Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2007-56

Norfolk Southern/Alabama & Gulf Coast Rwy LLC (NS/AGR)
Boligee, Alabama
October 1, 2007

Note that 49 U.S.C. §20903 provides that no part of an accident or incident report made by the Secretary of Transportation/Federal Railroad Administration under 49 U.S.C. §20902 may be used in a civil action for damages resulting from a matter mentioned in the report.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2007-56

1.Name of Railroad Operating Train #1: Norfolk Southern Corp. [NS]	1a. Alphabetic Code: NS	1b. Railroad Accident/Incident No.: 030485
2.Name of Railroad Operating Train #2: Alabama & Gulf Coast Rwy LLC [AGR]	2a. Alphabetic Code: AGR	2b. Railroad Accident/Incident No.: 070640
3.Name of Railroad Operating Train #3: N/A	3a. Alphabetic Code: N/A	3b. Railroad Accident/Incident No.: N/A
4.Name of Railroad Responsible for Track Maintenance: Norfolk Southern Corp. [NS]	4a. Alphabetic Code: NS	4b. Railroad Accident/Incident No.: 030485
5. U.S. DOT_AAR Grade Crossing Identification Number:	6. Date of Accident/Incident: Month 10 | Day 01 | Year 2007	7. Time of Accident/Incident: 11:20: ☐ AM ☑ PM

8. Type of Accident/Indicent (single entry in code box): 1. Derailment; 2. Head on collision; 3. Rear end collision; 4. Side collision; 5. Raking collision; 6. Broken Train collision; 7. Hwy-rail crossing; 8. RR grade crossing; 9. Obstruction; 10. Explosion-detonation; 11. Fire/violent rupture; 12. Other impacts; 13. Other (describe in narrative) — Code: 04

9. Cars Carrying HAZMAT	10. HAZMAT Cars Damaged/Derailed	11. Cars Releasing HAZMAT	12. People Evacuated	13. Division
32	3	0	0	Alabama

14. Nearest City/Town	15. Milepost (to nearest tenth)	16. State Abbr	16. State Code	17. County
Boligee	242.5	N/A	AL	GREENE

18. Temperature (F) (specify if minus)	19. Visibility (single entry) 1. Dawn 2. Day 3.Dusk 4.Dark — Code	20. Weather (single entry) 1. Clear 2. Cloudy 3. Rain 4. Fog 5.Sleet 6.Snow — Code	21. Type of Track 1. Main 2. Yard 3. Siding 4. Industry — Code
60 F	4	1	1

22. Track Name/Number	23. FRA Track Class (1-9, X) — Code	24. Annual Track Density (gross tons in millions)	25. Time Table Direction 1. North 2. South 3. East 4. West — Code
single main	3	20.3	1

OPERATING TRAIN #1

26. Type of Equipment Consist (single entry) 1. Freight train 2. Passenger train 3. Commuter train 4. Work train 5. Single car 6. Cut of cars 7. Yard/switching 8. Light loco(s). 9. Maint./inspect.car	A. Spec. MoW Equip. Code	27. Was Equipment Attended? 1. Yes 2. No — Code	28. Train Number/Symbol
	1	1	198A701

29. Speed (recorded speed, if available) R - Recorded E - Estimated	Code	30. Trailing Tons (gross tonnage, excluding power units)
38 MPH	R	4897

31. Method(s) of Operation (enter code(s) that apply): a. ATCS; b. Auto train control; c. Auto train stop; d. Cab; e. Traffic; f. Interlocking; g. Automatic block; h. Current of traffic; i. Time table/train orders; j.Track warrant control; k. Direct traffic control; l.Yard limits; m.Special instructions; n. Other than main track; o. Positive train control; p. Other (Specify in narrative)

Code(s)				
e	N/A	N/A	N/A	N/A

31a. Remotely Controlled Locomotive? 0 = Not a remotely controlled; 1 = Remote control portable; 2 = Remote control tower; 3 = Remote control transmitter - more than one remote control transmitter: 0

32. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)
(1) First involved (derailed, struck, etc)	NS 6654	1	no
(2) Causing (if mechanical cause reported)	0	0	N/A

33. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.

Alcohol	Drugs
0	0

34. Was this consist transporting passengers? (Y/N): N

35. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote
(1) Total in Train	2	0	0	0	0
(2) Total Derailed	0	0	0	0	0

36. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	35	0	12	0	0
(2) Total Derailed	0	0	0	0	0

37. Equipment Damage This Consist	38. Track, Signal, Way, & Structure Damage	39. Primary Cause Code	40. Contributing Cause Code
$16,797.00	$150.00	H221	N/A

Number of Crew Members

41. Engineer/ Operators	42. Firemen	43. Conductors	44. Brakemen
1	0	1	0

Length of Time on Duty

45. Engineer/Operator	46. Conductor
Hrs 2 Mi 50	Hrs 2 Mi 50

Casualties to:	47. Railroad Employees	48. Train Passengers	49. Other
Fatal	0	0	0
Nonfatal	0	0	0

50. EOT Device? 1. Yes 2. No	51. Was EOT Device Properly Armed? 1. Yes 2. No
1	1

52. Caboose Occupied by Crew? 1. Yes 2. No: N/A

OPERATING TRAIN #2

53. Type of Equipment Consist (single entry) 1. Freight train 2. Passenger train 3. Commuter train 4. Work train 5. Single car 6. Cut of cars 7. Yard/switching 8. Light loco(s). 9. Maint./inspect.car	A. Spec. MoW Equip. Code	54. Was Equipment Attended? 1. Yes 2. No — Code	55. Train Number/Symbol
	1	1	211North

56. Speed (recorded speed, if available) R - Recorded E - Estimated	Code
0 MPH	R

58. Method(s) of Operation (enter code(s) that apply): a. ATCS; b. Auto train control; g. Automatic block; h. Current of traffic; m.Special instructions; n. Other than main track

58a. Remotely Controlled Locomotive? 0 = Not a remotely controlled; 1 = Remote control portable

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57. Trailing Tons (gross tonnage, excluding power units): 4555

c. Auto train stop; d. Cab; e. Traffic; f. Interlocking; i. Time table/train orders; j.Track warrant control; k. Direct traffic control; l.Yard limits; o. Positive train control; p. Other (Specify in narrative)

Code(s): f | j | N/A | N/A | N/A

2 = Remote control tower
3 = Remote control transmitter - more than one remote control transmitter: 0

59. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)
(1) First involved (derailed, struck, etc)	UTLX660383	59	no
(2) Causing (if mechanical cause reported)	0	0	N/A

60. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.

Alcohol	Drugs
N/A	N/A

61. Was this consist transporting passengers? (Y/N): N

62. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote
(1) Total in Train	2	0	0	0	0
(2) Total Derailed	0	0	0	0	0

63. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	39	0	36	0	0
(2) Total Derailed	0	0	5	0	0

64. Equipment Damage This Consist: $90,000.00

65. Track, Signal, Way, & Structure Damage: $450,000.00

66. Primary Cause Code: H221

67. Contributing Cause Code: N/A

Number of Crew Members

68. Engineer/ Operators	69. Firemen	70. Conductors	71. Brakemen
1	0	1	0

Length of Time on Duty

72. Engineer/Operator: Hrs 5 Mi 20

73. Conductor: Hrs 5 Mi 20

Casualties to:	74. Railroad Employees	75. Train Passengers	76. Other
Fatal	0	0	0
Nonfatal	0	0	0

77. EOT Device? 1. Yes 2. No: 1

78. Was EOT Device Properly Armed? 1. Yes 2. No: 1

79. Caboose Occupied by Crew? 1. Yes 2. No: N/A

OPERATING TRAIN #3

80. Type of Equipment Consist (single entry): 1. Freight train; 2. Passenger train; 3. Commuter train; 4. Work train; 5. Single car; 6. Cut of cars; 7. Yard/switching; 8. Light loco(s); 9. Maint./inspect.car; A. Spec. MoW Equip. Code: N/A

81. Was Equipment Attended? 1. Yes 2. No: N/A

82. Train Number/Symbol: N/A

83. Speed (recorded speed, if available) Code: R - Recorded; E - Estimated: N/A MPH N/A

84. Trailing Tons (gross tonnage, excluding power units): N/A

85. Method(s) of Operation (enter code(s) that apply)

a. ATCS; b. Auto train control; c. Auto train stop; d. Cab; e. Traffic; f. Interlocking; g. Automatic block; h. Current of traffic; i. Time table/train orders; j.Track warrant control; k. Direct traffic control; l.Yard limits; m.Special instructions; n. Other than main track; o. Positive train control; p. Other (Specify in narrative)

Code(s): N/A | N/A | N/A | N/A | N/A

85a. Remotely Controlled Locomotive?
0 = Not a remotely controlled
1 = Remote control portable
2 = Remote control tower
3 = Remote control transmitter - more than one remote control transmitter: N/A

86. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)
(1) First involved (derailed, struck, etc)	N/A	N/A	N/A
(2) Causing (if mechanical cause reported)	N/A	N/A	N/A

87. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.

Alcohol	Drugs
N/A	N/A

88. Was this consist transporting passengers? (Y/N): N/A

89. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote
(1) Total in Train	N/A	N/A	N/A	N/A	N/A
(2) Total Derailed	N/A	N/A	N/A	N/A	N/A

90. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	N/A	N/A	N/A	N/A	N/A
(2) Total Derailed	N/A	N/A	N/A	N/A	N/A

91. Equipment Damage This Consist: N/A

92. Track, Signal, Way, & Structure Damage: N/A

93. Primary Cause Code: N/A

94. Contributing Cause Code: N/A

Number of Crew Members

95. Engineer/ Operators	96. Firemen	97. Conductors	98. Brakemen
N/A	N/A	N/A	N/A

Length of Time on Duty

99. Engineer/Operator: Hrs N/A Mi N/A

100. Conductor: Hrs N/A Mi N/A

Casualties to:	101. Railroad Employees	102. Train	103. Other
Fatal	N/A	N/A	N/A
Nonfatal	N/A	N/A	N/A

104. EOT 1. Yes 2. No: N/A

105. Was EOT Device Properly 1. Yes 2. No: N/A

106. Caboose Occupied by Crew? 1. Yes 2. No: N/A

Highway User Involved

107. A. Auto; B. Truck; C. Truck-Trailer.; D. Pick-Up Truck; E. Van; F. Bus; G. School Bus; H. Motorcycle; J. Other Motor Vehicle; K. Pedestrian; M. Other (spec. in narrative) Code: N/A

108. Vehicle Speed (est. MPH at impact): N/A

109. geographical) 1.North 2.South 3.East 4.West Code: N/A

Rail Equipment Involved

111. Equipment 1.Train(units pulling); 2.Train(units pushing); 3.Train (standing); 4.Car(s) (moving); 5.Car(s) (standing); 6.Light Loco(s) (moving); 7.Light(s) (standing); 8.Other (specify in narrative) Code: N/A

112. Position of Car Unit in: N/A

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110. Position	Code	113. Circumstance	Code
1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped	N/A	1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User	N/A
114a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither	N/A	114b. Was there a hazardous materials release 1. Highway User 2. Rail Equipment 3. Both 4. Neither	N/A

114c. State here the name and quantity of the hazardous materials released, if any.
N/A

115. Type Crossing Warning	1.Gates	2.Cantilever FLS	3.Standard FLS	4.Wig Wags	5.Hwy. traffic signals	6.Audible	7.Crossbucks	8.Stop signs	9.Watchman	10.Flagged by crew	11.Other (spec. in narr.)	12.None
Code(s)	N/A	N/A	N/A	N/A	N/A	N/A	N/A					

116. Signaled Crossing (See instructions for codes)	Code	117. Whistle 1. Yes 2. No 3. Unknown	Code
	N/A		N/A

118. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach	Code	119. Crossing Warning with Highway Signals 1. Yes 2. No 3. Unknown	Code	120. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown	Code
	N/A		N/A		N/A

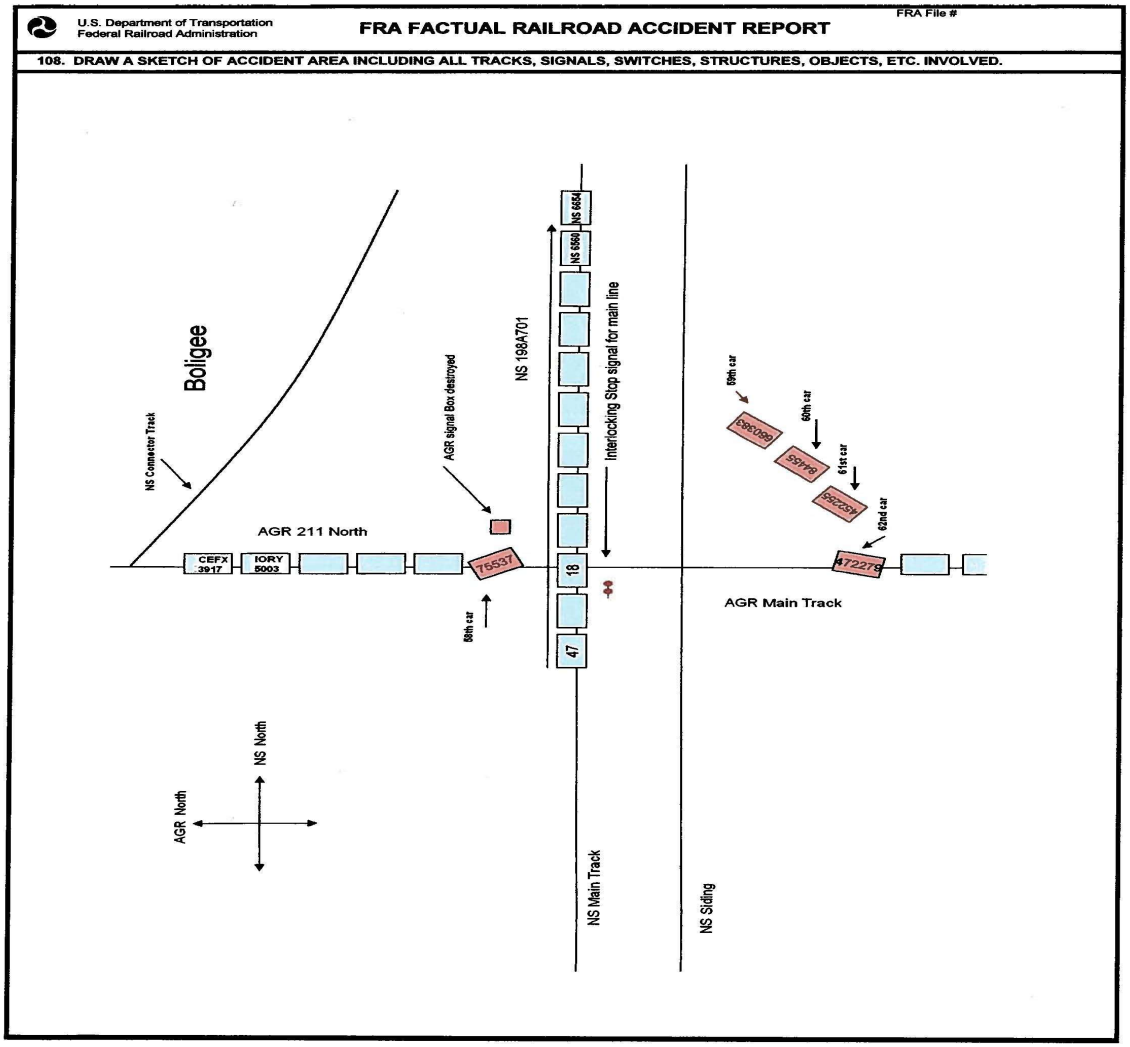
121. Age	122. Driver's Gender 1. Male 2. Female	Code	123. Driver Drove Behind or in Front of and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown	Code	124. Driver 1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop 4. Stopped on Crossing 5. Other (specify in narrative)	Code
N/A		N/A		N/A		N/A

125. Driver Passed Highway Vehicle 1. Yes 2. No 3. Unknown	Code	126. View of Track Obscured by (primary obstruction) 1. Permanent Structure 2. Standing Railroad Equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicle 7. Other (specify in narrative) 8. Not obstructed	Code
	N/A		N/A

Casualties to:	Killed	Injured	127. Driver 1. Killed 2.Injured 3. Uninjured	Code	128. Was Driver in the Vehicle? 1. Yes 2. No	Code
				N/A		N/A
129. Highway-Rail Crossing Users	N/A	N/A	130. Highway Vehicle Property Damage (est. dollar damage)	N/A	131. Total Number of Highway-Rail Crossing Users (include driver)	N/A

132. Locomotive Auxiliary Lights? 1. Yes 2. No	Code	133. Locomotive Auxiliary Lights Operational? 1. Yes 2. No	Code
	N/A		N/A
134. Locomotive Headlight Illuminated? 1. Yes 2. No	Code	135. Locomotive Audible Warning Sounded? 1. Yes 2. No	Code
	N/A		N/A

136. DRAW A SKETCH OF ACCIDENT AREA INCLUDING ALL TRACKS, SIGNALS, SWITCHES, STRUCTURES, OBJECTS, ETC., INVOLVED.



137. SYNOPSIS OF THE ACCIDENT

On October 1, 2007, at 11:20 p.m. CDT, northbound Norfolk Southern (NS) Train 198A701 consisting of two locomotives, NS 6654 and NS 6560, and 47 cars struck the side of standing Alabama Gulf Coast (AGR) Train 211 North consisting of two locomotives, CEFX 3917 and IORY 5003, and 75 cars. The accident occurred on the AGR interlocking at Boligee, Alabama (AL), NS milepost (MP) 242.5 on the NS AGS South Subdivision of the Alabama Division. The collision resulted in the derailment of five freight cars in AGR Train 211 North. No freight cars or locomotives on NS Train 198A701 were derailed.

There were no injuries sustained by the NS or AGR train crew members. Three of the five derailed freight cars contained residue hazardous materials, but there was no release of product and no evacuation of local residents. However, the fuel tank on lead locomotive NS 6654 was ruptured and spilled about 2,000 gallons of # 2 diesel fuel. Damages are estimated at $108,500 for equipment and $450,200 for track and signal.

The weather at the time of the accident was clear and dark with a temperature of 60°F.

The probable cause of the accident was the failure of the NS train crew to comply with a stop signal indication at the AGR Interlocking signal.

138. NARRATIVE

CIRCUMSTANCES PRIOR TO THE ACCIDENT

AGR Freight Train 211 North:

AGR Train 211 North is a regularly scheduled train which operates westward from Magnolia, MP 764.2, to Aliceville, MP 679.9, AL. The crew consisted of an engineer and conductor who reported for duty at Magnolia on October 1 at 6 p.m., after receiving the required statutory rest period. Train 211 North had been previously inspected and tested at Magnolia and was ready for departure on arrival of the outbound train crew. The train was 2,541 feet in length with a gross tonnage of 2,990 tons. The crew obtained their work orders, a train consist and track warrant, then departed Magnolia Yard with two locomotives, 21 loaded and 23 empty mixed freight cars. The method of operation between Magnolia and Aliceville is Track Warrant Control (TWC).

Train 211 North's first stop was at Demopolis, AL, located about 33 miles west of Magnolia Yard. The train crew set out eight freight cars, picked up seven, then continued operating westward toward Boligee where they were scheduled to pick up 32 freight cars from the NS connector track. Train 211 North arrived in the restricted limits of Boligee at 11:08 p.m. They received a clear signal at the AGR/NS interlocking signal, MP 708.2, pulled across the interlocking about 25 or 30 car lengths and stopped. The conductor cut away from the train with the locomotives and 21 cars, leaving the remainder of the cars on the main blocking the interlocking. The train crew proceeded to the NS connector track located on the north side of the AGR main track where they picked up 32 cars. They returned to the main track where the conductor coupled to the rear portion of his train. He coupled the air hoses, opened the angle cock and instructed the engineer to charge the train line. While the brake system was charging, the conductor walked back over to the NS connector track and returned the derail to the normal position. As he began walking back to his train, the conductor heard a train make an emergency brake application.

NS Train 198A701:

Train 198A701 originated in New Orleans, Louisiana (LA), destined for Birmingham, AL, with a scheduled

crew change in Meridian, Mississippi (MS), MP 295.4. The train crew reported for duty at Meridian on October 1 at 8:30 p.m., which is their away from home terminal. The crew consisted of a locomotive engineer and a conductor, and both men received the required statutory rest period prior to going on duty. After obtaining their paperwork and having a job briefing, the train crew boarded the locomotives and coupled them to the train. They performed a rear car application and release brake test and departed Meridian Yard at 8:55 p.m. Train 198A701 consisted of two locomotives, 35 loaded and 12 empty mixed freight cars. The train was 2,893 feet in length with a gross tonnage of 4,897 tons. The method of operation between Meridian and Birmingham is by Traffic Control (TC).

The engineer and conductor said they did not perform any work en route and there were no problems with the train. The engineer indicated he started throttling down when they received an advance approach signal at MP 246.8. The train crew received an approach signal at Miller, MP 244.2, and made a roll-by inspection of NS Train A58 located in Miller Siding. During this time, the conductor indicated to the engineer that he had heard Train A58 talking to someone on the AGR and that the AGR might be on the interlocking. As Train 198A701 came out of a left hand curve about one-half mile south of the interlocking signal, the conductor called a clear signal on the AGR interlocking. The engineer observed the signal and called the signal clear to the conductor and over the radio. The engineer began throttling back up increasing the train speed. About three or four car lengths from the interlocking signal, the engineer saw that the signal was red, and the conductor called out, “there are cars on the interlocking.”

Approaching the accident area, the engineer was seated at the controls on the west side of lead and controlling locomotive NS 6654 (short hood forward), the conductor was seated on the east side. The engineer was operating the train at 38 miles per hour (mph). NS maximum authorized timetable speed approaching the accident area is 50 mph, and 40 mph over the interlocking.

Timetable direction for both trains is north. Train 198A701 was operating geographically northeast and Train 211 North was operating geographically northwest. For this report, Train 198A701 will be operating north and Train 211 North will be operating west.

THE ACCIDENT

The engineer placed Train 198A701 in emergency when he saw the red signal at the AGR interlocking and he and the conductor got down on the floor of the locomotive cab. Lead locomotive NS 6654 struck the side of empty tank car UTLX 660383 entrained in AGR Train 211 North at a speed of 38 mph and continued traveling north a distance of about 30 car lengths before coming to a stop.

The conductor on AGR Train 211 North radioed his engineer and asked if he had put their train in emergency. The engineer responded that he had not and told the conductor that the train line pressure was not increasing. The conductor focused his lantern eastward toward the rear of his train and saw reflector tape on the side of a freight car. He realized an NS train had struck his train and the emergency air brake application he heard was from the NS train. The conductor radioed his engineer and then told him what had happened, then asked him to call for help. He went to the locomotive of NS Train 198A701 to see if the train crew was injured.

The engineer of Train 211 North radioed the AGR dispatcher who immediately contacted the local 911 operator. The engineer of Train 198A701 notified the NS dispatcher via the radio emergency tone and the dispatcher contacted local emergency personnel. Emergency responders included the Boligee Volunteer Fire Department and fire and rescue personnel from Eutaw, AL.

FATIGUE ANALYSIS

FRA reviewed the 10-day work history of the crew members involved.

FATIGUE CONCLUSION

The FRA noted that the locomotive engineer of 211 North may have been working at a diminished level of effectiveness due to fatigue, which may have contributed to the cause of the accident.

ANALYSIS AND CONCLUSION

ANALYSIS:

The Federal Railroad Administration (FRA) arrived at the accident site about 7 a.m. on October 2 and observed the AGR interlocking signal adjacent to the NS main track displaying a red over red stop indication. FRA observed five cars from AGR Train 211 North derailed. One car was located northwest of the interlocking, three cars were on their side northeast of the interlocking, and one car was east of the interlocking on the AGR main track with the west end of the car derailed. The three cars on their side were residue hazardous material tank cars last containing Sodium Chlorate. There was no release of material.

The method of operation through the interlocking is by signal indication of an interlocking signal system for both railroads. Trains operate in accordance with the signal indication through the interlocking limits. AGR trains operate east and west over a single main track with one absolute signal governing train movements into and through the interlocking limits. The NS operates trains over a main track and passing track with two northward and two southward absolute signals governing train movements into and through the interlocking limits.

An FRA Signal and Train Control Inspector conducted extensive tests involving the northbound AGR interlocking signal (absolute signal-4). The signals of the interlocking are controlled by dc non-coded track and line circuits. The northbound AGR interlocking signal is mounted on a high ground mast, with a two position color light type, capable of displaying two aspects and indications: Red over red = Stop; Yellow over red = Approach; and Green over red = Clear. All signal aspects and indications conform to the General Code of Operating Rules (GCOR). Testing of the interlocking signals was limited due to the destroyed AGR main signal instrument house and associated electrical components and relays; however, no exceptions were noted during the tests and inspections conducted.

NS control point Bermul, MP 242.0, is located north of the interlocking and control point Miller, MP 244.2, is located south of the interlocking. The signal system is controlled from the NS Centralized Traffic Control (CTC) located at Irondale, AL. At the time of the accident, AGR Train 211 North was on the interlocking. This was confirmed by recorded data captured by the NS dispatcher TCS equipment and adjacent field locations. Raw data was retrieved and transcribed from the Bermul and Miller control points.

Both the engineer and conductor of Train 198A701 indicated they believed it possible they confused the northbound signal at Bermul, MP 242.0, with the AGR interlocking signal, MP 242.5. They indicated that the Bermul signal had recently been moved from the east side of the main track to the west side, which causes the signal to line up with the interlocking signal.

On October 3 about 11:20 p.m., NS conducted a re-enactment of Train 198A701 approaching the accident area. The re-enactment was between MP 249.6 and MP 242.0. Re-enactment findings concluded that absolute northbound signal-4 (AGR interlocking signal) was clearly associated with the track governed for a considerable distance and beyond. The northward main track absolute signal at control point Bermul appeared to be to the left of the main track.

The northbound signal at Bermul is located to the left of the main track, 3,241 feet north of the AGR interlocking signal. Both the interlocking signal and the Bermul signal come into view just north of MP 243.9 as the train exits a left hand curve. Data retrieved from the Bermul control point shows that the signal was displaying a clear indication at the time of the accident.

The download from lead locomotive NS 6654 event recorder indicated Train 198A701 was traveling at 42 mph in notch 4 as it passed the advanced approach signal at MP 246.8. The train was notching down at MP 245.1 and placed in dynamic brake at MP 244.3 running 37 mph at the approach signal. Train 198A701 was placed back into power at MP 243.99 and advanced to notch 3 at MP 243.79. The train was placed in emergency at MP 242.6 running 38 mph and traveled 1,615 feet after the air brake application.

CONCLUSION

Inspections and tests of the AGR interlocking absolute signal-4 (AGR interlocking signal) disclosed no malfunction and/or failure of the signal which would cause the interlocking signal to display an unintended signal indication. The accident re-enactment concluded that the AGR interlocking signal (absolute

northbound signal-4) was clearly associated with the track governed.

PROBABLE CAUSE

The probable cause of the accident was the failure of the NS train crew to comply with a stop signal indication at the AGR Interlocking signal.