridian and familiar with Bessemer Yard and qualified to do a Class 1 brake test on the main line to make sure of train continuity; the RM said the A340 conductor was qualified on all of those things but that he did not finish the Class 1 brake test on the day of the incident because he was waiting on a train to pass their location.[104]

---

[96] See RM's interview, page 32, lines 8–13.
[97] See RM's interview, page 32, lines 17–25; page 33, lines 1–25; page 34, lines 1–24.
[98] See RM's interview, page 34, line 25; page 35, lines 1–8.
[99] See RM's interview, page 37, lines 9–25; page 38, lines 1–18.
[100] See RM's interview, page 54, lines 7–25; page 55, lines 1–5.
[101] See RM's interview, page 38, lines 22–25; page 39, lines 1–15.
[102] See RM's interview, page 39, lines 16–25; page 40, lines 1–7.
[103] See RM's interview, page 40, lines 8–25; page 41, line 1–4.
[104] See RM's interview, page 41, lines 5–25.

The RM stated that the Hill track and the SA line are the same thing and that the Hill track is about five car lengths from the main track where he thought that five trains including an Amtrak had passed by that location.[105] The RM added that he believed that A55 was the first train to go by A340 and that the Hill track is the only place where the local leaves cars from USP for a northbound pickup because of how the switches face south.[106] The RM stated that the crew [A340] is required to see a train that is passing by and report all is clear and that they typically stay on the locomotive.[107]

The RM recalled that he was notified of the emergency by the dispatcher and that he drove to the scene.[108] The RM elaborated that after being notified that an employee had been struck by a piece of steel that he thought of Bessemer and asked that an employee on-scene call him to which the engineer of the A340 did and informed him there was an employee fatality.[109] The RM explained that he was the first manager on-scene and he was not involved in any interviews of the crews but he thought the emergency responders were there in six minutes and did a good job.[110]

FOLLOW-UP INTERVIEWS

U. S. Pipe Personnel

On February 7 & 8, 2023, NTSB investigators interviewed seven USP personnel and one contractors who was working on USP property prior to the NS employee fatality accident.

[105] See RM's interview, page 44, lines 16–25; page 45, lines 1–23.
[106] See RM's interview, page 46, lines 14–25; page 47, lines 1–19.
[107] See RM's interview, page 52, lines 4–15.
[108] See RM's interview, page 51, lines 22–25; page 52, lines 1–3.
[109] See RM's interview, page 52, lines 21–25; page 53, lines 1–11.
[110] See RM's interview, page 53, lines 12–25; page 54, lines 1–5.

USP Safety Manager (SM)

The SM stated that she started with USP in April of 2018 as a technician before moving up to a shift safety assistant position and when the safety coordinator position with U.S. Pipe became available, she applied for it and was promoted to that position and held it for the past two years to the present.[111] Regarding her duties and responsibilities, the SM said that she ensures all training is done and kept records; maintain OSHA training; each department has inspections records; safety huddles; conducts new hire orientation classes; "preaches safety like it's the King James at U. S. Pipe."[112] In terms of the number of employees and different departments at USP, the SM said USP has approximately 600 employees that work in mill services, melting, casting, the core room, large diameter casting, small diameter casting, the ovens, number 3 and 4, we have a kneeling, the pipe run, cement lining, packaging, and shipping.[113]

Regarding OSHA's requirements, the SM's stated OSHA visited the facility to check on past injuries and records.[114] The SM commented that when Quickcrete bought the company out, they "revamped" the safety rules compliance for what USP wants and a flavor of OSHA.[115] When asked about any interaction with FRA, the SM replied that just this incident when they wanted to see the surveillance footage and USP answered their questions.[116]

The SM said that during the walk-arounds they would see somebody walking under suspended loads, seat belts not on and climbing ladders above 4 feet without fall protection and she agreed that those observations were opportunities for "you see something, you say something," and she went on to say that she would counsel those employees to tell them what they were doing wrong so they won't get hurt.[117]

The SM described the classroom training at USP as 16 to 18 people in orientation training; however, in the monthly training there could 10—30 people depending upon the shift and time of day and that she keep records of attendance for OSHA and she confirmed that in the training she conveys the concept of "see something, say something."[118]

---

[111] See USP SM's interview, page 6, lines 5—25; page 7, lines 1—12.
[112] See USP SM's interview, page 7, lines 13—25; page 8, lines 1—25; page 9, line1.
[113] See USP SM's interview, page 9, lines 2—18.
[114] See USP SM's interview, page 9, lines 19—25; page 10, lines 1—25.
[115] See USP SM's interview, page 11, lines 1—25; page 12, lines 1—8.
[116] See USP SM's interview, page 12, lines 13—25; page 13, lines 1—8.
[117] See USP SM's interview, page 13, lines 9—25; page 14, lines 1—12.
[118] See USP SM's interview, page 14, lines 13—25; page 15, lines 1—24.

The SM said that USP has "nothing at all" with regard to training employees for mechanical inspections or anything with the cars [railroad] but that USP does railroad safety training like you look listen watch your distance and mobile equipment.[119] The SM said that their people know not to walk between railroad cars but in orientation the employees are not taught to tie hand brakes or mechanical inspections; however, in the mill services department where those employees work with railroad cars that they are taught hands-on training like spotting cars and applying a derail.[120] The SM recalled that some employees have informed her of a broken window in their locomotive or that the air conditioner was not working but that they are not expected to pick out mechanical defects but that she was aware of a couple of instances when a car was rejected coming in maybe by the railroad.[121]

The SM explained that their one locomotive is owned and operated by USP and that those employees work for the Mill Services department who are trained in that department to daily inspect the equipment they use but she was not aware of any issues with the equipment and she has not personally move cars nor was she in the loop about car deliveries.[122]

The SM described that all of the railroad cars from NS and CSX do come through the same gate entrance and are weighed and recorded at the scale house and then moved for unloading and weighed again before being spotted on one of two tracks and that she was familiar with that process and she did not have any issues with the process.[123]

Regarding the SM's thoughts about preventing a reoccurrence, the SM said, "Norfolk Southern probably needs to be more compliant with inspecting their cars coming in and out."[124]

USP Safety Coordinator (SC)

The SC stated that he was hired at USP on November 30, 2020, as a safety coordinator and that as of January 9, 2023, he became the interim safety manager and that his duties and responsibilities are day-to-day safety interactions and more or less, at the time, assisting the various safety managers I have worked for in implementing the safety program for U.S. Pipe including the training of new hires, OSHA monthly trainings, any kind of specialized forklift or crane training.[125]

---

[119] See USP SM's interview, page 16, lines 12–20.
[120] See USP SM's interview, page 16, lines 21–25; page 17, lines 1–25; page 18, lines 1–9.
[121] See USP SM's interview, page 18, lines 10–25; page 19, lines 1–11.
[122] See USP SM's interview, page 19, lines 12–25; pages 20--21, lines 1–25; page 22, lines 1–9.
[123] See USP SM's interview, page 25, lines 3–25; page 26, lines 1–25; page 27, lines 1–15.
[124] See USP SM's interview, page 27, lines 16–25; page 28, lines 1–9.
[125] See USP SC's interview, page 5, lines 8–25; page 6, lines 1–8.

The SC said he became aware o[126]f the incident from a news clip on social media and when he got a call that FRA was at the back gate and after they discussed the incident and provided him with a car number, the SC researched USP's data and then put together some surveillance video clips for FRA's review.

The SC said he has not had any mechanical training about railroad cars and that he would not know a low side from a high side gondola because he has tried to stay away from railroads throughout his career and that he had not seen anything out of the ordinary with cars.[127]

As part of the SC's interview, he explained each video clip that he had researched and provided to both NTSB, FR and the Parties for viewing on December 14, 2022, in USP's training room. The following are descriptions of those clips.

The SC described the first clip as when a NS train arrived at their back gate at 12:05 p.m. on December 4, 2022, a normal procedure, the entered the property at 12:35 p.m. with a side view of the suspect car, SSEX100843, and that he did not notice anything unusual about the car, he added, "it's just the train coming in."[128]

In reviewing the second clip, the SC described it shows on December 6, 2022, at 3:58 p.m., car SSEX100843 at the scale house being weighed (loaded) and that he did not notice anything unusual about the car.[129]

In the third clip, the SC described that the car (SSEX100843) arrives at the baghouse at 4:16 p.m. on December 6th where it was unloaded by a crane operator, and he explained that after they are unloaded the empty cars are then taken back to the scale house to be weighed and the CSX cars are put on the CSX out track and the NS cars are placed on the NS outbound track.[130]

In the fourth clip, the SC described the car being unloaded on December 7th at 3:40 a.m. where it shows a piece of angle iron breaks or springs loose from the top sill, noting that this video is challenged because of the dust and fog in the area that morning.[131]

In the fifth clip, the SC described that in the same area, a few hours later at 6:20 a.m., an environmental contractor (EC) notices the broken piece on the car and puts up caution tape going from the car to the baghouse.[132]

---

[126] See USP SC's interview, page 6, lines 9–25; page 7, lines 1–9.
[127] See USP SC's interview, page 9, lines 10–25.
[128] See USP SC's interview, page 10, lines 2–25; page 11, lines 1–19.
[129] See USP SC's interview, page 11, lines 20–25; page 12, lines 1–13.
[130] See USP SC's interview, page 12, lines 14–25; page 13, lines 1–12.
[131] See USP SC's interview, page 13, lines 13–25; page 14, lines 1–21.
[132] See USP SC's interview, page 14, lines 22–25; page 15, lines 1–14.

In the sixth clip, the SC described it shows that on December 7th at 9:53 a.m. the EC is seen taking down the caution tape from the suspect car.[133]

In the seventh clip, the SC described it shows on December 7th at 8:37 p.m. a pair of cars, including SSEX100843, are being weighed at the scale house and he said of the suspect car as it was placed on the scale, "it has a piece of angle hanging off of it that it did not have when it left the scales to be moved."[134] The SC went on the agree that another piece of angle iron was at the B end of the car and that the cars were pulled off of the scale area at 8:40 p.m.[135]

During the interview, investigators were made aware of a new clip showing movement of the cars before they unloaded. In the eighth clip, the SC described that it shows that on December 7th at 7:48 a.m. a couple of cars were moved about 10–15 feet to facilitate unloading and that the tape was still attached to the suspect car until the movement broke the tape.[136]

Investigators were shown a video clip that time stamped the arrival of the NS crew on December 12, 2022, at about 12:30 p.m. However, in the ninth clip, the SC described a NS train departing (outbound) USP property on December 12, 2023, at 12:39 p.m. showing car SSEX100843 and on this view you clearly see two broken pieces of angle or the piece of angle is on the side of the car broken into two and it's hanging off the side of the car attached to the top sill and then there are two NS employees who appear at the gate and close it at 12:40 p.m.[137]

In the tenth clip, the SC described a view on December 12, 2023, at 12:28 p.m. of empty cars on the NS spur (outbound storage track) and two persons coupling a locomotive to empty cars and then picks up additional empties before making a final pull to leave USP.[138]

The SC stated that it was his knowledge "based purely on friends he has outside the railroad industry that are conductors, that their whole responsibility is to walk their train, if there's anything wrong with the cars, they can reject them prior to leaving the yard."[139]

The previous description of surveillance video clips were selected from dozens of clips that did not show train or car movements.[140]

---

[133] See USP SC's interview, page 15, lines 15–25; page 16, lines 1–11.
[134] See USP SC's interview, page 16, lines 12–25; page 17, lines 1–3.
[135] See USP SC's interview, page 17, lines 4–25; page 18, lines 1–6.
[136] See USP SC's interview, page 18, lines 7–25; page 19, lines 1–25; page 20, lines 1–19.
[137] See USP SC's interview, page 20, lines 20–25; pages 21–22, lines 1–25; page 23, lines 1–15.
[138] See USP SC's interview, page 27, lines 16–25; page 28, lines 1–25; page 29, lines 1–9.
[139] See USP SC's interview, page 27, lines 1–8.
[140] See USP SC's interview, page 23, lines 16–25.

The SC said he had a couple of occasions to interface with OSHA and that he did not even know about FRA until they he received a call that they were at the back gate but that he accommodated them.[141]

USP Safety Director (SD)

The SD stated that for 25 years prior to joining USP she worked in the highway construction industry and that she was hired by USP in August of 2022 in role of safety director.[142] The SD described her duties and responsibilities as overseeing all of the safety programs, safety coordinators and managers; improvement of the safety culture at USP; tracking the training; safety behavior audits; training of supervisors; trend analysis; engagement of the workforce and forming committees.[143]

The SD explained that USP employees roughly 600 depending upon the season and the numbers can range from 530 to 660, but with turnover it averages about 600.[144]

The SD describes the term "mock walk throughs" as a process whereby an insurance broker conducted a mock OSHA audit over a couple of months for four of USP's foundries to form a baseline before a second visit and they eventually visit all of the departments within the facilities and that takes about a year.[145]

In terms of being notified of the incident, the SD recalled that she was in Atlanta attending some leadership training on December 13th when she received a call that FRA was at our back gate and wanted in the facility and so she decided to return to the USP plant to assist with the investigation beginning on December 14th.[146]

The SD described that OSHA comes out periodically and were on property last September of 2021 to check records before she was at USP and she recalled that OSHA was at USP's Lynchburg facility for a complaint issue that turned out negative.[147]

The SD commented that she saw opportunities for improvement in the safety culture and although USP owns their property and not the rail cars, she was open to working with NS to make things better.[148] The SD said that the day after the incident, CSX came out to inspect the tracks and that NS came out and did what CSX did by inspecting the condition of the rail and NS provided USP with a piece of paper that

---

[141] See USP SC's interview, page 25, lines 11–25; page 26, lines 1–2.
[142] See USP SD's interview, page 6, lines 9–15.
[143] See USP SD's interview, page 6, lines 16–25; pages 7–8, lines 1–25.
[144] See USP SD's interview, page 9, lines 1–11.
[145] See USP SD's interview, page 10, lines 4–25; page 11, lines 1–12.
[146] See USP SD's interview, page 11, lines 13–25; page 12, lines 1–10.
[147] See USP SD's interview, page 13, lines 14–25; page 14, lines 1–25.
[148] See USP SD's interview, page 15, lines 1–17.

said they came on site and the only recommendation is we needed a clearance sign and so we put that up at the gate.[149]

The SD said their safety program is designed to accept suggestions for training from those who work in the plant but that to her knowledge, nobody has suggested there was a problem with the equipment [railroad cars] or needed repairs nor have their crews had problems moving cars around in the plant.[150]

The SD described the training at USP to include daily safety huddles by every supervisor; a weekly single point on a critical rule or OSHA compliance; basic safety fundamentals; monthly required OSHA safety; behavioral training on near misses; hazard recognition; fall protection (OSHA's version); however, she said there is no OSHA expectation that USP employees receive are trained on how to inspect railroad equipment, railroad cars and that USP does not have a training module for their employees on how to inspect a railroad gondola car.[151]

The SD described that when employees, in general, see something that they are motived to let either her or their supervisors know of a problem, the "see something, say something" thing.[152]

USP Contractor—Environmental Maintenance (EM)

The EM stated that he has worked for Thornton Welding since October of 2022 and is a contractor working on USP property taking care of the baghouse making sure the pumps are working and changing the bags in the baghouse.[153]

As part of the EM's interview investigators played the video showing him at the baghouse and in the vicinity of the suspect damaged car (SSEX100843). The EM confirmed that he was putting up the warning tape tied to the corner of the car to make someone aware that there is something there, something that's about to fall off the train or the car.[154] To clarify, the SM said he did look up at the metal and thought it might be a safety problem but that in all of tie he had worked at USP this was the only one he had ever seen like that.[155]

As a follow-up to showing the EM the first video, investigators showed the EM a second surveillance video taken on December 7, 2022, at 9:52 a.m. of the car and the baghouse vicinity. The EM recalled that he normally comes to work between 5:30 to 6:00 a.m. and that the video did show him picking up tape that had been

[149] See USP SD's interview, page 15, lines 18–25; page 16, lines 1–12.
[150] See USP SD's interview, page 16, lines 23–25; page 17, lines 1–19.
[151] See USP SD's interview, page 17, lines 20–25; pages 18–19, lines 1–25; page 20, lines 1–14.
[152] See USP SD's interview, page 20, lines 16–25; page 21, lines 1–10.
[153] See contractor EM's interview, page 6, lines 8–25.
[154] See contractor EM's interview, page 7, lines 10–25; pages 8–9, lines 1–25; page 10, lines 1–11.
[155] See contractor EM's interview, page 10, lines 18–25; page 11, lines 1–4.

pulled down, broken, and he said that he had put the tape up so that people would get around the car but that he was sure that he did not say anything or report it to anybody.[156] The EM said that in hindsight he wished he would have cut the metal off.[157]

The EM said that his work at USP is OSHA related and that he had not attended any of their training recently or in the past; however, he did recall that since he had been working at USP he did receive OJT from another USP employee.[158] The EM confirmed that he has never had any mechanical inspection training on railcars nor has he ever made any repairs or been asked to make repairs or inspections.[159]

The EM said about preventing a reoccurrence, "Well, if I ever see anything like that again, it won't be left alone and, you know, we'll get -- we'll take care of it."[160]

USP Switchman and Train Operator (SM & TO)

The SM said that he has held the position of switchman for over a year, works a twelve hour shift from 3:00 p.m. to 3:00 a.m. and that his duties and responsibilities are to maintain each car when they pull, weigh them up, and I weigh them up again when they empty.[161] The TO said he has been employed at USP for 20 years and worked as a train operator on and off for the past two years and feels comfortable operating the train and his duties include to weigh loaded cars, bring cars up from -- bring cars up the hill, carry cars down the hill, weigh them in and out.[162]

Investigators took an opportunity to show the SM and TO a surveillance video clip taken on December 7th at 8:35 p.m. of gondolas being positioned at the scale house. The SM agreed the video showed him going in and out of the scale house and when asked about the second gon being pushed onto the scale the SM said, "the gon is broke…it got a defect on it;" and he added, "that car wasn't broke when I took it up the hill, it wasn't broke, it wasn't damaged when I took it up the hill on the 6th."[163]

The TO after watching the same video footage said, "it's always been to my knowledge, we bring it up the hill, if it's got a defect, we get down, we get it off the hill, it always been to my understanding that the railroad, we don't do anything to the railroad cars to fix them, they inspect them when we go out.[164] The TO added that

---

[156] See contractor EM's interview, page 11, lines 5–25; page 12, lines 1–25; page 13, lines 1–5.
[157] See contractor EM's interview, page 13, lines 8–13.
[158] See contractor EM's interview, page 15, lines 20–25; page 16, lines 1–5; page 17, lines 21--25.
[159] See contractor EM's interview, page 16, lines 24–25; page 17, lines 1–18.
[160] See contractor EM's interview, page 18, lines 16–19.
[161] See USP SM's interview, page7, lines 23–25; page 8, lines 1–18.
[162] See USP TO's interview, page 8, lines 19–25; page 9, lines 1–25; page 10, lines 1–3.
[163] See USP SM's interview, page 10, lines 4–25; page 11, lines 1–14.
[164] See USP TO's interview, page 11, lines 15–20.

"if it's causing a problem getting it on and off the hill, then we got to get somebody to do something about it right then, but we coming to this car and never, never told us not to move it, but we can move it safely and get it back to where it went,….without tearing up anything, we could get it back in place, where it goes to go out, because to my understanding it always been that, you know, they inspect their cars before they carry them out. We're not to do any work on those cars."[165]

The TO stated that after they take them off of the scale that they take those cars to the fence track for Norfolk to pull theirs out.[166]

The SM stated that he saw something with the car and said something to the TO; the TO said, "if he reports something to me, if we're not -- if I'm not in danger, Lary, myself, or anybody else, I can get it moved from one position to the other one and we're not destroying anything or tearing up the cars or hurting anybody, I always put them back where they go and that's where it is because, to my understanding, it's always being that they inspect their cars before they take them out and I'm not to do any work on those cars."[167]

The TO responded to a hypothetical question that if in the future if USP voluntarily elected to change policy or procedure about seeing something on a car and to tell somebody about it, the TO replied that he could contact somebody [i.e., the Mills Services supervisor] and the SM agreed with that response.[168]

The SM characterized USP's training as "very good" and that he and the TO work as a team and that they have good communication and they are careful with handling the cars, the TO agreed and they both stated they fell comfortable doing their work.[169]

The SM and TO said that inspecting the cars is not their job and there is no communication between them and the railroad about the cars and their work is mostly done in the dark and the TO added they never see the railroad guys handling the cars.[170] The TO also stated that prior to this incident, since he had been at USP he had never experienced anything like this with a part of the car that been broken or anything.[171]

---

[165] See USP TO's interview, page 11, lines 21–25; page 12, lines 1–6.
[166] See USP TO's interview, page 15, lines 2–11.
[167] See USP EM's and TO's interview, page 15, lines 22–25; page 16, lines 1–15.
[168] See USP EM's and TO's interview, page 16, lines 16–25; page 17, lines 1–6.
[169] See USP EM's and TO's interview, page 17, lines 7–25; page 18, lines 1–2.; page 20, lines 15–19.
[170] See USP SM's and TO's interview, page 21, lines 22–25; page 22, lines 1–25; page 23, lines 1–12.
[171] See USP TO's interview, page 27, lines 4–12.

About moving cars up the hill to spot for the crane unloading, the SM stated he knows when he comes to work, he knows how many cars to bring up the hill to keep the crane feeding the plant and that they do not need a sheet to tell them how to keep things moving, the TO agreed with that description.[172] The SM also said that he records the lightweight and provides the information to the scale operator at a remote location and the railroad is eventually notified to pick up the empties.[173]

Both the SM and TO stated that they were interviewed about their handling of the car and that person was later identified to NTSB as a USP hired accident reconstructionist.[174]

The EM felt that to prevent a reoccurrence, the railroad should inspect their own cars; the TO added that if the EM tells him that there is something wrong with a car from now on, they will leave in on the scale and make sure somebody is able to come and look at that car before—it won't go—it won't go to the out track[175].

USP Crane Operator (CO)

The CO indicated that he has worked at USP almost 40 years having worked multiple positions until he moved into the senior crane operator's position for the last 25—30 years; he added, in his position, he goes by a monitor in the crane that supplies information as to what material they want and the exact weights of the charge that they want him to build, he waits for them to drop it and starts over.[176]

The CO explained that one has to "want" to do his type of work, it's elevated and you have to be mindful of others around your area, and it requires months of training to get used to how the crane works; he works 12 hours a day, six days a week and he said he feels comfortable doing the work and adequately trained; he concluded with a comment that he did not need to see a video as he had seen it recently.[177]

The CO characterized the video as showing the outside track, the one closest to the baghouse, or the furthest one away from his position, and that he saw in the video when the rail broke on the outside of the car, "it broke off and down," so from his perspective he said it was not visible; he added that if it had been on a right side of the car where he could have seen it, he would have reported it to his supervisor.[178]

---

[172] See USP EM's and TO's interview, page 27, lines 15—25; page 28, lines 1—25; page 29, lines 1—8.
[173] See USP EM's interview, page 31, lines 17—25; page 32, lines 1—5.
[174] See USP EM's and TO's interview, page 32, lines 6—25; page 33, lines 1—25; page 34, lines 1—12.
[175] See USP EM's and TO's interview, page 35, lines 8—11; page 36, lines 5—12.
[176] See USP CO's interview, page 6, lines 8—25; page 7, lines 1—15.
[177] See USP CO's interview, page 7, lines 16—25; page 8, lines 1—25; page 9, lines 1—16.
[178] See USP CO's interview, page 9, lines 16—25; page 10, lines 1—23.

USP Mills Handling Supervisor (MHS)

The MSS stated that he has been employes at USP for 10 years and the past seven years in his current position as Mills Handling supervisor; he added that his duties include making sure the equipment runs; keep the mill running and doing it safely; moving rail cars to be weighed; unload them; bring them back and weigh them out; and have the scale master contact the railroad to release the cars; set the cars out to be pulled.[179] The MHS described that for the cars they have ordered that they are not in control of when cars arrive; however, the scale master, who works remotely and not actually at the scale house, he releases the cars via e-mail and they have not experienced any big problems with cars coming in or releasing them.[180]

The MHS explained that he had been seven years as a contractor in Mills Handling and felt comfortable in doing the work; he added that a lot of the work is "hands on" and they have had training on running the locomotive and switching.[181] The MHS went on to explain that his expectation is that if the crew "sees something, they say something" regarding issues with the cars; he provided an example of a broken brake line would be reported to the railroad but he said that would be "very rare." [182]

Investigators played a surveillance video tape for the MHS showing his arrival in a golf cart with his supervisor before the suspect car was moved on December 7, 2022, at 7:45 a.m. The MHS described that the crane operator called him and told him that the car was roped off and that he has been told not to move cars that are taped off; the MHS said they wanted to move the car about ten feet and did move it but he said, "I could tell that there were problems on the railcar at the top of the rail car."[183] but he did report the condition to his supervisor and that is why his supervisor was with him in the golf cart; he said his supervisor okayed the movement of the car (the ten feet) and he added that they hoped they would get it fixed and that his guys knew not to pull cars with caution tape.[184]

The MHS said nothing happened when they moved the car ten feet, except one piece of the tape broke and that a switchman can be seen walking into view and that the video shows the MHS, his supervisor and the golf cart leaving the view of the surveillance camera.[185] The MHS stated that there was no follow-up action to their going up there and visiting where the cars were.[186]

---

[179] See USP MHS's interview, page 6, lines 5–25; page 7, line 1.
[180] See USP MHS's interview, page 7, lines 2–21.
[181] See USP MHS's interview, page 7, lines 22–25; page 8, lines 1–17.
[182] See USP MHS's interview, page 8, lines 18–25; page 9, lines 1–18.
[183] See USP MHS's interview, page 9, lines 19–25; pages 10 and 11, lines 1–25; page 12, lines 1–2.
[184] See USP MHS's interview, page 12, lines 3–25.
[185] See USP MHS's interview, page 13, lines 1–25.
[186] See USP MHS's interview, page 14, lines1–20.

The MHS said if the same set of circumstances happened tomorrow that the car would not be released until it is fixed and it would not be moved to the out track and the railroad would be notified to come and look at the car; the MHS agreed that he, his supervisor and the employees who work for him moving cars are trained to cite or detail mechanical defects.[187] The MHS said that when they moved the cars ten feet that no harm came to any person and that although he had been trained on switching, coupling and decoupling cars, he had never been told to be looking for these defects on cars that were not his when he was around them.[188]

The MHS explained they do not use air when they move cars around; he added that if they have anything to report about a car that the scale master does that via e-mail but that it is "very rare."[189] The MHS described that in the 17 years he has been at USP, he only recalls three times where he was involved that the railroad has had to come in put up their derails and work on it [a railroad car]; he added that if the tape was not taken down that the car would have still been sitting there waiting for kind of disposition from the railroad to come out and fix it.[190] And on a point of clarification, the MHS agreed that when the scale master communicates with the railroad, he logs onto the railroad's site and flags it [receives something from the MHS about something wrong with a car] on their website, the scale master does not send an e-mail.[191]

The MHS was not opposed to receiving a little more education on what to look for on cars and thought it might be more beneficial for the newer employees.[192]

The MHS explained that CSX comes onto their property once a month to look at the tracks; however, he said that the one time NS came out was two days after the accident; the MHS agreed that when the railroads come to inspect track that they do not look at every track that UPS has and that USP contracts with personnel to perform those infrastructure inspections.[193]

---

[187] See USP MHS's interview, page 14, lines 21–25; page 15, lines 1–25; page 16, lines 1–16.
[188] See USP MHS's interview, page 16, lines 17–25; page 17, lines 1–6.
[189] See USP MHS's interview, page 18, lines 9–25; page 19, lines 1–25; page 20, lines 1–12.
[190] See USP MHS's interview, page 20, lines 13–25; page 21, lines 1–23.
[191] See USP MHS's interview, page 21, lines 24–25; page 22, lines 1–11.
[192] See USP MHS's interview, page 22, 12–25; page 23, lines 1–14.
[193] See USP MHS's interview, page 23, lines 15–25; page 24, lines 1–25; page 25, lines 1–5.

During the closure of the interview, the MHS informed investigators that he was aware of another occasion when a similar defective condition was found on a rail car.[194] The MHS elaborated in his description saying in occurred on January 11, 2023, where a piece of angle iron broke loose [sticking out] from the top sill of car PRSX835 [a high side gondola], and he continued to say that he notified the scale master who then contacted the railroad [CSX] and the shipper of the car and somebody came out to repair the car by cutting a piece off before somebody at USP confirmed that the car was good to go.[195]

Regarding one initiative started by USP or solution for the prevention of a reoccurrence, the MHS described that he makes one of his scrap inspectors every morning and before he leaves to visually inspect that nothing is hanging off a railcar after those cars have been unloaded.[196]

[194] See USP MHS's interview, page 25, lines 15–25; page 26, lines 1–25.
[195] See USP MHS's interview, page 27–29, lines 1–25; page 30, lines 1–14.
[196] See USP MHS's interview, page 31, lines 21–25; page 32, lines 1–13.

POSTACCIDENT ACTIVITIES

Damaged Equipment Car Condition Images:

During the inspection of the damaged locomotive and gondola, investigators recorded the following images:

Figure 1. View of angle iron after entering the locomotive cab where is was impelled into the electrical cabinet. (Source: Photo from FRA)

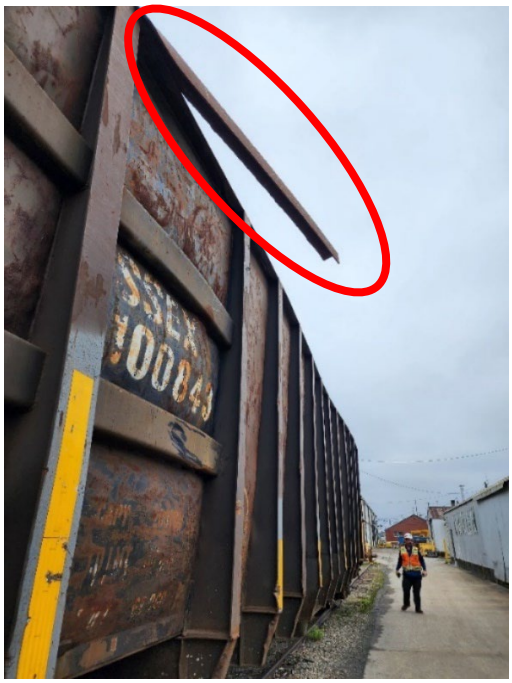


Figure 2. Additional angle iron hanging from the top rim of the gondola at the B end of car SSEX100843. The angle iron at the A end of the car penetrated into the locomotive. (Source: Photo from FRA)

Figure 3. View of angle iron. (Source: Photo from FRA).

Figure 4. View of the east side of SSEX 100843, note the outward bulge and tact welds. (Source: Photo from FRA).

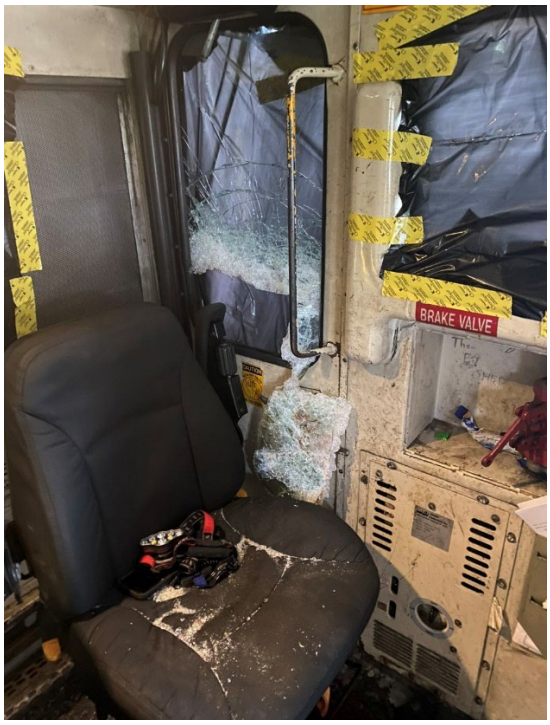


Figure 5. View of seat where conductor trainee of train A55 was sitting. (Source: Photo from FRA)

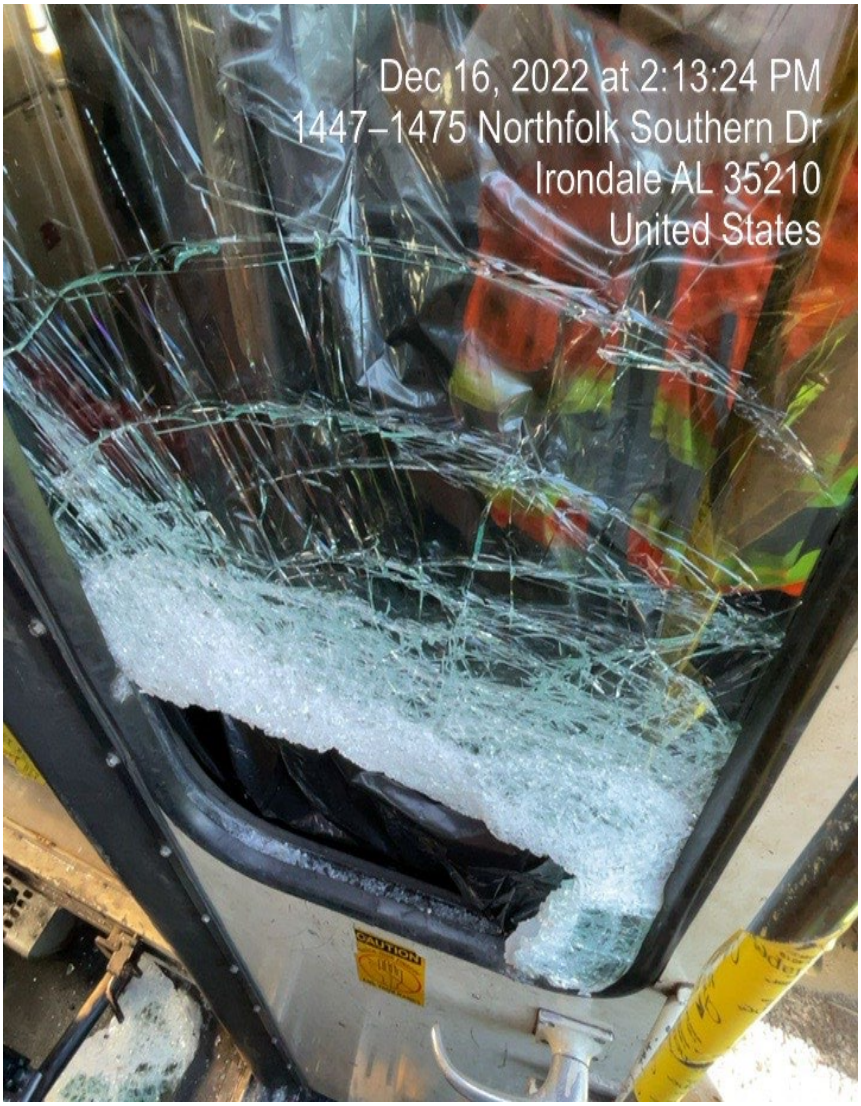


Figure 6. View of window located in the doorway into the locomotive cab NS 6301. The door is located on the west side of the locomotive as it was traveling northbound on main track 2. (Source: Photo from FRA)

NS provided the investigation with estimated damages of $1,300, damages to the locomotive and gondola car.

Event Recorder Data:

The following event recorder download graphic and matrix presents the data from train A55 and the observations of the data contained in the graphic.

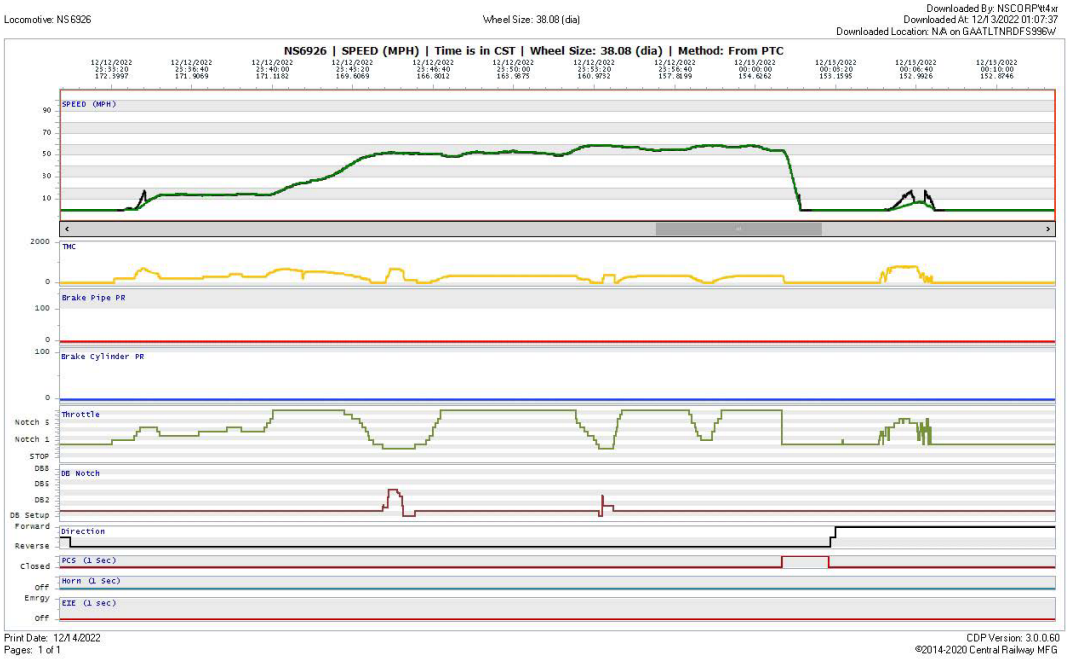


Figure 7. Event recorder data.

Observation from the event recorder data graph selected from NS 6926:

Time	Loco	Loco	Observation
00:01:05	6301		Locomotive abruptly stops supplying tractive effort (TMC 0)
00:01:06	6301		Engineer begins sounding horn
00:01:09	6301		PTC indicates brake pipe pressure reduction at emergency rate Train speed 54 mph
00:01:09		6926	PCS opens, throttle changes from N8 to idle. Tractive effort reduces to 0 over the next 6 seconds. Train speed 54 mph
00:01:11	6301		PCS opens, throttle changes from N8 to idle. Train speed 54 mph
00:01:28	6301		Engine occupies 32nd St crossing. Train speed 40 mph
00:01:55	6301	6926	Train stopped
00:02:19	6301		EIE (Engineer Initiated Emergency) channel indicates engineer placed automatic brake handle in emergency position.
00:03:00	6301		Engineer moves automatic brake handle from Emergency to Release. (EIE off)
00:03:07		6926	PCS closes on 6926 indicating reset and brake release
00:03:10	6301		PCS closes on 6301 indicating reset and brake release
00:03:10		6926	Reverser centered
00:03:11	6301		Reverser centered
00:03:21		6926	Reverser indicates position in opposite direction of previous move.
00:03:22	6301		Reverser indicates position in opposite direction of previous move.
00:05:10	6301	6926	Throttle advanced, initiating a reverse move.
00:05:13	6301	6926	6926 begins loading tractive effort, 6301 does not load (does not provide tractive effort toward moving the train)
00:07:27	6301	6926	Train stops with 6301 on 32nd St. road crossing.

Table 1. Observations from event recorder data.

The distance calculations are based on GPS position using Google Maps: (Combined GPS uncertainty 34 feet) Stopping Distance –00:01:11 PCS open on 6301 to stop 00:01:55 – 1,876 feet. The reverse movement of train A55 from stopped position back to 32nd Street crossing were calculated at 699 feet. (Reverse move to 32nd St –00:05:10 to 00:07:27 –699 feet.)

Track and Signal System Description (Calculation of POC)

During the on-scene site visit, investigators arrived at consensus for the approximate location of the point of collision (POC) and documented it. The POC is at about milepost 153.5 on main track 1. The main tracks in the area of the incident are identified as main tracks 1 and 2. South of the POC there is a crossover set of switches for movement between main track 1 and 2, as well as a set of crossover switches that lead into the access tracks to the Hill track (See photos later in this report). Both main tracks are constructed of 132- or 136-pound continuous welded rail (CWR) that are affixed to wooden crossties with conventional track cut spikes. In the area of the incident the crossties are box anchored every tie. The track centers measured 12′ 11 ¾ inches (nominally 13′ track centers). The distance measured between main track 1 and main track 2 is 7′ 9 3/8 inches.

The signal system on the AGS South District is CTC (NS rule 261), meaning that trains move on signal authority only, with an overlay of PTC. Both systems are (and were) working as designed.

The million gross tonnage (MGT) from Burstall AG156.1 to Irondale AG 135 is 74MGT. Engineering splits this evenly between the two tracks for 37MGT on AGS one and 37MGT on AGS two.

Both main line #1 and #2 are 60mph freight and 79mph AMTRAK/Passenger. Bessemer yard tracks are 10mph. Specific train listings are presented on the following page. Centralized Track Control (CTC) is in effect for the entire subdivision. Positive Train Control (PTC) is in effect between CP SA611 (MP 610.7) and CP SA827 (MP 826.9).

Investigators requested and received the following train count information.

Daily train count on AGS South Subdivision
from Burstall and North Birmingham.
Table 2. Daily train count

Count	Train Symbol	Train Type	Train Direction
1	Amtrak 19	Amtrak	South
2	Amtrak 20	Amtrak	North
3	29K	Intermodal	South
4	26A	Intermodal	North
5	29S	Intermodal	South
6	28J	Intermodal	North
7	339	Manifest	South
8	340	Manifest	North
9	244	Intermodal	North
10	245	Intermodal	South
11	246	Intermodal	North
12	130	Manifest	North
13	314	Manifest	North
14	344	Manifest	North
15	131	Manifest	South
16	345	Manifest	South
17	355	Manifest	South
18	10A	Auto	North
19	11A	Auto	South
20	182	Manifest	North
21	183	Manifest	South
23	342	Manifest	North
22	341	Manifest	South
24	384	Manifest	North
25	385	Manifest	South
28	Export Grain #1	Bulk - Grain	South
29	Export Grain #1	Bulk - Grain	North
30	Export Grain #2	Bulk - Grain	South
31	Export Grain #2	Bulk - Grain	North
32	62Q	Bulk - Stone	South
33	63Q	Bulk - Stone	North
34	Warrior #1	Bulk - Coal	North
35	Warrior #1	Bulk - South	South
36	60C	Bulk - Steel Slab	South
37	61C	Bulk - Steel Slab	North
38	A28	Local	Bi-Directional
39	A30	Local	Bi-Directional
40	A39	Local	Bi-Directional
41	A44	Local	Bi-Directional
42	A55	Local	Bi-Directional
43	A56	Local	Bi-Directional
44	AB45	Local	Bi-Directional
45	A40	Local	Bi-Directional
Total		**43**	

On December 16, 2022, the investigative team documented the accident scene, tracks and established the POC as noted in the track and signal section of this report. The following are a series of photos depicting the track layout and an empty gondola condition.

Figure 8. A view looking south at the main track one crossover switch. In the background, one can see the switch leading off of main track one into the Bessemer Yard tracks. (Source: FRA photo)

Figure 9. A view looking south at the main track one crossover leading into Bessemer Yard tracks. (Source: FRA photo)

Figure 10. A view looking south at the Hill track.
(Source: FRA photo).

Figure 11. A view looking north at the west side of the Hill track and grade. (Source: FRA photo.)

Figure 12. A view looking north at east side of Hill track grade and walking conditions. The pickup was made at night. (Source: FRA photo)

On December 14, 2022, the investigative group (10 investigators) traveled to U. S. Pipe to view surveillance footage of the placement of the gondolas on December 4, 2022, as well as footage of the train crew A39 picking up a series of empty gondolas and removing those from U. S. Pipe's facility. The following are several observations of viewing the surveillance footage:

- Investigators noted that the east side of gondola SSEX 100843 was not damaged and that the top rail was intact.

- Investigators observed footage of the same gon after it was unloaded and placed on U. S. Pipe's scale that the east side top rail of the gon was damaged and that a steel angle iron was loose.

- Investigators also observed footage of an NS crew A39 picking up the string of empty gondolas from U. S. Pipe's facility and pulling them out of the plant. The top rail of gon SSEX 100843 was damaged—top rail angle iron was loose.

FRA Mechanical Compliance Manual

Investigators researched applicable FRA regulations pertaining to requirements for railroad personnel making equipment inspections. The following are excerpts from FRA's Motive Power and Equipment Compliance Manual:[197]

Regulation

§215.13 Pre-departure inspection.

(a) At each location where a freight car is placed in a train, the freight car shall be inspected before the train departs. This inspection may be made before or after the car is placed in the train.
(b) At a location where an inspector designated under §215.11 is on duty for the purpose of inspecting freight cars, the inspection required by paragraph (a) of this section shall be made by that inspector to determine whether the car is in compliance with this part.
(c) At a location where a person designated under §215.11 is not on duty for the purpose of inspecting freight cars, the inspection required by paragraph (a) shall as a minimum, be made for those conditions set forth in Appendix D to this part.

(d) Performance of the inspection prescribed by this section does not relieve a railroad of its liability under §215.7 for failure to comply with any provision of this part.

[197] FRA Motive Power and Equipment Compliance Manual, July 2012.

Guidance

The language of §215.13 is very explicit. FRA has consistently interpreted this language to require a pre-departure inspection each time a car is placed in a train. Moreover, although the regulations do not specify the physical actions necessary to conduct a proper inspection, a railroad may fulfill the inspection requirements only when its inspectors position themselves in a way that permits the required observations to be made. In order to conduct a proper freight car safety standards inspection, both sides of a car must be inspected.

Section 215.13 does not permit block swapping. At some locations, a common misinterpretation of the words "placed in a train" has led to the practice of allowing new outgoing trains to be built from large blocks of cars from two or more incoming trains without performing a pre-departure inspection. Within the industry, this practice is called "block swapping." This misinterpretation of the regulation apparently assumes that a car that remains in a block of cars when it is removed from one train is not "placed in a train" when the block is added to a new train. That assumption is incorrect. Whether singly or in groups, cars that are taken from one train and placed in another are "placed in a train" and must be inspected at the location from which the new train departs. Of course, an inspection pursuant to §215.13 is not required when intact trains move from railroad to railroad.

However, as with any regulatory requirement, inspectors should exercise discretion in how §215.13(a) is enforced, so that our limited resources can remain focused on matters likely to produce the greatest safety benefit. The general criteria for determining when enforcement action is appropriate, and which action to take, are set forth in 49 CFR Part 209, Appendix A. The railroad's history of compliance with the relevant set of regulations, especially at the specific location involved, must be considered along with the kind and degree of potential safety hazard a condition poses in light of the immediate factual situation. Where compliance with the Freight Car Safety Standards is poor and improper inspections or no inspections are being performed, the failure to inspect or improper inspection can be (along with the physical defects found on the cars) strong enforcement candidates. Conversely, if a railroad is generally doing a good job in terms of compliance with the Freight Car Safety Standards at a particular location, the one-time failure to conduct a proper inspection at that point is more likely not a condition that poses a significant safety hazard. **(MP&E 98-57)**

Section 215.13(a) requires an inspection at each location where a freight car is placed in a train. However, in some circumstances the inspection may be performed by a person not qualified or designated under §215.11. The law does not require that a "designated inspector" under §215.11 be assigned or employed at every location where cars are added to trains. Consequently, a train crewmember who is not a designated inspector under §215.11 can perform an inspection of freight cars added to a train pursuant to Part 215, Appendix D, at a location where a person designated under §215.11 is not on duty for the purpose of inspecting freight cars. However, if a location does not have a person designated under §215.11 on duty for the purpose of inspecting freight cars and the railroad elects to conduct such an inspection with a non-designated person pursuant to Part 215, Appendix D, and if such an inspection uncovers a condition not in compliance with Part 215 or Appendix D, then in order to move the car for repair under §215.9, a designated person under §215.11 must determine whether it is safe to move the car and, if so, under what conditions.

Part 215 does not dictate when and where railroads must have designated inspectors on duty for the purpose of inspecting freight cars. Section 215.13 merely requires that, where such a person is not on duty for that purpose, the railroad must conduct an Appendix D inspection. Where there is a dispute between a railroad and its employees as to which employee is on duty for what purpose, that issue must be resolved as a collective bargaining matter. Absent such a binding resolution from a body duly authorized to render such rulings, FRA is in no position (under current law) to conclude that an employee is on duty for the purpose of inspecting freight cars, if the railroad contends that the person is not on duty for that purpose. Once a final, binding determination is obtained, it would presumably be enforceable on its own terms by those who sought it. Although Part 215 was not intended to put FRA in the position of dictating where a railroad uses its designated inspectors, it is clear that the railroad must designate qualified inspectors, keep records of the designations, and at the very least, use such inspectors to make the determinations required under §215.9 before a defective car can be moved.

At locations where cars are inspected by railroad personnel who are not designated inspectors, the options for handling the defective cars are limited to: (1) Setting the car out, (2) repairing the car, or (3) bringing in a designated inspector to either repair the car or prepare the car for movement to a repair facility in accordance with §215.9. The regulation states that the pre-departure inspection may be made before or after the car is placed in the train. Therefore, the requirements for this inspection can be met by performing an inbound inspection before the cars are classified and placed into a new train.

The regulation states that the pre-departure inspection may be made before or after the car is placed in the train. Therefore, the requirements for this inspection can be met by performing an inbound inspection before the cars are classified and placed into a new train.

Norfolk Southern Rule C100

Investigators requested and received NS's C100 rule for freight car inspection.

CARS

C-100. FREIGHT CAR INSPECTION

At each location where freight cars are added to a train which have not been inspected at that point, in addition to making required air brake test, the car(s) must be inspected by the train crew for the following conditions:

(a) Carbody

1. Leaning or listing to side.
2. Sagging downward.
3. Positioned improperly on truck.
4. Object dragging below.
5. Object extending from side.
6. Door insecurely attached.
7. Broken or missing safety appliance.
8. Lading leaking from a placarded hazardous material car.

(b) Insecure coupling.

(c) Overheated wheel or journal.

(d) Broken or cracked wheel.

(e) Brake that fails to release.

(f) Any other apparent safety hazard likely to cause an accident or casualty before the train arrives at its destination.

When performing inspection of freight cars in compliance with this rule, the train crewmember(s) must inspect both sides. If an inspection cannot be safely made of both sides of the equipment because of terrain, a one-side inspection is acceptable. The train may be moved to the nearest available location where the necessary inspection of the opposite side can be performed.

This inspection MUST NOT be performed while the freight cars being inspected are moving.

NOTE: Employees must not make a Rule C-100 inspection while riding on a locomotive, freight car, caboose or other On-Track equipment.

NS-1 Rules — January 1, 2019 27

POSTACCIDENT ACTIONS

Federal Railroad Administration

On December 20, 2022, the FRA issued an informal Safety Bulletin 2022-01, Pre-Departure Inspections- Appendix D to Code of Federal Regulations Part to raise awareness of the employee fatality accident in Bessemer, AL. (The full text of the bulletin can be seen in Appendix A).

NTSB Outreach

Institute of Scrap Recycling Industries, Inc.

On March 14, 2023, NTSB investigators reached out and contacted the safety team at the Institute of Scrap Recycling Industries, Inc. (ISRI) to request their assistance in highlighting the investigation with their membership. On March 22, 2023, investigators met with several of the ISRI safety team to discuss facts published about the incident and to see if they would commit to distributing an alert. On April 17, 2023, ISRI's safety team advised they had circulated their safety alert with the recycling industry. (A copy of their alert can be seen in Appendix B).

On May 17, the ISRI safety team advised NTSB that they had shared the issue and alert with their Board of Directors in person, and with their membership through a mass email, and to operations personnel at safety meetings in Milwaukee, Green Bay, St. Paul, MN, and Phoenix, AZ. [198] These regional safety meetings covered two very large metals recyclers and a regional ISRI Chapter (Alter Trading & American Iron & Metal and ISRI's Mid-Atlantic chapter). Both companies have rail car fleets of 500+ gondolas, and the chapter meeting saw about 50 people in the room from PA, MD, and DE.

The ISRI safety team also advised that they hosted the industry Environmental, Health and Safety (EHS)/Department of Transportation (DOT) conference on May 16–18, 2023, in St. Louis that included personnel from the US, Canada, and Mexico totaling about 140 attendees. The alert was presented at the start of the conference. After each presentation of the issue ISRI advised that they received positive feedback and understanding of the issue. ISRI further advised NTSB that on June 9th they will be presenting the issue and alert to the Canadian Association of Recycling Industries (CARI) in Halifax, NS. This meeting will be attended by business owners & senior leaders in the Canadian recycler space.

[198] ISRI's membership is company based. There are approximately 1300 members who represent about 200,000 workers. About 1000 of these members are recyclers (operators/brokers), and the other members are equipment and/or service providers to the industry.

Association of American Railroads (AAR) [placeholder for AAR]

As part of NTSB's continued outreach for this accident, investigators contacted AAR to advise them of the published facts of the incident and to garner their support. To that end, NTSB attended a meeting of AAR's Equipment Engineering Committee (EEC) in Pueblo, CO on March 15, 2023. During that meeting AAR agreed to further explore the incident and what they could do in terms of broadcasting an alert. Over the next several months, AAR developed a circular to address the top sill conditions seen in the accident.

On June 5, 2023, AAR completed its commitment and published a circular entitled, AAR Safety Alert Regarding Unsecured Angle Iron on Top Cord of High Side Gondolas Resulting in an Employee Fatality . (A copy of AAR's circular without photos can be viewed in Appendix C).

Additional Defective Conditions Found

NTSB received the following photo from U. S. Pipe that shows the condition of a failed angle iron detachment from the top sill of a high side gondola car that was positioned one of their unloading tracks. The photo was taken on January 11, 2023. The U. S. Pipe personnel reported the condition internally, railroad and car owner were notified, repairs were made before car was released back into service.

Figure 13. Highlighted area shows a detached section of angle iron from the top sill of a high side type gondola car. The car was located on U. S. Pipe property. The photograph was taken on January 11, 2023. (Source: U. S. Pipe)

This is a high side gondola car that was observed by FRA in Bowling Green, KY in a CSX rail yard. Notice the broken and detached angle iron from the top sill.

Figure 14. A high side gondola car found by FRA in Bowling Green, KY on January 10, 2023. (Source: FRA photo)

On April 19, 2023, FRA sent to NTSB a photograph of a fourth car found with a failed top sill angle iron.

Figure 15. High side gondola car photographed by FRA in Charlotte, NC on April 19, 2023. Notice detached angle iron From top sill of gondola. (Source: FRA photo)

Parties to the Investigation - Acknowledgment Signatures

The undersigned designated *Party to the Investigation* representatives attest that the information contained in this investigative factual report for NTSB's accident investigation RRD23LR003 for the Norfolk Southern Railway Company's train No. A55's collision with a steel angle iron from car SSEX 100843 in NS train 340's consist in Bessemer, AL is a factually accurate representation of the information collected during the investigation, to the extent of their best knowledge and contribution in this investigation.

_____

_____//s//_____ Date __6-22-23___
Richard A. Hipskind, NTSB

_____//s//_____ Date ___6-22-23___
Jim Southworth, NTSB

_____ Date _____
Michael Chambliss, FRA

_____ Date _____
Byrl McCoy FRA

_____//s//_____ Date ___7-14-23___
Matt Campbell, SMART

_____//s//_____ Date ___7-8-23_____
David Wyatt, BLET

_____//s//_____ Date ___8-22-23_____
Brian Stanley, NS

_____//s//_____ Date ____8-22-23____
Robert Lewis, NS

_____//s//_____ Date __6-23-22_____
Henry W. Mentink, U. S. Pipe and
Foundry Company.

AUTHOR

Submitted by:

R. A. Hipskind
Operations Group Chairman

Appendix A

U.S. Department of Transportation
Federal Railroad Administration

SAFETY BULLETIN 2022-01

SUBJECT: Pre-Departure Inspections -Appendix D to 49 CFR Part 215

The Federal Railroad Administration (FRA) is investigating **a recent fatal accident when a train operating on the mainline struck a piece of angle iron protruding from a freight car on the adjacent main track.** Based on FRA's preliminary results from its ongoing investigation, the piece of angle iron appears to have been part of the freight car (not lading, but a repair to the carbody side top cord of a scrap metal gondola car) that was starting to dislodge from the carbody. It **appears that the piece of angle iron was in this state when the car was pulled from the customer,** moved to a yard, and then added to a different train on the main track. **The angle iron,** which was protruding into the foul of the adjacent track, **pierced a locomotive cab window and fatally injured a member of the crew.**

The purpose of this Safety Bulletin, which is informal in nature, is to provide almost-immediate awareness to the industry that an accident or incident occurred resulting in a fatality or significant damage to property or the environment. Its purpose is to also provide the industry key information with which to brief or (re)train employees. As FRA completes its investigation, it may take additional actions with respect to this incident/accident.

Specifically, in this Safety Bulletin, FRA requests that railroads review this Safety Bulletin with its employees to **increase awareness of this hazardous condition** that led to a fatal injury. FRA also reminds train crew members that when at locations where a person designated under §

215.11 is not on duty for the purpose of inspecting freight cars (such as in customer facilities), **prior to pulling any cars** and only when it is safe to do so, to **perform a proper visual inspection of freight cars for any protruding objects that may foul an adjacent** track from a railcar, and if observing such a condition to **immediately report** it. *See* Appendix D to 49 CFR Part 215, Pre-Departure Inspection Procedure (excerpted below).

Appendix D to Part 215 – Pre-departure Inspection Procedure

At each location where a freight car is placed in a train and a person designated under § 215.11 is not on duty for the purpose of inspecting freight cars, the freight car shall, as a minimum, be inspected for the imminently hazardous conditions listed below that are likely to cause an accident or casualty before the train arrives at its destination. These conditions are readily discoverable by a train crew member in the course of a customary inspection.

1. Car body:

(a) Leaning or listing to side.
(b) Sagging downward.
(c) Positioned improperly on truck.
(d) Object dragging below.
(e) Object extending from side.
(f) Door insecurely attached.
(g) Broken or missing safety appliance.
(h) Lading leaking from a placarded hazardous material car.

2. Insecure coupling.
3. Overheated wheel or journal.
4. Broken or extensively cracked wheel.
5. Brake that fails to release.

6. Any other apparent safety hazard likely to cause an accident or casualty before the train arrives at its destination.

U.S. Department of Transportation
Federal Railroad Administration

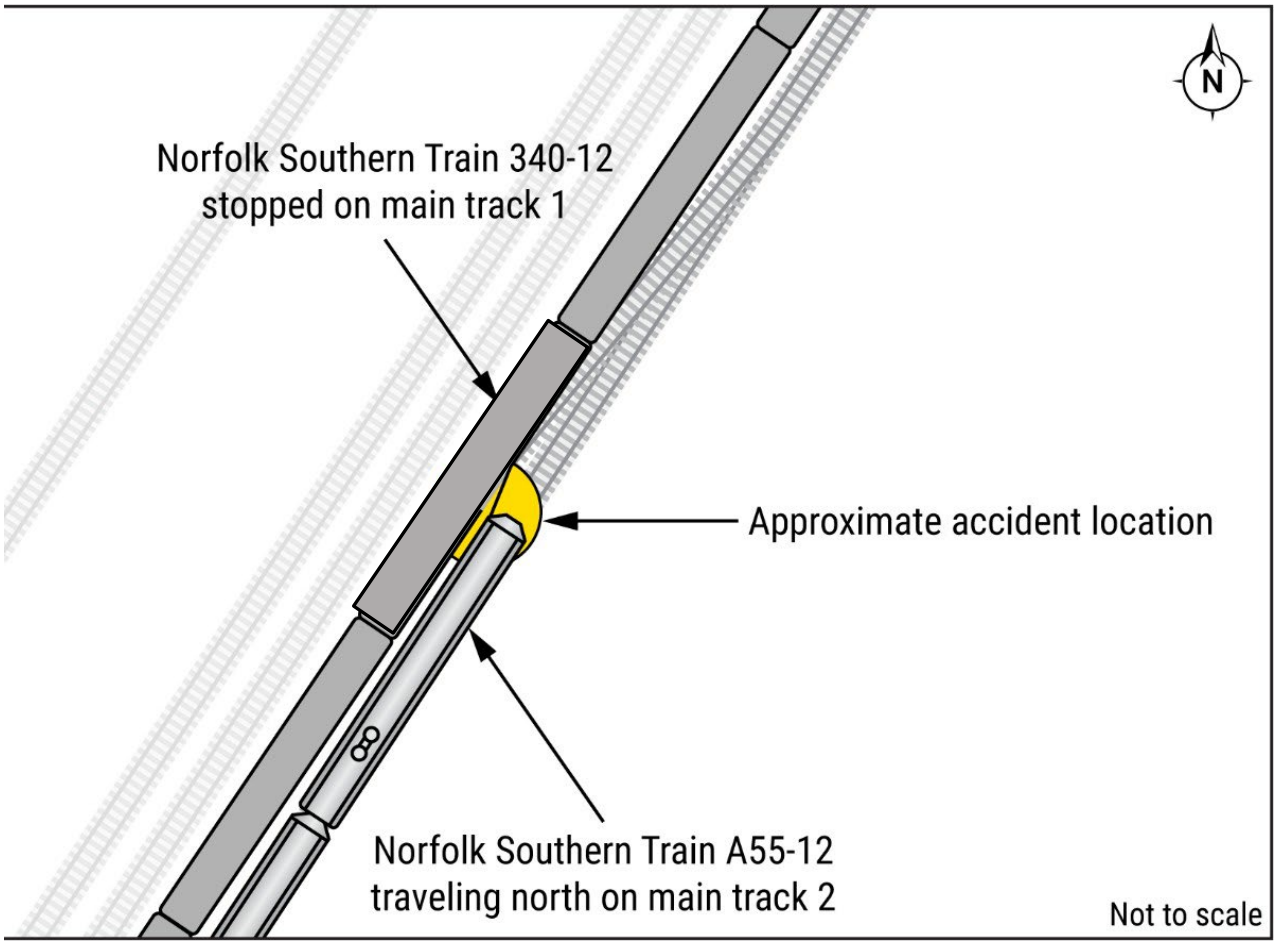
Issued: December 20, 2022

##

Appendix B

INDUSTRY SAFETY ALERT

3.0 Incident Description:



On December 13, 2022, a Norfolk Southern Railway (NS) trainee conductor was killed, and another conductor injured, when the lead locomotive of a freight train struck a length of steel angle iron protruding from a high-side gondola car that was stopped on an adjacent main track. Based on the preliminary investigation, the piece of angle iron appears to have been part of the freight car (a repair to the side top cord of a scrap metal gondola car) that was starting to dislocate. It appears that the piece of angle iron was in this state when the car was pulled from the customer, moved to a yard, and then added to a different train on the main track. The angle iron, which was protruding into the foul of the adjacent track, pierced a locomotive cab window causing the fatality and other injury.

INDUSTRY SAFETY ALERT

4.0 Actions Taken:

Railroads have been instructed to review this incident with employees to increase awareness of this hazardous condition that led to a fatal injury. Additionally, train crew members should have a person designated for the purpose of inspecting freight cars, prior to pulling any cars and only when it is safe to do so, to perform a proper visual inspection of freight cars for any protruding objects that may foul an adjacent track from a railcar, and if observing such a condition to immediately report it.

Angle iron from top cord of rail car became loose. Inspection, maintenance, and repair procedures should be examined to ensure that proper welding and maintenance procedures are being followed.

Appendix C

[AAR Circular Letter, in part, without photos]

Ron Hynes
Assistant Vice President, Technical Services

ASSOCIATION O F AMERICAN RAILROADS

June 5, 2023

[C-14172]

Circular Letter

Subject: AAR Safety Alert Regarding Unsecured Angle Iron on Top Cord of High Side Gondolas Resulting in an Employee Fatality

To: ALL SUBSCRIBERS **File Number: SA-02-2023**

A student conductor was fatally injured, and a conductor was seriously injured, in December of 2022 when a freight train operating at speed on a main track encountered a section of angle iron that was protruding from the top cord of a high-side gondola in a standing train on an adjacent track. The angle iron was protruding into the foul of the main track and pierced a locomotive cab door window causing the fatality and other injury.

This safety alert is being issued to increase awareness of an unsafe condition involving maintenance to the top cord of high-side gondolas typically used in scrap service. In this accident, angle iron with dimensions 5" x 5" x ½" was placed on the top cord of both sides of a high-side gondola. The angle iron had been welded to the top edge of the car but had broken and became dislodged from its intended orientation along the top cord.

Other instances of angle iron becoming dislodged in a manner comparable to what occurred in the fatal accident have been reported. When this condition occurs, the angle iron can swing out, away from the car, and foul an adjacent track, causing a risk to employees on passing trains.

This safety Alert is intended to provide awareness and guidance to rail employees, including switching crews and carmen, to be on the lookout for high-side gondolas used in scrap recycling services that may have unsecured material extending from the top cord as explained above. Employees should be alert to the possibility of this condition and take action to safeguard all employees until the condition can be corrected.

Sincerely,

Ron Hynes

Assistant Vice President, Technical Services

Safety and Operations
Association of American Railroads
425 Third Street, SW, Suite 1000, Washington D.C. 20024

INVESTIGATIVE REPORT
[AUTO FILL]