PARTY REPRESENTATIVE TECHNICAL REVIEW

OXNARD, CA

HWY15MH006

(24 pages)

Accetta Robert

From: Lettengarver, Gary <[redacted]t>
Sent: Thursday, April 07, 2016 8:44 AM
To: Accetta Robert
Subject: Oxnard - Supplemental Comment on Pilot Wheel Marks

Importance: High

Dear Mr. Accetta:

This email follows your request for comments concerning the various draft Group Chairman Reports and supplements the comments that I sent to you on March 25 and 31, 2016.

We overlooked one of the statements in the draft Mechanical Group Chairman's Factual Report about signs of wheel contact on the pilot arrangement at page 5, line 10,which concludes that "[n]o such strike marks were observed." We observed marks on the bottom of the pilot assembly channel behind the pilot blade/snowplow approximately 56 ½ inches apart and equidistant from the ends of the pilot that may be consistent with wheel contact, but we have not been able to completely examine the pilot to further investigate this. When the NTSB releases the red-tag on the pilot, we anticipate further investigation and examination of the pilot by Metrolink's consultants.

Thank you.

From: Lettengarver, Gary
Sent: Thursday, March 31, 2016 1:06 PM
To: [redacted]'
Subject: Metrolink Communication Regarding Party Recommendation Submissions

Dear Mr. Accetta:

I am writing in response to your recent e-mail inviting Metrolink to submit proposed conclusions that Metrolink believes should be drawn from the evidence obtained during the NTSB's investigation of the February 24, 2015, collision and derailment in Oxnard, California, and proposed safety recommendations for preventive action.

Unfortunately, Metrolink does not presently have enough information about the evidence obtained during the NTSB's investigation to propose final conclusions that should be drawn from the evidence or concrete safety recommendations for preventive action.

As you know, Metrolink is not permitted to conduct a parallel investigation pursuant to NTSB regulations. Metrolink has not yet conclusively reconstructed the accident and derailment with its own consultants. Also, Metrolink and its consultants have not had access to important evidence upon which conclusions and safety recommendations might be based. For instance, among other things, Metrolink's consultants have not had the opportunity to view Metrolink's forward facing cab car video that the NTSB sequestered on the day of the incident, there are still three full bins of vehicle parts, railroad rolling stock parts (including the pilot arrangement and couplers), and other evidence that is red-tagged at the Moorpark Yard that Metrolink's consultants have not been able to completely examine, and the NTSB still has physical possession of at least one of the couplers referenced in the draft factual reports.

Metrolink reserves its right to formulate its own conclusions and safety recommendations, if any, after Metrolink and its consultants have had full access to all of the evidence.

To the extent that the NTSB considers any of Metrolink's March 25 comments on the factual reports to be "proposed findings of fact" referenced in the Certification of Party Representative, rather than comments on the draft factual reports as they were intended to be, please accept this as Metrolink's submission of those proposed factual findings and its request to include them as proposed findings of fact.

Thank you for your consideration.

Gary Lettengarver

From: Forgione, Geoffrey
Sent: Friday, March 25, 2016 1:25 PM
To: [redacted]>
Subject: SCRRA Comments to NTSB Draft Factual Reports

SENT ON BEHALF OF GARY LETTENGARVER

Mr. Accetta,

I am enclosing a single document reflecting SCRRA's comments (where appropriate) to certain of the NTSB's Draft Factual Reports.

Please contact me directly at my SCRRA email address in the copy field with any questions.

Regards,

Gary Lettengarver
Chief Operating Officer
Metrolink / SCRRA

SCRRA Comments to Draft NTSB Factual Reports

NTSB responses to this technical review are in Red.

Dear Mr. Accetta:

This email follows your request for comments concerning the various Group Chairman Reports with the pages and line numbers of material that Southern California Regional Rail Authority believes is not factually correct.

GENERAL

Due to technology limitations we have discussed with you, SCRRA was unable to fully review all of the exhibits and attachments in the NTSB file prior to the close of the comment period. Therefore, Metrolink cannot comment on their factual accuracy or inaccuracy.

All of the reports state that the time of the accident was 5:44 a.m. PST. However, Metrolink believes that the time of the collision was 5:43 a.m. or earlier according to the rear-facing locomotive video and information from one of the passengers who made a phone call about the accident at 5:43 a.m. Metrolink has not been provided with a copy of the forward facing video for confirmation of the time.

RAILROAD OPERATIONS GROUP CHAIRMAN'S FACTUAL REPORT

Page 2, line 22: Change "48" to the correct number of injuries. Reason: There were not 48 injuries. See Table 1 in Survival Factors report.

Changed

Page 5, line 12: Change "tie plates" to "tie plates and north rail . . . ." Reason: A rail climb mark on the north rail was the first sign of derailment on the track.

Changed

Page 5, line 19: Change "East 5th Avenue" to "East 5th Street . . . ." Reason: Correct name of street. This error needs correction throughout the reports.

No changes, according to the City of Oxnard, CA the correct street name is "East Fifth Street".

Page 5, line 20: Add "West facing tractor trailer rigs sometimes pull over into the area between East 5th Street and the railroad track near the S. Rice Avenue grade crossing. At the time of the accident, there was a tractor trailer with its headlights off stopped in the area between East 5th Street and the railroad track near the S. Rice Avenue grade crossing. There are two parked tractor trailer rigs in similar locations shown in the Google Earth image below."

Partial change "At the time of the accident, there was a tractor trailer with its headlights off stopped in the area between East 5th Street and the railroad track near the S. Rice Avenue grade crossing." was added to the report.

Page 5, lines 25 through 36: Metrolink disagrees that this "post-accident sight distance observation" discussion belongs in a factual report at all because it is not factual. Rather, it draws opinions and conclusions about where someone not involved in the accident said that they could see something with dissimilar lighting and other conditions. The difference in conditions makes the sight distance observations materially and substantially dissimilar to the time of the accident and renders this portion of the report non-factual. As discussed below, the lighting and other conditions at the time of the post-accident sight distance observations were not substantially similar to the conditions at the time of the incident. In addition to the sightline human factors issues created by informing the observation participants about what to expect and exactly where to expect it:

1. The February 28, 2015, observations were made later in the morning than the time of the accident, providing more available light and illumination of terrestrial objects than was available at the time of the accident. The observations were made at 5:55:47 a.m. on February 28, 2015, which was 23 minutes after nautical twilight, and only 6 minutes before civil twilight. The accident happened at 5:43 a.m. on February 24, 2015, which was only 6 minutes after nautical twilight and 23 minutes before civil twilight. The ability to see terrestrial objects increases as the time gets closer to civil twilight.

2. Any light or illumination that the Moon may have provided would have been greater at the time of the observations because the Moon had waxed from 41% of the Moon's visible disk on the day of the accident to 79% on the day of the observation.
3. The observation train was traveling 5 miles per hour or less with an observation team focusing on and expecting to see a vehicle parked on the track near the S. Rice Avenue grade crossing. The accident train was accelerating to 70 mph and the crew was not expecting to see a vehicle on the track and did not know exactly where to expect to see it.
4. The observation team used a railroad hi-rail vehicle, providing headlights that were substantially higher off the track bed than the accident vehicle's headlights.
5. The observation team used a railroad hi-rail vehicle with headlights that were not the same make, model, manufacturer, luminosity, candela power, target height, beam angle/aim, spacing, light intensity, voltage to headlights, age, lens clarity, etc., as the accident vehicle. Nothing is known about the similarities and dissimilarities between the observation vehicle and accident vehicle's headlights.
6. The observation team used a railroad hi-rail vehicle with its headlights positioned directly over the rails, which was substantially dissimilar to the time of the accident because of the rail shine it created, which presumably caused a brighter headlight experience and ambient lighting around the hi-rail vehicle for the observation participants than the accident crew had.
7. The accident vehicle was straddling the south rail, with its front end angled toward East 5th Street and headlights positioned such that they were not directly over both rails and not directly facing the approaching accident train, presumably creating a dimmer headlight experience for the accident train crew.
8. The observation team used a railroad hi-rail vehicle, which naturally positioned its headlights perpendicular to and directly facing the observation crew, while the accident vehicle's front end was angled toward East 5th Street, not directly perpendicular to and facing the approaching train crew.
9. Traffic and headlight conditions on eastbound and westbound East 5th Street were uncontrolled while the accident train was approaching the accident location, which was substantially dissimilar to the time and conditions at the time of the observations.
10. Traffic and headlight conditions on northbound and southbound S. Rice Avenue were uncontrolled while the accident train was approaching the accident location, which was substantially dissimilar to the time and conditions at the time of the observations.
11. The observation train had a red signal and stopped for a period of time allowing the observation crew's eyes to adjust to the scene ahead, unlike the accident crew, which had a green proceed signal and passed the signal while accelerating the train to track speed.

12. There was a tractor trailer rig parked between East 5th Street and the railroad track near the S. Rice Avenue grade crossing at the time of the incident. There was no substantially similar vehicle between East 5th Street and the railroad track for the observations.
13. There was a Toyota Camry in the middle of the intersection with its headlights on and facing the track at the time of the accident. There was no such vehicle at the time of the observations.
14. Traffic signal phasing at all times relevant to the accident was preempted by the traffic signal controller for the intersection of East 5th Street and S. Rice Avenue, which created different traffic conditions and patterns at the time of the accident than were present at the time of the observations.

It is unfair and prejudicial to the accident train crew to include these substantially dissimilar sight line observations and "lighting conditions" in an NTSB factual report because it is not factual as it concerns the accident. The NTSB has the video taken from the cab car at the head-end of the train, which presumably shows the track, traffic, and lighting conditions, along with the position and headlight angle of the accident vehicle that the accident train crew actually experienced. A factual discussion of the video of the accident would be more appropriate in the NTSB factual reports than the discussion of the "post-accident sight distance observation" made under substantially dissimilar conditions. Instead, the NTSB factual reports are devoid of any factual discussion of the video of the accident.

No changes, the report states that "(During this observation, all of the train cab occupants understood beforehand what they were looking for near the crossing.)" and this sight distance testing was only for demonstrative purposes only. The report does not state these were the same conditions the student engineer encountered. In addition the video is considered a "protected" report due to in-cab video pursuant to (Title 49 USC 1114).

(d) Surface Vehicle Recordings and Transcripts.—
(1) Confidentiality of recordings.—The Board may not disclose publicly any part of a surface vehicle voice or video recorder recording or transcript of oral communications by or among drivers, train employees, or other operating employees responsible for the movement and direction of the vehicle or vessel, or between such operating employees and company communication centers, related to an accident investigated by the Board. However, the Board shall make public any part of a transcript or any written depiction of visual information that the Board decides is relevant to the accident—

(A) if the Board holds a public hearing on the accident, at the time of the hearing; or

(B) if the Board does not hold a public hearing, at the time a majority of the other factual reports on the accident are placed in the public docket.

(2) References to information in making safety recommendations.—
This subsection does not prevent the Board from referring at any time to voice or video recorder information in making safety recommendations.

As such, the group factual report of the train (forward and in-cab) will be placed in the docket the morning of public release.

CRASHWORTHINESS GROUP CHAIRMAN'S FACTUAL REPORT

Page 7, line 25: Change "poured-concrete" to "white Portland cement precast concrete grade crossing panels" Reason: Metrolink believes that the concrete grade crossing panels are precast panels that are manufactured elsewhere, transported, and lifted into place. Also, the fact that they are white Portland cement provides contrast with the black street asphalt, which may be useful in the conclusions and recommendations reports.

Changed

Page 8, line 1 through 2: Change "South Rice Avenue extends for a short distance (about 40 feet)" to "South Rice Avenue extends at least 70 feet . . . ." Reason: The distance between the center line of the track and north curb line of East Fifth Street is at least 70 feet. "Short distance" is clearly opinion, not fact.

Changed

Page 8, lines 2 through 3: Change "East Fifth Avenue" to "East 5th Street" here and throughout the report. Reason: To correct the name of the street and use its real name.

Not changed, according to the City of Oxnard, CA the street name is "East Fifth Street".

Page 8, line 16: Add "A crossing gate cantilever structure is located 15 feet north of the grade crossing; approximately 3 feet from the west curb line of S. Rice Avenue, in the northwest quadrant of the grade crossing. A crossing gate signal mast is located 10 feet north of the grade crossing; approximately 3 feet from the west curb line of S. Rice Avenue, in the northwest quadrant of the grade crossing." Reason: Metrolink believes that this will be significant in the conclusions and recommendations section of the report. Metrolink believes that the accident driver would have had to intentionally avoid the crossing warning device structures and swing his turn wide to turn onto the track.

Corrected and language added.

Page 8, line 23: Change "100 feet in width (measured north/south)" to "90 feet in width (measured 40 feet north and 50 feet south of track centerline) . . . ." Reason: Metrolink believes that the reported railroad right-of-way widths are factually inaccurate. The NTSB should confirm with Union Pacific Railroad Company.

Not changed, report states about 100 feet.

Page 10, lines 24 through 26: This report says that there were 46 passengers and 3 crew members on the train. Various other reports are inconsistent with that statement, and statements about the number of injured and uninjured train occupants. The reports should all be factual and therefore consistent.

Corrected

Page 30, line 19: Change "pilot snowplow blade missing" to "entire pilot arrangement missing." Reason: Not just the blade was missing. The entire arrangement of brackets and weldments was missing.

Changed

HIGHWAY FACTORS GROUP CHAIRMAN'S FACTUAL REPORT

Page 8, lines 25 through 26: Metrolink does not understand what is meant by "[t]he Union Pacific Railroad has jurisdiction and maintenance of the grade crossing." According to California law and the California MUTCD, Union Pacific Railroad has no jurisdiction or maintenance responsibilities for traffic control devices and no jurisdiction or maintenance responsibilities over other aspects of the grade crossing other than the railroad grade crossing warning devices and the precast concrete track panels within the area two feet outside each rail.

Changed

Page 14, lines 6 through 9: Metrolink does not agree that the November 29, 2010, accident was "similar" as stated in the report, and the classification of it as a similar accident is obviously opinion and not factual. According to the Department of Transportation Federal Railroad Administration Highway-Rail Grade Crossing Accident/Incident Report for that accident, it involved a northbound (compass direction westbound) train, which is the opposite direction of the subject train.

Changed

Pages 15 through 17: Metrolink disagrees with the inclusion of information about raised delineators and extension of highway markings across grade crossings in the context of a factual report. The crossing discussed in New York apparently was equipped with raised delineators and extension of highway markings across the grade crossing after two accidents where GPS devices allegedly "guided" drivers onto the track. There is no information here that any of the 32,000 to
34,000 average daily drivers who use the S. Rice Avenue grade crossing was ever guided to turn onto the track by a GPS device.

This is factual information based on research, no changes.

Generally, there was no factual discussion of the turning radius of the 2005 Ford F-450 and attached trailer, which may provide some guidance for recommendations and conclusions. It appears that the driver of the truck and trailer combination involved in the accident would have needed to intentionally avoid the railroad warning device cantilever and railroad crossing gate mast to make the right turn onto the track. Metrolink believes that this subject is worthy of some analysis and inclusion in the factual report.

No changes; it is unknown what the driver's intentions were and if the driver had intentionally avoided the railroad warning devices.

SIGNAL GROUP CHAIRMAN'S FACTUAL REPORT

Page 3, lines 3-4: Change "the passenger side of the truck was straddling the southernmost rail of the track" to "the truck was straddling the southernmost rail of the track." Reason: The truck was straddling the southernmost rail, not the passenger side of the truck.

No Changes.

Page 3, line 6: Change "became lodged on the southernmost rail" to "stopped . . . ." Reason: We are unaware of any factual evidence to support the statement that the truck "became lodged on the southernmost rail."

No changes.

Page 3, line 7: Change "left it stuck on the railroad" to "left it on the railroad . . . ." Reason: We are unaware of any factual evidence to support the statement that the truck was "stuck."

No changes.

Page 3, line 14: Change "engineer-in-training" to "student engineer" throughout the reports. "Student engineer" is the correct term. He had already been trained.

Changed

TRAIN RECORDERS GROUP CHAIRMAN'S FACTUAL REPORT

Page 4, lines 23 through 27: Metrolink disagrees with the NTSB's statement that the distance traveled parameters for the event recorders were not in accordance with the federal carriage requirements. The values appear to be accurate when the correct wheel sizes are used.

Page 5, line 3: Metrolink disagrees that the measured wheel size was 32.5 inches for the cab car. Metrolink measured the wheel size nominally at 32.125 inches, which generated slightly different data than the data reported by the NTSB.

Page 7, lines 3 through 25: Metrolink cannot comment on the times used in the NTSB's report because it does not have the data tabular printout that the NTSB used. However, based on the nominal wheel size of 32.125 inches, the data generated was slightly different than the data reported by the NTSB.

No Changes, Metrolink was emailed by the Train Recorder Group about discrepancies between the recorder and Metrolink's equipment.

MECHANICAL GROUP CHAIRMAN'S FACTUAL REPORT

Page 2, lines 15 and 17: This appears to incorrectly state the number of injuries and uninjured passengers. It is inconsistent with other reports. See Table 1 in Survival Factors report.

No changes, matches Table 1 in Survival Factors report; 1 Fatal, 22 uninjured, (20 minor injuries, 13 serious injuries) 33 injuries.

Page 3, lines 10 through 11: Change "no defective conditions" to "no defective conditions, other than pilot arrangement welds . . . ." Reason: Pilot arrangement weld inspections revealed latent manufacturing defects as referenced at page 5, lines 10 through 11, of the Mechanical Group Chairman's Factual Report.

No changes, nowhere in this report does it state that there were defects with the pilot arrangement welds. The report also states that there were no signs of wheel contact with the pilot assembly.

Page 9, line 6: Add the following --

Pilot Arrangement Welding Facts

The welds observed between the pilot assembly and vertical connecting tubes of the Hyundai Rotem cab car 645 involved in the Oxnard derailment exhibited poor fusion and lack of penetration. This was evidenced by the smooth and flat fracture surface in plane with the pilot assembly plate as well as the narrow fracture surface of the weld as can be seen in Figure 1.

Figure 1. Fracture surface of Hyundai Rotem cab car 645 vertical tube weld.

The welds observed on the horizontal channels (both sides) of Hyundai Rotem cab car 645 exhibited poor fusion and lack of penetration. This was evidenced by the rounded features on the weld fracture surfaces representing the poorly fused edges of the individual weld beads as can be seen in Figures 2 and 3.

Figure 2. Fracture surface of the Hyundai Rotem cab car 645 left side horizontal channel weld.

Figure 3. Fracture surface of the Hyundai Rotem cab car 645 right side horizontal channel weld.

The fracture surfaces of the horizontal channels of Hyundai Rotem cab car 645 in sections had thin areas of overload fracture. The rusted areas on these fracture surfaces were unfused, or insufficiently fused to prevent cracking prior to final fracture as can be seen in Figures 2 and 3.

No changes, this final section will not be added to the report, it's duly noted that this document will be added to the public docket.

CLOSING

Thanks for the opportunity to comment on the draft factual reports. Please let us know if you have any questions.

# # #

3/25/2016

Technical Comments from Hyundai Rotem

Hyundai Rotem has reviewed the draft Group Chairman Factual Reports. We understand that the purpose of the technical review is to verify the accuracy and completeness of the factual information on which the analysis will be based. We are submitting technical comments on three draft reports: 3D Laser Scanning, Vehicle Factors, and Crashworthiness. We have no technical comments on the other draft reports.

I. 3D LASER SCANNING FACTUAL REPORT

Figure 13 on page 10 of the draft report is reproduced below.

Hyundai Rotem suggests NTSB highlight or otherwise indicate the damage to the track wooden ties around the point of impact as shown in figure 13 of the report. Mention in the text also would help the reader understand the location and context for the related photographs taken by NTSB of the damaged ties. Below is one of the photos taken by NTSB of the damaged ties.

Photographs Oxnard, CA – Vehicle – Scene (22)

Accordingly, Hyundai Rotem suggests the last sentence of Section 4. Grade Crossing be revised to read as follows: "An image from the scanner showing the track in the direction of impact and damage to the ties is shown in Figure 13, and an image from the scanner showing the direction of the train's final rest is shown in Figure 14."

Hyundai Rotem further suggests the caption to Figure 13 be revised to read: "Figure 13: An image from the scanner showing the track near the point of impact and damaged ties. The view is looking east toward the grade crossing."

Figure 13 - Damaged ties were highlighted and caption was changed.

II. VEHICLE FACTORS GROUP CHAIRMAN'S FACTUAL REPORT

Reproduced below is the damage description given in paragraph 1.2. on page 5 of the report:

1.2. DAMAGE DESCRIPTION

The truck was removed from the scene and towed by a towing service, to a Metrolink rail yard located at 585 Moorpark Avenue, Moorpark, CA, for storage and examination. The truck was examined at this location between February 25, and March 2, 2015.

The truck and trailer combination sustained significant collision damage to all areas, and

affected all major mechanical systems. The truck's cab sustained significant contact damage and was displaced from the vehicle's frame. The engine was also displaced from the vehicle, and sustained damage to all external surfaces, including many components having been broken off. The vehicle's transmission was crushed and broken away from the engine just behind the torque converter. The torque converter remained attached to the engine, and the rear portion of the transmission remained connected to the forward driveshaft, and was also displaced from the wreckage. The forward and rear driveshafts were disconnected from each other at the spline joint. The rearmost portion of the rear driveshaft was broken away from the differential at the universal joint, and was torn away from the forward portion of the rear driveshaft approximately 34 inches forward of the universal joint connection with the rear differential. The portion of the rear driveshaft that would have been located between the spline joint and the torn rear portion of the shaft was unable to be located in the wreckage. There were no signs of circumferential scrapes or markings on the driveshaft pieces available for examination. The rear axle ratio was found to be 4.88:1 by rotating the differentials input shaft until the wheel ends made one full revolution.

This description of the damage to the truck appears accurate. However, NTSB should also mention the kink and the wooden "fibers" embedded in the forward driveshaft leading end as shown in photographs below, all available in the NTSB Oxnard crash workspace in folder entitled "Oxnard, CA - Crash Location Photos." Hyundai Rotem suggests the underlined sentence below be added to Section 1.2 as follows:

"…The forward and rear driveshafts were disconnected from each other at the spline joint. <u>There were wooden fibers embedded in the forward driveshaft leading end, and the driveshaft was kinked.</u> The rearmost portion of the rear driveshaft was broken away from the differential at the universal joint…"

Photographs Oxnard, CA – Vehicle – Scene (13)

Photographs Oxnard, CA – Vehicle – Scene (15)

Photographs Oxnard, CA – Vehicle – Scene (16)

Photographs Oxnard, CA – Vehicle – Scene (17)

A footnote was added at the end of the previous sentence to include the following language; "There were wooden fibers embedded in the forward driveshaft leading end, and the driveshaft was kinked."

III. CRASHWORTHINESS GROUP CHAIRMAN'S FACTUAL REPORT

The final technical comment relate to the description of the A-end mechanical coupler on car #211. The draft Crashworthiness Group Chairman's Factual report has two sections that describe the A-end coupler on car #211: sections 3.3.3 (page 28) and 4.3.2 (page 37), reproduced below:

> Section 3.3.3:
>
> the coupler head of the A-end mechanical coupler that was fitted to the car, was observed to have fractured and had separated from the shank of that coupler, wherein the subject coupler elements were removed (as prospective evidentiary artifacts) and transported to the secure railroad storage facility for potential further examination (see § 4.3).
>
> Section 4.3.2:
>
> 3. The other coupler elements examined, as removed from Metrolink car # 206 A-end, and car # 211 A-end, displayed what appeared to be potential manufacturing anomalies which were similar to that as observed in the B-end coupler of Metrolink car # 206, but to a lesser degree of severity.

An factual inaccuracy crept into the description of the car #211 coupler by combining the description of the A-end coupler on car # 206 and the A-end coupler on car #211. These two couplers are different. The condition of the A-end coupler on car #206 is described in the NTSB field report titled "SCAX206.pdf. The A-end coupler on car #206 broke in its shank and displayed four potential manufacturing anomalies that were similar to those observed in the B-end coupler on car #206. The four "possible anomalies" observed by NTSB were:

1. "A large void at the left side center"
2. "A longitudinal crack at the lower left corner"
3. "Porosity at the lower right corner"
4. "A small crack at the upper left corner of the coupler head only"

SCAX206 at 6 and 7. Accordingly, the draft Crashworthiness Group Chairman's Factual report is accurately describing the condition of the A-end coupler **on car #206**.

But the draft report then inaccurately describes the condition of the A-end coupler **on car #211**. The report suggests that the same findings from car #206 applied to car #211: that the coupler broke in its shank and displayed potential manufacturing anomalies. Neither is correct. Rather, the NTSB field report on the coupler on car #211 concluded that "the break was not in the shank" but instead it "had separation at the vertical pin coupler boss." SCAX206 at 12. NTSB then reported that "Examination of this break indicated that there were no metallurgical anomalies. No further investigation was required." SCAX206 at 12.

Hyundai Rotem therefore respectfully requests that sections 3.3.3 and 4.3.2 of the draft Crashworthiness Group Chairman's Factual be corrected to accurately describe the condition of the A-end coupler on car #211, as the NTSB investigation showed that the coupler had separation at the vertical pin coupler boss, not the shank, and was free of any metallurgical anomalies.

Hyundai Rotem requests that section 3.3.3 of the draft be revised to read as follows:

> the A-end mechanical coupler that was fitted to car #211 was observed to have sustained a broken coupler. This break was not in the shank. Rather, it had separation at the vertical pin coupler boss. Examination of this break indicated that there were no metallurgical anomalies, and no further investigation was required.

Partial corrections

Hyundai Rotem further requests that section 4.3.2 of the draft be revised to read as follows:

> 3. The coupler elements removed from Metrolink car # 206 A-end displayed what appeared to be potential manufacturing anomalies which were similar to that as observed in the B-end coupler of Metrolink car # 206, but to a lesser degree of severity. Accordingly, the elements of this mechanical coupler set were further placed in secure storage…on those artifacts as well. Examination of the coupler elements removed from car #211 indicated that there were no metallurgical anomalies, and no further investigation was required.

Partial corrections

NTSB responses to this technical review are in Red.

My comments on the reports:

In the Railroad Operations Group Chairman's Factual Report:

5.0 Post accident Sight Distance Observations
Page 5, Lines 25 through 36.

It should be stated that in the observation exercise that was conducted on February 24, 2015, was performed under significantly different circumstances than the day of the accident. The exemplar truck was a railroad high rail vehicle that had to be placed on the rails, as it is intended to operate. The exemplar truck could not be placed on the right of way in the exact position or orientation that the truck involved in the accident was. Oncoming traffic running parallel to the tracks and on the right side in the direction of the exemplar train, as well as cross traffic on the Rice Road crossing could not be controlled. The report does correctly state, that the occupants of the cab of the exemplar train, knew what they were looking for.

Partial changes were made to the report.

In the Survival Factors Group Chairman's Factual Report:

Pages 6 and 8:

The weights in tables 2 and 3 appear to be stated incorrectly.

Column with 'weight' was removed.

In the Survival Factors Group Chairman's Final Report: It's noted throughout that additional people were interviewed on tape and that the interviews would be transcribed. There is no indication that was done.

Railroad Operations Group Chairman's Factual Report.

Page 7, lines 24 through 27 have erroneous information about Mr. Steele's employment history.

Mr. Steele worked as an engineer for Metrolink since the early 1990s. He was employed by Amtrak from November 1986, through June of 2005. From June of 2005 through June of 2010, Mr. Steele was employed by Connex. Connex held the operating contract for train crews for Metrolink Trains during this period. In June of 2010 Mr. Steele returned to Amtrak employment, when Amtrak replaced Connex as the holder of the operating contract for Metrolink crews.

Corrected

Thanks,

Eric Smith
Former Superintendent of Metrolink Commuter Operations for Amtrak.

[redacted]

Robert, we have the following comments:

In the Signals Factual Report (SFR) the following is stated on Page 2:

Fatalities: 1
Injuries: 30
Uninjured: 20

The total is 51

Corrections made to this report.

On Page 3 of the SFR it states:

In the meantime, an eastbound Metrolink commuter train #102 was enroute from east Ventura County to Los Angeles with 46 commuters on-board. Train #102 consisted of a lead cab/coach car #6453, and three coach cars #2064, #2115, and #2636, respectively and locomotive #8707, located at the rear of the train, that was pushing the coach cars. The train consist had an overall length of 396 feet and a total weight of 402 tons and had a total capacity of 526 passengers. The train had a three man crew; an engineer-in-training, a senior engineer and a conductor. Both the engineer-in-training and the senior engineer were in the control car; the senior engineer was monitoring the engineer-in-training and the conductor tended to his duties with the commuters that were on-board.

From the statement, there were 49 people on the train.

Also, on Page 3 of the SFR it states:

During the crash sequence four (4) coach cars derailed; with three of them overturning and coming to rest on their sides. A portion of the utility trailer remained adjacent to the crossing and most of the truck was carried down the tracks. In the meantime, a 1998 Toyota Camry that had stopped at the active grade crossing, facing northbound, was struck by debris from the crash. The 46 commuters received injuries of varying degree and no passenger fatalities occurred. The engineer-in-training and the conductor received injures ranging from minor to serious. Seven days later the engineer succumbed to the injuries that he sustained from the crash. The truck driver and the Toyota driver were uninjured.

We assume that the driver of the truck and Toyota Camry are included in the total count which equals 51. However, the number of injuries is not clear and consistent in the SFR. In the SFR on Page 3 it state that 46 commuters received injuries. On Page 2, it states that 30 people were injured.

Discrepancy corrected.

Michael Robertson, Program Manager
Rail Crossings and Engineering Branch

California Public Utilities Commission