

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

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RAILWARE, INC.,	:	
	:	
Plaintiff,	:	
	:	Case No.: 1:22-cv-5013-KPF
-against-	:	
	:	JURY TRIAL REQUESTED
NATIONAL RAILROAD PASSENGER	:	
CORPORATION D/B/A AMTRAK,	:	
	:	
Defendant.	:	
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**NATIONAL RAILROAD PASSENGER CORPORATION D/B/A AMTRAK’S ANSWER,
AFFIRMATIVE DEFENSES, AND COUNTERCLAIMS**

National Railroad Passenger Corporation d/b/a Amtrak (“Amtrak”), by and through its undersigned counsel, files this Answer, Affirmative Defenses, and Counterclaims in response to Plaintiff Railware, Inc.’s (“Railware”) Amended Complaint (Dkt. No. 11) (“Amended Complaint”).

Each numbered paragraph below responds to the same numbered paragraph in the Amended Complaint. Except as expressly admitted herein, Amtrak denies the allegations in the Amended Complaint. To the extent the headings of the First Amended Complaint are construed as allegations, they are each denied. Any admission herein is limited to the express language of the response, and shall not be deemed an implied admission of additional facts. Amtrak expressly reserves the right to amend or supplement the below based on discovery and Amtrak’s investigation continues in this case given the length of the Amended Complaint.

INTRODUCTION

1. This lawsuit concerns Defendant’s infringement of Railware’s patents.

AMTRAK’S ANSWER: Amtrak admits that Railware purports to allege an action for patent infringement. Amtrak denies the allegation of infringement of Railware’s patents.

2. Railware produces one of the premier train traffic control systems in the world, Dispatch X. Among Railware’s suite of tools in or for its train traffic control systems is its patented safety technology, the Enhanced Employee Protection System (“EEPS”). EEPS is designed to ensure the safety of track workers that must enter onto tracks to perform maintenance and repairs. During track work, trains are typically blocked from traversing sections of tracks that have railway workers on them. But like all human-controlled systems, these systems are subject to operator error, which can result in serious injury or death to railway workers. To protect against these high stakes for railway workers, EEPS forestalls errant train blocking, by placing the authority to lift a block in the hands of the railway worker on the tracks, thereby preventing the railway traffic controller or dispatcher from accidentally lifting a block and endangering the railway worker(s). Whereas old systems placed the safety of the railway workers in the hands of a geographically remote dispatcher, EEPS places the safety of the railway workers in the hands of the workers themselves.

AMTRAK’S ANSWER: Paragraph 2 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak denies that Railware first created the alleged patented EEPS and Railware’s description of “old systems.” Otherwise, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 2 and, on that basis, denies them.

3. Railware’s systems, including EEPS, are used on some of the busiest railroads in the country, including the Metro North Railroad and the Long Island Railroad. Millions of people rely on Railware’s products to transport them safely every day.

AMTRAK’S ANSWER: Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 3 and, on that basis, denies them.

PATENTS-IN-SUIT

4. Railware’s owner and inventor of the patents-in-suit, Ross Pirtle, spent years developing EEPs. As a result of his years of effort and investment, Mr. Pirtle was awarded two United States patents: U.S. Pat. Nos. 9,517,782 (the “’782 patent”) (a copy of which is attached as Exhibit A) and 9,403,545 (the “’545 patent”). Mr. Pirtle assigned the ’782 and ’545 patents to Railware. The ’545 patent has since been reissued as two reissue patents: (1) U.S. Reissue Pat. No. RE47,835 (the “’835 patent”) (a copy of which is attached as Exhibit B); and (2) U.S. Reissue Pat. No. RE49,115 (the “’115 patent”) (a copy of which is attached as Exhibit C) (the ’782 patent, the ’835 patent, and the ’115 patent are collectively referred to herein as the “Asserted Patents”).

AMTRAK’S ANSWER: Amtrak admits that Mr. Pirtle is a purported inventor of the ’782 patent and ’545 patent and that the ’545 patent was reissued as the ’835 patent and ’115 patent. Otherwise, Amtrak denies the allegations and statements in Paragraph 4. For instance, Amtrak denies Railware is the owner and Mr. Pirtle is the inventor of the Asserted Patents.

PARTIES

5. Railware is a corporation organized and existing under the laws of New York with its principal place of business located in Hauppauge, NY. Railware is the owner of all right, title, and interest in the Asserted Patents.

AMTRAK’S ANSWER: Amtrak denies Railware is the owner of all right, title, and interest in the Asserted Patents. Otherwise, Amtrak lacks sufficient knowledge or information to form a belief as to the truth of the allegations contained in Paragraph 5, and thus denies them.

6. Railware is the creator of Dispatch X, one of the premier train traffic control

systems in the world, used by some of the busiest railroads in the country, including the Metro North Railroad and the Long Island Railroad. Railware's owner is also the creator of the patented EEPS technology, which saves railway workers' lives by placing the power to lift a block on a section of track in the hands of the railway workers themselves that are on the track.

AMTRAK'S ANSWER: Paragraph 6 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations relating to Railware's Dispatch X and its purported customers and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 6, including without limitation, that "Railware's owner is also the creator of the patented EEPS technology."

7. Amtrak is a corporation organized and existing under the laws of Washington, D.C., and having its principal place of business in Washington, D.C. Amtrak is a federally chartered, for-profit corporation. Amtrak is operated as a for-profit company, rather than a public authority. Amtrak operates a nationwide rail network, serving more than 500 destinations in 46 states, the District of Columbia, and three Canadian provinces, on more than 21,400 miles of routes. Amtrak owns and operates at least 363 miles of the 457-mile Northeast Corridor ("NEC") spine between Washington and Boston, including in this District. For example, Amtrak operates the Penn Station Central Control ("PSCC") in Manhattan, NY from which Amtrak dispatchers control the movement of trains along NEC tracks.¹

AMTRAK'S ANSWER: Amtrak admits that it is a corporation organized and existing

¹ See Edgar Sandoval, *A Look Inside The Penn Station Control Room Keeping Watch Over MTA's Summer Of Hell*, NY DAILY NEWS (July 25, 2017), <https://www.nydailynews.com/new-york/penn-station-control-room-summer-hell-article-1.3355722>; see also, Emma Whitford, *A Rare Peek Inside The Penn Station Central Control Room*, GOTHAMIST (July 25, 2017), <https://gothamist.com/news/a-rare-peek-inside-the-penn-station-central-control-room>.

under the laws of Washington, D.C., and having its principal place of business in Washington, D.C. Amtrak admits it is a federally chartered, for-profit corporation. Amtrak admits it operates in 500 destinations in 46 states, the District of Columbia, and three Canadian provinces, on more than 21,400 miles of routes. Amtrak admits it operates 363 route-miles of the 457-route mile Northeast Corridor (NEC) main line between Washington, New York City-Boston. Amtrak admits it operates the Penn Station Central Control (“PSCC”) in Manhattan, New York. Otherwise, Amtrak denies the allegations and statements in Paragraph 7.

JURISDICTION AND VENUE

8. This Court has subject matter jurisdiction of the action pursuant to the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, and pursuant to 28 U.S.C. § 1338 because Railware’s claims against Amtrak both arise out of the patent laws of the United States and raise a federal question.

AMTRAK’S ANSWER: Paragraph 8 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak does not contest that this Court has subject matter jurisdiction over the action with the limitation in Second Affirmative Defense that Railware lacks standing. Amtrak admits that the Amended Complaint purports to state a claim for patent infringement. Otherwise, Amtrak denies the allegations and statements in Paragraph 8.

9. This Court has personal jurisdiction over Amtrak. As alleged herein, Amtrak has had continuous and systematic contacts with the state of New York, has purposely directed activities at the State of New York, and this action arises out of and relates to those activities. For example, Amtrak owns and operates at least 363 miles of track on the NEC, including all track between New Rochelle, NY and the NY/NJ state line, west of New York Penn Station. In Fiscal Year 2021, Amtrak invested \$935 million in capital renewal and special projects in the New York

City Metro area, including \$378.7 million completing the East End Gateway, a new entrance into New York's Penn Station at 7th Avenue. Amtrak operates approximately 130-140 trains daily through New York. In FY19, Amtrak spent more than \$213 million on goods and services in New York, including more than \$148 million in New York City alone. Amtrak has represented that it operates two "major maintenance facilities" in New York, including Sunnyside Yard in New York City.² Amtrak has further represented:

Amtrak and its partners are working together to create the future home of Amtrak's New York City passenger operations within the new Train Hall in Moynihan Station. Moynihan Station expands the nation's busiest train station, New York Penn Station, across 8th Avenue into the historic James A. Farley Post Office Building. Moynihan Station will offer enhanced passenger facilities for Amtrak's NEC and long-distance travelers, including accessibility for passengers with disabilities, all within a grand Train Hall featuring a sky-lit atrium. In concert with the forthcoming renovation of Penn Station, to better serve commuter rail passengers and Amtrak's intercity passenger arrivals, expansion of Amtrak's passenger services into the new Moynihan Station will relieve existing station crowding and improve passenger comfort and security.³

AMTRAK'S ANSWER: Paragraph 9 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak does not contest personal jurisdiction. The document referenced in Paragraph 9 speaks for itself. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Amtrak admits it operates 363 route-miles of the 457-route-mile Northeast Corridor (NEC) main line between Washington and Boston. Otherwise, Amtrak denies the allegations and statements in Paragraph 9.

10. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1400(b) because, as alleged herein, Amtrak has committed acts of infringement in this District and Amtrak maintains

² <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/NEWYORK19.pdf> (last visited May 6, 2022).

³ *Id.*

a regular and established place of business in this District. Specifically, Amtrak maintains the PSCC in this District, which is a regular and established place of business. According to Amtrak, at PSCC it “ha[s] 12 dispatchers ... around the clock, 365 days a year . . . Christmas included.”⁴ Amtrak further operates out of the Moynihan Train Hall at Penn Station in Manhattan NY, including employing personnel, selling train tickets, boarding, unloading, and housing trains. Amtrak has represented that the Train Hall in Moynihan Station is “home of Amtrak’s New York City passenger operations.”⁵ As to acts of infringement in this District, Amtrak’s operation of its dispatch system in PSCC constitutes infringement of the Asserted Patents in this District as set forth herein. Specifically, Amtrak has and/or is operating one or both of Rockwell Collins’ ARINC RailwayNet/Advanced Information Management (“AIM”) platform and/or AMTEC⁶ dispatch and centralized traffic control systems in PSCC, and/or other similar systems. Operation of these systems, as implemented by Amtrak, constitutes infringement of the Asserted Patents as set forth herein.

AMTRAK’S ANSWER: Paragraph 10 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak does not contest venue. The documents referenced in Paragraph 10 speak for themselves. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Amtrak admits it is operating AMTEC in Penn Station Central Control (“PSCC”). Amtrak denies that it previously used Collins Aerospace’s ARINC RailwayNetSM System/AIM System in PSCC. Otherwise, Amtrak denies infringement and

⁴ Edgar Sandoval, *A Look Inside The Penn Station*.

⁵<https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/NEWYORK19.pdf> (last visited May 6, 2022).

⁶ Railware’s allegations are not limited to these products. Any product used by Amtrak that implements functionality similar to that described herein is accused of infringement. Railware’s identification of Rockwell Collins’ ARINC RailwayNet/AIM platform and/or AMTEC dispatch and centralized traffic control systems is purely exemplary.

denies the allegations and statements in Paragraph 10.

FACTUAL ALLEGATIONS

A. Railware and its Technology

11. Railware provides one of the premier train traffic control systems in the world, Dispatch X. Railware's systems are used by some of the busiest railroads in the country, including to direct trains at Grand Central Station and Penn Station. Railware's systems are the industry standard for traffic control and operations management. Dispatch X provides customers with high-definition graphics and point and click usability. It is scalable for everything from a local control panel on a single interlocking to an entire railroad. Railware supports all railroad protocols so customers can communicate with systems of any complexity in one high resolution, graphic interface.

AMTRAK'S ANSWER: Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 11 and, on that basis, denies them.

12. Among the many features offered by Railware's systems is its patented EEPS technology. EEPS was developed by Railware's owner and inventor on the Asserted Patents, Ross Pirtle, to save people's lives.

AMTRAK'S ANSWER: Paragraph 12 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak denies the statements and allegations in Paragraph 12. For instance, Amtrak denies "EEPS was developed by Railware's owner and inventor on the Asserted Patents, Ross Pirtle, to save people's lives."

13. When railway tracks require maintenance, railway workers must physically enter the track area to perform the necessary maintenance. Entering an active track area poses grave risks to the railway workers, who are defenseless against train traffic. Over time, various safety systems were developed. Early systems included alarm systems, which would alert railway

workers to incoming train traffic, ideally allowing them time to vacate the track area before the train approached that portion of the track and until the danger had passed. Such systems, however, proved inadequate to mitigate the risks to railway workers associated with train traffic.

AMTRAK’S ANSWER: Paragraph 13 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak denies the statements and allegations in Paragraph 13. For instance, Amtrak denies that Railware first created the alleged patented EEPS feature and denies no prior art systems existed or were “inadequate.”

14. The birth of centralized train control⁷ (“CTC”) systems provided a better option. A remote dispatcher could control the tracks used by trains. This control enabled the dispatcher to temporarily reroute trains away from track sections that were being worked on by railway workers. But these systems too suffered from certain drawbacks. Specifically, the blocking of track sections was controlled entirely by the remote dispatcher. Human error could and did lead to blocks being removed prematurely by the dispatcher, either because the dispatcher falsely believed that the railway work was complete, or because the dispatcher intended to remove a different block and mistakenly removed a block on a track section that was still undergoing work. This proved inadequate to mitigate the risks to railway workers associated with train traffic.

AMTRAK’S ANSWER: Paragraph 14 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak admits that Railware states that centralized train control systems were known before Railware filed its patents. Otherwise, Amtrak denies the statements and allegations in Paragraph 14. For instance, Amtrak denies that Railware first created the alleged patented EEPS feature and denies no prior

⁷ Also known as centralized traffic control.

art systems existed.

15. To overcome these limitations, Railware developed EEPS. EEPS forestalls errant blocking by requiring railway traffic controllers and employees on the ground to cooperate to lift a block. Every time a block is placed, a unique code is generated using, for example, industry leading RSA-authentication and sent to the railway track foreman in the field. In order for that block to be removed, its unique key must be sent back to the dispatcher at the operations control or dispatch center to authorize it. By putting the power to lift a block not solely in the hands of the dispatcher in the operations control center, but also those of railway workers operating under its protection, EEPS prevents mistakes and ultimately saves lives. EEPS is offered to Railware's customers and potential customers with Dispatch X.

AMTRAK'S ANSWER: Paragraph 15 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak denies that Railware first created the alleged patented EEPS feature and denies no prior art systems existed. Amtrak notes while Railware claims to have “developed EEPS,” Metro North, as explained in Amtrak's Second Defense, claimed to have “developed in-house” EEPS. Otherwise, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of Railware's purported EEPS and offerings of EEPS as part of Dispatch X allegations in Paragraph 15 and, on that basis, denies them.

16. As a result of Railware's hard work and innovations, its software won the Federal Railroad Administration (“FRA”) President's Award and is recommended by the FRA for use in every railroad in the country.

AMTRAK'S ANSWER: Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 16 and, on that basis, denies them. Amtrak

notes in its Second Affirmative Defense that public documents state that Metro North developed EEPS and won an award for it.

17. EEPS's inventor, Ross Pirtle, was awarded two U.S. patents for his inventions: The '782 patent and the '545 patent. The '545 patent has since been reissued as the '835 patent and the '115 patent. The '782 patent, the '835 patent, and the '115 each cover Railware's EEPS technology.

AMTRAK'S ANSWER: Paragraph 17 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak admits that Railware asserts that the '782 patent, the '835 patent, and the '115 each cover Railware's EEPS and admits Ross Pirtle is the purported inventor of the '782 patent, the '835 patent, and the '115 patent. Otherwise, Amtrak denies the statements and allegations in Paragraph 17. For instance, Amtrak denies that Mr. Ross Pirtle is EEPS's inventor and denies he is the inventor of the '782 patent, '545 patent, '835 patent, and '115 patent.

18. The '782 patent includes claims directed to methods and systems for railway control. For example, in claim 5, the claimed method to enhance railway control, to protect safety of railway workers on or near railway tracks comprises (1) configuring a mobile user device of a railway field worker to provide a device user interface to display information received via a network from a railway control apparatus and to permit the railway field worker to respond to prompts displayed thereon; (2) providing a terminal user interface on a terminal to permit a terminal user to request the railway control apparatus to place a block on one or more specified track sections to permit a railway field worker to enter the track sections while blocking railway traffic to said track sections; (3) generating by the railway control apparatus a release code and transmitting the release code to an electronic contact address accessible by the railway field worker

via operation of the user interface of the user terminal; and (4) permitting the block to said one or more track sections to be removed by the railway control apparatus only upon receiving the release code from the user terminal in return.

AMTRAK'S ANSWER: Paragraph 18 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, claim 5 of the '782 patent speaks for itself. Otherwise, Amtrak denies the statements and allegations in Paragraph 18.

19. The '835 patent includes claims directed to methods and systems for centralized railway control. For example, in claim 19, the claimed method for controlling railway access using a railway traffic control apparatus of a centralized railway control system configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network comprises (1) providing a user interface of the railway traffic control apparatus, including a block placing part to place a block on one or more specified track sections in any of said plural railways constituting said railway network that is managed by centralized control operation from the railway traffic control apparatus, the railway traffic control apparatus controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network, to block railway traffic to the specified track sections and thereby to permit a railway field worker to enter the track sections; (2) generating a removal code, determining an electronic contact address of the railway field worker by accessing a rail personnel contact database registering, for each railway personnel, electronic contact information of the railway personnel, and transmitting the removal code to the electronic contact address of the railway field worker; and (3) permitting the

block to said one or more track sections to be removed only upon entry of the removal code by said centralized control operation from the railway traffic control apparatus.

AMTRAK'S ANSWER: Paragraph 19 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, claim 19 of the '835 patent speaks for itself. Otherwise, Amtrak denies the statements and allegations in Paragraph 19.

20. The '115 patent includes claims directed to methods and systems for centralized railway control. For example, in claim 20, the claimed railway control apparatus for centralized control of a centrally controllable railway network including plural railways and a plurality of railway interlocks dispersed in said plural railways comprises (1) a processor for controlling a plurality of track sections in the railway network, wherein each track section is associated with a corresponding interlock and is disposed in any of said plural railways of said railway network that is managed by centralized control operation from the railway control apparatus, the processor controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway interlocks dispersed in said plural railways of said railway network, to block railway traffic to one or more specified track sections; and (2) a memory device storing computer-executable instructions, wherein execution of the computer-executable instructions by the processor causes the railway control apparatus to: (a) receive a selection of at least one track section amongst the plurality of track sections; (b) transmit a block signal to the corresponding interlock associated with the at least one selected track section, to place a block on the selected track section by said centralized control operation from the railway control apparatus; (c) generate a secret code associated with the at least one selected track section; and (d) transmit the secret code to a remote user terminal.

AMTRAK’S ANSWER: Paragraph 20 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, claim 20 of the ’1155 patent speaks for itself. Otherwise, Amtrak denies the statements and allegations in Paragraph 20.

21. The inventions claimed in the Asserted Patents fundamentally altered the way that railroads approach railway worker safety. The inventions integrated a technological barrier between the train dispatcher and releasing blocks that is controlled solely by the railway workers that are working on or near tracks. The claimed inventions of the Asserted Patents converted what had previously been a single user, single device process into a multi-device process, with the goal and accomplishment of improving railway worker safety. To accomplish this goal, the Asserted Patents introduced a new architecture and algorithm for placing and releasing blocks that was hitherto unknown. This change requires the restructuring of communications into an unconventional arrangement and introduces new communications to the technological environment never before used in railway safety technology.

AMTRAK’S ANSWER: Paragraph 21 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, claim 20 of the ’115 patent speaks for itself. Otherwise, Amtrak denies the statements and allegations in Paragraph 21.

B. Regulatory Requirements and Recommendations

22. On or about December 16, 1996, the Federal Railroad Administration (“FRA”) promulgated 49 C.F.R. 214.319, which governs working limits on railroad tracks.

AMTRAK’S ANSWER: 49 C.F.R. 214.319 referenced in Paragraph 22 speaks for itself. To the extent a response is required, Paragraph 22 does not quote the full statute and on that basis, Amtrak denies Paragraph 22.

23. On or about November 25, 2014, the FRA issued Safety Advisory 2014-02 “to reemphasize the importance of clear communication and compliance with applicable rules and procedures regarding roadway worker authority limits on controlled track.”⁸ In Safety Advisory 2014-02, the FRA specifically stated “FRA recommends that railroads adopt one or more electronic technologies that may serve to fill the technology gap. Examples of such technology already in use include the following systems: Enhanced Employee Protection System [EEPS]. . . .”⁹

AMTRAK’S ANSWER: The document referenced in Paragraph 23 speaks for itself. To the extent a response is required, Paragraph 23 does not quote the full documents and on that basis, Amtrak denies Paragraph 23.

24. The FRA described one embodiment of the patented EEPS technology as follows:

when an RWIC [roadway worker in charge] secures a track authority, he or she is provided a code via a beeper-like device that is not provided to the dispatcher issuing the authority. The system is designed so that the dispatcher cannot remove the blocking devices that are preventing the clearing of the absolute signal until the RWIC provides him or her with the issued code. Thus, the dispatcher cannot remove the associated on-track safety provided by the authority without the knowledge and agreement of the RWIC.¹⁰

AMTRAK’S ANSWER: The document referenced in Paragraph 24 speaks for itself. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Amtrak denies the statements and allegations in Paragraph 24 because, for instance, the quoted portion never mentions (a) the word “patented” despite Railware’s statement of “patented EEPS” in Paragraph 24, (b) the word “Railware,” and (c) “one embodiment.”

25. On or about June 10, 2016, the FRA issued a Final Rule amending 49 C.F.R.

⁸ DOT Roadway Worker Authority Limits Rule, 79 Fed. Reg. 70268 (2014).

⁹ *Id.* at 70269.

¹⁰ *Id.*

214.319. Specifically, 49 C.F.R. 214.319(b) provides:

(b) Each Class I or Class II railroad or each railroad providing regularly scheduled intercity or commuter rail passenger transportation that utilizes controlled track working limits as a form of on-track safety (under §§ 214.321 through 214.323) in signalized territory shall:

(1) By July 1, 2017, evaluate its on-track safety program and identify an appropriate method(s) of providing redundant signal protections for roadway work groups who depend on a train dispatcher or control operator to provide signal protection in establishing controlled track working limits. For purposes of this section, redundant signal protections means risk mitigation measures or safety redundancies adopted to ensure the proper establishment and maintenance of signal protections for controlled track working limits until such working limits are released by the roadway worker in charge. Appropriate redundant protections could include the use of various risk mitigation measures (or a combination of risk mitigation measures) such as technology, training, supervision, or operating-based procedures; or could include use of redundant signal protection, such as shunting, designed to prevent signal system-related incursions into established controlled track working limits; and

(2) By January 1, 2018, specifically identify, implement, and comply with the method(s) of providing redundant protections in its on-track safety program.

AMTRAK’S ANSWER: The document referenced in Paragraph 25 speaks for itself.

Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context.

26. Amtrak is a Class 1 railroad, and therefore subject to the provisions of 49 C.F.R. 214.319(b).

AMTRAK’S ANSWER: Paragraph 26 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak admits it is a Class 1 railroad and states 49 C.F.R. 214.319(b) speaks for itself.

27. In the FRA’s Section-by-Section Analysis that accompanied the June 10, 2016 rule change, the FRA specifically referred to Safety Advisory 2014-02 and its discussion of EEPs,

concluding “FRA encourages railroads to use new technologies *such as EEPS* as they become available to provide redundant signal protections for roadway work groups and to comply with new paragraph (b).”¹¹

AMTRAK’S ANSWER: Paragraph 27 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, the document referenced in Paragraph 27 speaks for itself. Paragraph 27 does not quote the full portion of 81 Fed. Reg. 37839, 37861, and on that basis, Amtrak denies it. Further, Amtrak denies the remaining statements and allegations in Paragraph 27 because, for instance, the quoted portion neither mentions “Railware’s EEPS” nor the word “patented.”

28. The EEPS system referred to by the FRA is covered by the Asserted Patents.

AMTRAK’S ANSWER: Paragraph 28 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak lacks knowledge or information sufficient to form a belief as to the truth or falsity of the allegations, and therefore denies the allegations on that basis.

29. Amtrak has followed and continues to follow the FRA’s recommendations and implemented the patented technology of the Asserted Patents into at least its control center integration systems and/or CTC systems in a manner(s) covered by the claims of the Asserted Patents. Amtrak deploys its infringing systems, including the patented technology of the Asserted Patents wherever it provides centralized train control systems, including in New York.

AMTRAK’S ANSWER: Amtrak denies the allegations of Paragraph 29. For instance, FRA neither mentions “Railware’s EEPS” nor the word “patented.”

C. Amtrak’s Notice of the Patents

¹¹ DOT Roadway Worker Protection Final Rule, 81 Fed. Reg. 37839, 37861 (emphasis added).

30. Assertion of infringement of only method claims of a patent does not implicate the Patent Act’s marking provision (35 U.S.C. § 287). However, to the extent the marking statute does apply, since at least October 21, 2020, Railware has included the patent numbers of the Asserted Patents (1) in the header bar of Railware’s Dispatch X system; and/or (2) on Railware’s freely and publicly available website.¹² Accordingly, Amtrak has had constructive notice and knowledge of the Asserted Patents since at least October 21, 2020.

AMTRAK’S ANSWER: Paragraph 30 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak denies it “had constructive notice and knowledge of the Asserted Patents since at least October 21, 2020” given the Court’s findings. See Dkt. No. 39, 28-29. Otherwise, Amtrak lacks knowledge or information sufficient to form a belief as to the truth or falsity of the allegations, and therefore denies the allegations on that basis.

D. Amtrak’s Infringement with RailwayNetSM/AIM

31. Amtrak has used and/or currently uses a centralized train control system provided by Rockwell Collins, Inc., a subsidiary of Raytheon Technology that does business as “Collins Aerospace.”¹³

AMTRAK’S ANSWER: Amtrak admits it used and uses Collins Aerospace’s ARINC RailwayNetSM System/AIM System in certain locations (not the PSCC) and such system speaks for itself. Amtrak lacks knowledge or information sufficient to form a belief as to the truth or falsity of the allegations of “Rockwell Collins, Inc., a subsidiary of Raytheon Technology that does business as ‘Collins Aerospace’.” Otherwise, Amtrak denies the statements and allegations in Paragraph 31.

¹² *EEPS with SURELOCK*, RAILWARE, <http://railware.net/eeeps.html> (last visited May 3, 2022).

¹³ <https://www.metro-magazine.com/10028560/arinc-wins-amtrak-contract> (last visited May 6, 2022).

32. In 2008, Amtrak awarded ARINC Incorporated (“ARINC”) a contract to design a Centralized Electrification and Control (CETC) system for the NEC. In 2013, Rockwell Collins acquired ARINC. In 2018, United Technologies acquired Rockwell Collins. In 2020, Raytheon Technologies merged with United Technologies, and rebranded Rockwell Collins/ARINC as Collins Aerospace.

AMTRAK’S ANSWER: Amtrak admits it awarded ARINC Incorporated (“ARINC”) a contract to design a Centralized Electrification and Control (CETC) system for certain locations on the NEC. Amtrak otherwise lacks knowledge or information sufficient to form a belief as to the truth or falsity of the allegations in Paragraph 32, and therefore denies the allegations on that basis.

33. According to Collins Aerospace, it provides “fully integrated train control and Positive Train Control (PTC), control center integration and customer information systems, [] cybersecurity and life-cycle management” services to “Class I freight, regional, short line, inter-city, commuter, subway and light rail systems across the United States and Canada.”¹⁴

AMTRAK’S ANSWER: Amtrak lacks knowledge or information sufficient to form a belief as to the truth or falsity of the allegations in Paragraph 33, and therefore denies the allegations on that basis.

34. Collins Aerospace offers a number of products and/or systems that provide, either alone or in combination with other products, infringing functionality, including but not limited to, ARINC RailwayNetSM, Integrated Train Control, and/or AIM.

AMTRAK’S ANSWER: Paragraph 34 contains conclusions of law as opposed to allegations of fact and no response is required. Amtrak denies any infringement using any Collins Aerospace’s products. Otherwise, Amtrak lacks sufficient knowledge or information to form a

¹⁴ Rail, COLLINS AEROSPACE, [https://www.collinsaerospace.com/what-we-do/Other- Industries/Rail](https://www.collinsaerospace.com/what-we-do/Other-Industries/Rail) (last visited Feb. 21, 2021).

belief regarding the truth of the allegations of Paragraph 34 as to Collins Aerospace's product offerings and, on that basis, denies them.

35. Collins Aerospace, through ARINC, has provided and currently provides centralized train control software and/or hardware to Amtrak, which Amtrak uses at least on its NEC corridor track, including at the PSCC.

AMTRAK'S ANSWER: Paragraph 35 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak admits it used and uses Collins Aerospace's ARINC RailwayNetSM System/AIM System in certain location(s) (not the PSCC) and such system speaks for itself. Otherwise, Amtrak denies the statements and allegations in Paragraph 35.

36. Collins Aerospace's software and/or hardware systems used by Amtrak on its NEC corridor infringe the Asserted Patents.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 36.

37. For example, with respect to the '782 patent, Collins Aerospace's software and/or hardware systems, including those used by Amtrak on its NEC corridor, practice the claimed method for (1) configuring a mobile user device of a railway field worker to provide a device user interface to display information received via a network from a railway control apparatus and to permit the railway field worker to respond to prompts displayed thereon; (2) providing a terminal user interface on a terminal to permit a terminal user of the terminal to request the railway control apparatus to place a block on one or more specified track sections to permit a railway field worker to enter the track sections while blocking railway traffic to said track sections; (3) generating by the railway control apparatus a release code and transmitting the release code to an electronic contact address accessible by the railway field worker via operation of the user interface of the

user terminal; and (4) permitting the block to said one or more track sections to be removed by the railway control apparatus only upon receiving the release code from the user terminal in return, such that they infringe one or more claims of the '782 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 37.

38. As a further example, with respect to the '835 patent, Collins Aerospace's software and/or hardware systems, including those used by Amtrak on its NEC corridor, practice the claimed method for controlling railway access using a railway traffic control apparatus of a centralized railway control system configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network centralized railway control system including (1) providing a user interface of the railway traffic control apparatus, including a block placing part to place a block on one or more specified track sections in any of said plural railways constituting said railway network that is managed by centralized control operation from the railway traffic control apparatus, the railway traffic control apparatus controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network, to block railway traffic to the specified track sections and thereby to permit a railway field worker to enter the track; (2) generating a removal code, determining an electronic contact address of the railway field worker by accessing a rail personnel contact database registering, for each railway personnel, electronic contact information of the railway personnel, and transmitting the removal code to the electronic contact address of the railway field worker; and (3) permitting the block to said one or more track sections to be removed only upon entry of the removal code by said centralized control operation from the railway traffic control apparatus, such that they infringe one or more claims of

the '835 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 38.

39. As a further example, with respect to the '115 patent, Collins Aerospace's software and/or hardware systems, including those used by Amtrak on its NEC corridor, practice the claimed railway control apparatus for centralized control of a centrally controllable railway network including plural railways and a plurality of railway interlocks dispersed in said plural railways comprises (1) a processor for controlling a plurality of track sections in the railway network, wherein each track section is associated with a corresponding interlock and is disposed in any of said plural railways of said railway network that is managed by centralized control operation from the railway control apparatus, the processor controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway interlocks dispersed in said plural railways of said railway network, to block railway traffic to one or more specified track sections; and (2) a memory device storing computer-executable instructions, wherein execution of the computer-executable instructions by the processor causes the railway control apparatus to: (a) receive a selection of at least one track section amongst the plurality of track sections; (b) transmit a block signal to the corresponding interlock associated with the at least one selected track section, to place a block on the selected track section by said centralized control operation from the railway control apparatus; (c) generate a secret code associated with the at least one selected track section; and (d) transmit the secret code to a remote user terminal, such that they infringe one or more claims of the '115 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 39.

40. On or about September 6, 2017, Collins Aerospace released a press release stating that Amtrak has signed a nationwide contract for Collins Aerospace's ARINC RailwayNetSM

Positive Train Control service. According to press release: “ARINC RailwayNet is a hosted network, messaging and application platform. . . . RailwayNet helps facilitate the increases in safety and reliability that PTC provides. RailwayNet will be implemented nationwide on Amtrak routes.”¹⁵

AMTRAK’S ANSWER: The document referenced in Paragraph 40 speaks for itself. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. To the extent a response is required, Amtrak lacks knowledge or information sufficient to form a belief as to the truth or falsity of the allegations, and therefore denies the allegations on that basis.

41. According to Amtrak’s Northeast Corridor Annual Report for fiscal year 2017, Amtrak allocated more than \$420,000 in implementing the Enhanced Employee Protection System (EEPS) in the Northeast Corridor through Collins Aerospace.¹⁶

¹⁵ *Amtrak Signs Nationwide Contract for Rockwell Collins’ ARINC RailwayNetSM Positive Train Control Service*, Mass Transit Magazine (Sep. 6, 2017), <https://www.masstransitmag.com/rail/railroad-signals-ptc-control-systems-and-products/press-release/12365875/rockwell-collins-amtrak-signs-nationwide-contract-for-rockwell-collins-arinc-railwaynet-sm-positive-train-control-service>.

¹⁶ *Northeast Corridor Annual Report: Operations and Infrastructure*, NEC COMMISSION 1, 49 (April 2018), <https://nec-commission.com/app/uploads/2018/04/NEC-Annual-Report-FY17.pdf>.

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C.EN.101711	FEN AMTRAK NEC - FENCE UPGRADES	3,082,806	1,446,696		
C.EN.101713	RAIL AMTRAK NEC - INSULATED JOINT REPLACEMENT PROGRAM	2,577,715	1,168,866	38,720	
C.EN.101714	CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM	421,503	409,692		
C.EN.101732	RAD AMTRAK NEC - RADIO SYSTEM UPGRADES	-	-		
C.EN.101737	STA PENN STATION NY - STATION CHILLED WATER SYSTEM UPGRADE	-	-		
C.EN.201034	ACSE AMTRAK OWNED-POSITIVE TRAIN CONTROL PTC INSTALLATION	3,150,755	3,023,578		
C.EN.201264	POLE ZOO TO PAOLI - CATENARY STRUCTURE REPLACEMENT DESIGN	71,846	12,551		
C.TR.100074	STA NEW ENGLAND DIV - INSTALL TRAIN APPROACH MESSAGE SYS	286,337	133,789	152,547	

AMTRAK’S ANSWER: The document referenced in Paragraph 41 speaks for itself. Amtrak admits the document states in-part, “C.EN. 101714 CETC Amtrak System-MOFW Enhanced Employee Protection System 421,503 409,692.” Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 41.

42. Amtrak budgeted \$2,405,319 as Northeast Corridor (NEC)-wide expenditure for “implement[ing] the SEPTA [Southeastern Pennsylvania Transportation Authority] and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC [Centralized Electrification and Traffic Control] systems on the NEC” in October 2017 for the fiscal year 2018.¹⁷

¹⁷ *Northeast Corridor One-Year Implementation Plan*, NEC COMMISSION 1, 16 (Oct. 2017), <http://nec-commission.com/app/uploads/2018/03/NEC-One-Year-Implementation-Plan- FY18.pdf>.

C.EN.101714. CETC Amtrak System - MOFW Enhanced Employee Protection System (Segment 31). CETC - Enhanced Employee Protection System. This project will implement the SEPTA and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC systems on the NEC.	\$2,405,319
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AMTRAK’S ANSWER: The document referenced in Paragraph 42 speaks for itself. Amtrak admits the document states in-part, “C.EN. 101714. CETC Amtrak System - MOFW Enhanced Employee Protection System (Segment 31). CETC – Enhanced Employee Protection System. This project will implement the SEPTA and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC systems on the NEC. \$2,405,319.” Amtrak also admits that Railware pleads it is the “SEPTA and Metro North Enhanced Protection System (EEPS)” not Railware’s EEPS system. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 42.

43. As discussed above, the Metro North EEPS system is covered by one or more claims of the Asserted Patents, and Metro North is a customer of Railware.

AMTRAK’S ANSWER: Paragraph 43 contains conclusions of law as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak denies that Railware first created the alleged patented EEPS feature. Otherwise, Amtrak lacks knowledge or information sufficient to form a belief as to the truth or falsity of the allegations, and therefore denies the allegations on that basis.

E. Amtrak’s Infringement with AMTEC System

44. Amtrak recently announced the decision to replace the legacy Collins Aerospace dispatch system with its own, proprietary dispatch system, known as AMTEC. Amtrak has either already implemented the AMTEC system or is in the process of implementing the AMTEC system, including at PSCC. AMTEC stands for Amtrak Train and Electrification Control. AMTEC is

Amtrak's proprietary train dispatch system that implements Amtrak's CETC (Centralized Electrification and Train Control) system. Amtrak uses the AMTEC train dispatching system to improve central train control functionality across Amtrak's tracks, including at PSCC.¹⁸

AMTRAK'S ANSWER: The document referenced in Paragraph 44 speaks for itself. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Amtrak denies it implemented Collins Aerospace's ARINC RailwayNetSM System/AIM System in PSCC. Amtrak admits that AMTEC is known as "Amtrak Train and Electrification Control." Amtrak also admits AMTEC is proprietary and was developed by Amtrak prior to this lawsuit. Amtrak further states that AMTEC uses Centralized Electrification and Train Control ("CETC"). Otherwise, Amtrak denies the allegations and statements in Paragraph 44.

45. In February 2019, Amtrak's Five-Year Infrastructure Asset Line Plan for FY 2019-2024 allocated \$3,650,000 for FY 2019 and \$5,194,913 for FY 2020 to convert the ARINC system to the AMTEC system and replace the Mid-Atlantic Division ("MAD") and Northeast Division ("NED") CETC primary and backup system with the AMTEC system in the Washington to Boston line.¹⁹

¹⁸ See *Management Trainee Program*, AMTRAK CAREERS, https://careers.amtrak.com/content/Management-Trainee-Program/?locale=en_US (last visited April 7, 2022).

¹⁹ *Amtrak Five Year Infrastructure Asset Line Plan FY 2019-2024*, AMTRAK 1, 320, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Infrastructure-Asset-Line-Plan-FY20-24.pdf> (last visited April 7, 2022).

C.EN.101767 - WAS-BOS CETC ARINC TO AMTEC SOFTWARE The Washington to Boston ARINC to AMTEC Software Upgrade Project will replace the MAD and NED CETC primary and backup system with the AMTEC system. The project will be design, implement and test the new MAD and NED AMTEC systems by in-house PSCC staff as well as maintenance of all system interfaces. Transportation personnel in Wilmington, Boston and Remote locations will be able to transfer their operations to the new system. Power Director and Load Dispatcher operations will continue, either by a newly selected system by Electric Traction (E/T) personnel or by the existing system. The project will provide training on the new system to both Transportation and CETC specialists. Location: NEC wide.				FAST Act Category: - Improvements Also Supports: - Normalized Capital Replacement - Strategic Initiatives that improve operational performance, lower cost or improve efficiency - Statutory, regulatory, or other legal mandates	Construction Program Priority: N/A Project Benefits: - Safety - SOGR - Resilience	
FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	C.EN.101767 Total
\$3,650,000	\$5,194,913	\$0	\$0	\$0	\$0	\$8,844,193

AMTRAK’S ANSWER: The document referenced in Paragraph 45 speaks for itself and Amtrak denies the allegations in Paragraph 45 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context.

46. Six months earlier, in October 2018, Amtrak had estimated a total project cost of \$6,593,463—with a fiscal year 2019 planned expenditure of \$6,212,732—to convert the ARINC system to AMTEC Software and replace the MAD and NED CETC primary and backup system with the AMTEC system in the Washington to Boston line.²⁰

²⁰ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 108 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

Washington to Boston ARINC to AMTEC Software Upgrade Project. CETC WASHINGTON TO BOSTON. C.EN.101767. FY19 scope includes completion of installation and testing of all software and hardware on the MAD-Harrisburg line and MAD-Mid-Atlantic Divisions. The project anticipates installation and testing on the NED-Springfield Line in FY19. The remaining work that is needed NED-Mainline will be start and complete in Early FY20.		\$6,593,463	\$6,212,732
<u>FY19 Phases</u>	<u>Schedule</u>		
MAD-Harrisburg line Phase 1	10/01/18 - 02/28/19		
MAD- Mid-Atlantic Phase 2	01/01/19 - 05/20/19		
NED-Springfield line Phase 3	06/01/19 - 10/01/19		
For project details, see Appendix A.			

AMTRAK’S ANSWER: The document referenced in Paragraph 46 speaks for itself and Amtrak denies the allegations in Paragraph 46 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context.

47. Amtrak has stated that the AMTEC system “will provide a common dispatch platform for the NEC.”²¹

AMTRAK’S ANSWER: The document referenced in Paragraph 47 speaks for itself and Amtrak denies the allegations in Paragraph 47 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context.

48. In early 2021, as part of Amtrak’s new train control systems, Amtrak announced the “initiative to standardize dispatch systems on the Amtrak-developed AMTEC platform to replace the legacy Collins dispatch system [that] will provide a common dispatch platform for the NEC and the Central division that is more reliable and resilient and will reduce maintenance cost.”²²

AMTRAK’S ANSWER: The document referenced in Paragraph 48 speaks for itself and

²¹ <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Service-Asset-Line-Plans-FY22-27.pdf> (last visited May 6, 2022).

²² *Five-Year Plans | Service And Asset Line Plans | FY 2021-2026*, AMTRAK 1, 149, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Service-Line-Asset-Line-Plans-FY21-26.pdf> (last visited April 7, 2022).

Amtrak denies the allegations in Paragraph 48 to the extent that the portion cited above from the document does not accurately represent the document's full content and context.

49. According to Amtrak's 2019 FY plan, it has implemented or is in the process of implementing an enhanced employee protection system (EEPS) that operates by "provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code to be provided by the roadway worker."²³

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK'S ANSWER: The document referenced in Paragraph 49 speaks for itself and Amtrak denies the allegations in Paragraph 49 to the extent that the portion cited above from the document does not accurately represent the document's full content and context.

50. The EEPS system described in Amtrak's 2019 FY plan has been or will be implemented as part of the AMTEC system upgrade.

AMTRAK'S ANSWER: Amtrak denies any infringement. The document referenced in

²³ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

Paragraph 50 speaks for itself. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Amtrak admits it introduced the accused EEPS feature in AMTEC prior to this lawsuit. Otherwise, Amtrak denies the allegations and statements in Paragraph 50.

FIRST CLAIM FOR RELIEF

(Infringement of the '782 patent)

51. Railware repeats and incorporates by reference all prior allegations of this Complaint as if fully set forth herein.

AMTRAK'S ANSWER: Amtrak repeats and incorporates by reference all its prior responses to all prior allegations as if set forth fully here.

52. Railware is the owner by assignment of all rights, title, and interest in and to the '782 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 52 as shown, for instance, in the Second Defense.

53. The '782 patent is valid and enforceable.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 53 as shown, for instance, in the Fifth, Seventh, and Tenth Defenses.

54. Claim 5 of the '782 patent recites:

A method to enhance railway control, to protect safety of railway workers on or near railway tracks, said method comprising:

configuring a mobile user device of a railway field worker to provide a device user interface to display information received via a network from a railway control apparatus and to permit the railway field worker to respond to prompts displayed thereon;

providing a terminal user interface on a terminal to permit a terminal user of the terminal request the railway control apparatus to place a block on one or more specified track sections to permit a railway field

worker to enter the track sections while blocking railway traffic to said track sections;

generating by the railway control apparatus a release code and transmitting the release code to an electronic contact address accessible by the railway field worker via operation of the user interface of the user terminal; and

permitting the block to said one or more track sections to be removed by the railway control apparatus only upon receiving the release code from the user terminal in return.

AMTRAK’S ANSWER: Amtrak admits Railware claims to recite in Paragraph 54 claim language from claim 5 of the ’782 Patent, but Amtrak denies any other allegations.

A. Infringement Based on Amtrak’s Implementation of Collins Aerospace’s ARINC RailwayNetSM System/AIM System

55. In violation of 35 U.S.C. § 271(a), Amtrak has infringed and continues to infringe one or more claims of the ’782 patent by making, using, offering for sale, selling, and/or importing in or into the United States a system or method covered by the ’782 patent, including, but not limited to, at least Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM system/AIM system and/or other similar system.²⁴

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 55. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses. Notably, Amtrak did not implement EEPs in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System.

56. Amtrak, through its implementation of Collins Aerospace’s ARINC RailwayNetSM system and AIM system and/or other similar system, infringes at least claim 5 of the ’782 patent.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 56.

²⁴ Further investigation may reveal that others of Amtrak’s products and systems also directly or indirectly infringe at least claim 5 or other claims of the ’782 patent.

For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses. Notably, Amtrak did not implement EEPs in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System.

57. Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM system/AIM system and/or other similar system practices a “method to enhance railway control, to protect safety of railway workers on or near railway tracks.”

AMTRAK’S ANSWER: Paragraph 57 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 57.

58. Amtrak owns and/or operates a number of dispatch centers along the Northeast Corridor (NEC) spine including in Boston, MA, New York, NY (PSCC), and Philadelphia, PA.²⁵ Dispatching centers are centralized railway control systems for controlling trains on certain sections of track. Amtrak implemented the Collins Aerospace-developed RailwayNetSM as a SaaS and/or IaaS—a software/infrastructure as a service—product that provides “full-featured network management and infrastructure, hardware, network, operating systems, and applications for fault, performance, security and configuration management.”²⁶ Amtrak has further implemented Collins Aerospace-developed AIM software.

AMTRAK’S ANSWER: Paragraph 58 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. To the extent a response is required,

²⁵ See *CETC Dispatch*, RAILROAD.NET, <https://railroad.net/cetc-dispatch-t66499-15.html> (last visited Apr. 04, 2022); see also *Supra* ¶¶ 22–29.

²⁶ ROCKWELL COLLINS INC., ARINC RAILWAYNET WHITE PAPER 6 (2016), https://www.rockwellcollins.com/-/media/Files/Unsecure/Services-And-Support/Information-Management/ARINC-Rail/RailwayNet/ARINC-Rail_RailwayNet_white-paper.ashx [hereinafter referred to as “White Paper”]; see also *Supra* ¶¶ 33–41.

Amtrak admits it operates dispatch centers along the Northeast Corridor (NEC) including in Boston, MA, New York, NY (PSCC), and Philadelphia, PA. Amtrak also admits it used Collins Aerospace's ARINC RailwayNetSM System/AIM System in certain locations (not the PSCC) and such system speaks for itself. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 58 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 58.

59. According to Collins Aerospace, RailwayNetSM helps facilitate the increases in safety and reliability that PTC provides.²⁷

AMTRAK'S ANSWER: Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 59 and, on that basis, denies them.

60. Collins Aerospace advertises that RailwayNetSM, which Amtrak uses, improves rail safety. "This system refers to communication-based/processor-based train control technology designed to address a number of rail safety issues, including train-to-train collisions, over-speed derailments, incursions into established work-zone limits, and train movement through a main-line switch that is in an improper position."²⁸

²⁷ *Amtrak signs nationwide contract for Rockwell Collins' ARINC RailwayNetSM Positive Train Control service*, COLLINS AEROSPACE (Sep. 6, 2017), <https://www.collinsaerospace.com/-/media/project/collinsaerospace/collinsaerospace-website/product-assets/files/public/services-and-support/information-management/arinc-rail/amtrak-and-railwaynet-press-release.pdf>.

²⁸ White Paper at 3.



AMTRAK’S ANSWER: Amtrak admits it used Collins Aerospace’s ARINC RailwayNetSM System/AIM System in certain locations (not the PSCC) and such system speaks for itself. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 60 as to the Collins Aerospace document cited and, on that basis, denies them.

61. Because Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM increases rail safety through a “communication-based/processor-based train control technology,” Amtrak practices a “method to enhance railway control, to protect safety of railway workers on or near railway tracks.”

AMTRAK’S ANSWER: Paragraph 61 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 61.

62. Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM system/AIM system and/or other similar system or method further configures “a mobile user device of a railway field worker to provide a device user interface to display information received via a network from a railway control apparatus and to permit the railway field worker to respond to prompts displayed thereon.”

AMTRAK’S ANSWER: Paragraph 62 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 62.

63. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system.”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 63 speaks for itself and Amtrak denies the allegations in Paragraph 63 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 63.

64. This system includes providing “mobile devices for roadway workers” as a part of

its deliverables. It is common knowledge that mobile devices include a user interface for interaction by a user. According to Amtrak, the system, i.e., a railway control apparatus, provides an authorization code to the railway worker's mobile device. Such communication must happen over a network. Further, the roadway worker must be able to respond to prompts displayed on the mobile device in order to provide the CETC train dispatcher with the authorization code. As noted in the image below, Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system or method "require[s] the authorization code be provided by the roadway worker."

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK'S ANSWER: Paragraph 64 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 64 speaks for itself and Amtrak denies the allegations in Paragraph 64 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 64.

65. Amtrak, for its implementation of Collins Aerospace's ARINC RailwayNetSM/AIM system, has purchased mobile devices for its railway workers and implemented a system whereby

its CETC system permits users to respond to prompts over a network.²⁹

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 65 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 65 speaks for itself and Amtrak denies the allegations in Paragraph 65 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 65.

66. According to Amtrak’s Northeast Corridor Annual Report for fiscal year 2017, Amtrak allocated more than \$420,000 in implementing the Enhanced Employee Protection System (EEPS) in the Northeast Corridor through its implementation of Collins Aerospace’s ARINC RailwayNetSM.³⁰ It also specifies providing back-office infrastructure and messaging, including “[s]torage and delivery of crew and consist information, train IDs and clearances.”³¹

²⁹ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf> [hereinafter referred to as “NEC One-Year Plan 2019”].

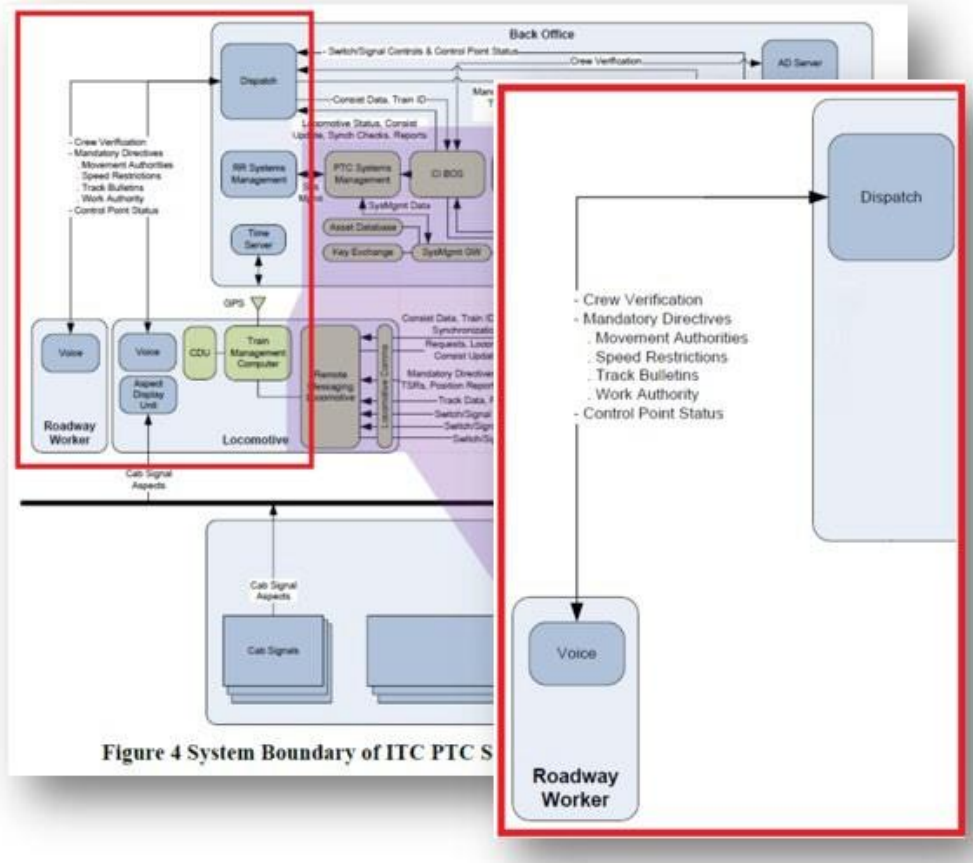
³⁰ *Northeast Corridor Annual Report: Operations and Infrastructure*, NEC COMMISSION 1, 49 (April 2018), <https://nec-commission.com/app/uploads/2018/04/NEC-Annual-Report-FY17.pdf>.

³¹ White Paper at 7.

Northeast Corridor Commission 49	C.EN.101711	FEN AMTRAK NEC - FENCE UPGRADES	3,082,806	1,446,696		
	C.EN.101713	RAIL AMTRAK NEC - INSULATED JOINT REPLACEMENT PROGRAM	2,577,715	1,168,866	38,720	
	C.EN.101714	CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM	421,503	409,692		
	C.EN.101732	RAD AMTRAK NEC - RADIO SYSTEM UPGRADES	-	-		
	C.EN.101737	STA PENN STATION NY - STATION CHILLED WATER SYSTEM UPGRADE	-	-		
	C.EN.201034	ACSE AMTRAK OWNED- POSITIVE TRAIN CONTROL PTC INSTALLATION	3,150,755	3,023,578		
	C.EN.201264	POLE ZOO TO PAOLI - CATENARY STRUCTURE REPLACEMENT DESIGN	71,846	12,551		
	C.TR.100074	STA NEW ENGLAND DIV - INSTALL TRAIN APPROACH MESSAGE SYS	286,337	133,789	152,547	

AMTRAK’S ANSWER: The document referenced in Paragraph 66 speaks for itself and Amtrak denies the allegations in Paragraph 66 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 66. For instance, Amtrak did not implement EEPs in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System.

67. According to Collins Aerospace, its RailwayNetSM system supports I-ETMS message flows, including communications with railway workers to communicate crew verification and mandatory directives.



AMTRAK’S ANSWER: Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 67 and, on that basis, denies them.

68. Accordingly, Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM and/or other similar system or method, by providing a technology infrastructure to send and receive messages via a network and by providing mobile devices to rail workers, practices a method that configures "a mobile user device of a railway field worker to provide a device user interface to display information received via a network from a railway control apparatus and to permit the railway field worker to respond to prompts displayed thereon."

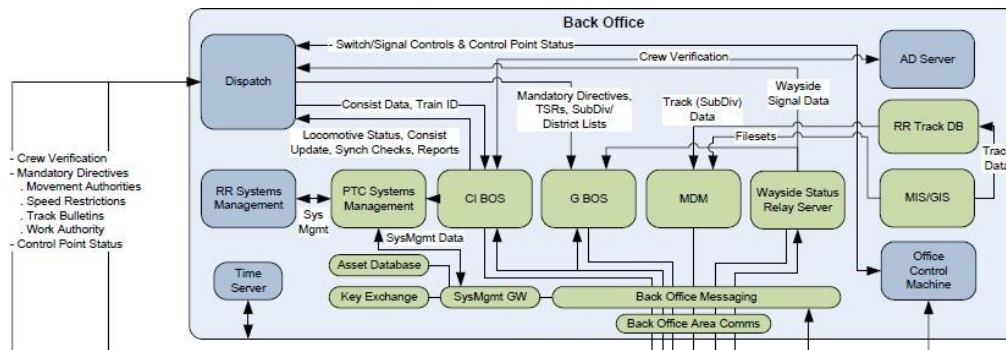
AMTRAK’S ANSWER: Paragraph 68 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and

statements in Paragraph 68.

69. Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM system/AIM system and/or other similar system or method further provides "a terminal user interface on a terminal to permit a terminal user of the terminal request the railway control apparatus to place a block on one or more specified track sections to permit a railway field worker to enter the track sections while blocking railway traffic to said track sections."

AMTRAK'S ANSWER: Paragraph 69 contains legal arguments and conclusions based on claim language (cited in-part) from the '782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 69.

70. The "ARINC RailwayNetSM integrations server and software provides connectivity between the railroad IT systems and the hosted back-office components."³² The integration server provides a terminal user interface on a terminal for use by the CETC system dispatcher.



³² See White Paper at 8 (illustrating "AIM[®] integration server").

AIM® integration server

The ARINC RailwayNet integrations server and software provides connectivity between the railroad IT systems and the hosted back-office components. The functions of this application include:

- › Interface with customer's IT gateway
- › Interface with back office
- › Manage crew authentication through the customer's IT gateway
- › Functions to assign train ID to trains based on the clearance number
- › Functions to manage train consist through the customer's IT gateway
- › Functions to track, display, and store events and alarms

Centralized Traffic Control and SCADA

Collins designs and integrates state-of-the-art rail control solutions using our ARINC Advanced Information Management (AIM®) platform. AIM serves as an end-to-end solution for all rail control requirements, including SCADA, Centralized Traffic Control, Positive Train Control (PTC) and control center integration. Highly flexible and feature-rich, AIM enables railroads to maximize operational efficiency, cost-effectiveness and safety, all while providing an environment protected by the latest tools and techniques in cybersecurity.

KEY AREAS OF EXPERTISE

- | | |
|---|--|
| • Train monitoring and control | • Bulletins, authorities and restrictions management |
| • Automatic train tracking | • Employee in Charge (EIC) terminals |
| • Automatic route setting/automatic routing | • Emergency Operating Procedures (EOP) |
| • Automatic traffic regulation and schedule deviation | • Power planning |
| • Schedule management | • Playback and simulation |
| • Integrated yard management | • Data acquisition |
| | • Interface integration |

AMTRAK'S ANSWER: Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 70 and, on that basis, denies them.

71. Collins Aerospace's ARINC RailwayNetSM/AIM system, as implemented by Amtrak, provides the network connections and office applications required to exchange critical information among Class I railroads and their partner short line commuter railroads. It is available on a subscription basis as hosted SaaS (software as a service) and IaaS (infrastructure as a service) solutions and PTC messaging from the back office to the locomotive through VHF, cellular, and Wi-Fi is also available.³³

AMTRAK'S ANSWER: Paragraph 71 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. To the extent a response is required,

³³ New from Rockwell Collins: Shared-network PTC platform, RAILWAY AGE 14 (July 2016), https://issuu.com/railwayage/docs/july_2016_railway_age.

Amtrak admits it used Collins Aerospace's ARINC RailwayNetSM System/AIM System in certain locations (not the PSCC) and such system speaks for itself. Otherwise, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 71 and, on that basis, denies them.

72. Amtrak budgeted an additional \$224,007 as FY19 Proposed Budget for implementing a system to enhance railway worker protection when working on track under foul time or track out of service.

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers. –</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK'S ANSWER: The document referenced in Paragraph 72 speaks for itself and Amtrak denies the allegations in Paragraph 72 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 72.

73. Collins Aerospace advertises that its AIM system provides “train monitoring and control,” “automatic route setting/automatic routing,” “automatic traffic regulation,” and “bulletins, authorities, and restrictions management.”³⁴ One or more of these functionalities

³⁴ *Intelligence-Based Rail Solutions*, Collins Aerospace, <https://www.collinsaerospace.com/-/media/project/collinsaerospace/collinsaerospace-website/product-assets/marketing/r/rail/arinc-rail-solutions-for-passengers.pdf?rev=e7e5ddbff2de4154ba265f03e27f14d3>.

encompasses the claimed limitation to “to place a block on one or more specified track sections to permit a railway field worker to enter the track sections while blocking railway traffic to said track sections.”

Centralized Traffic Control and SCADA

Collins designs and integrates state-of-the-art rail control solutions using our ARINC Advanced Information Management (AIM®) platform. AIM serves as an end-to-end solution for all rail control requirements, including SCADA, Centralized Traffic Control, Positive Train Control (PTC) and control center integration. Highly flexible and feature-rich, AIM enables railroads to maximize operational efficiency, cost-effectiveness and safety, all while providing an environment protected by the latest tools and techniques in cybersecurity.

KEY AREAS OF EXPERTISE

- | | |
|---|--|
| • Train monitoring and control | • Bulletins, authorities and restrictions management |
| • Automatic train tracking | • Employee in Charge (EIC) terminals |
| • Automatic route setting/automatic routing | • Emergency Operating Procedures (EOP) |
| • Automatic traffic regulation and schedule deviation | • Power planning |
| • Schedule management | • Playback and simulation |
| • Integrated yard management | • Data acquisition |
| | • Interface integration |

AMTRAK’S ANSWER: Paragraph 73 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 73 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 73.

74. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system.”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

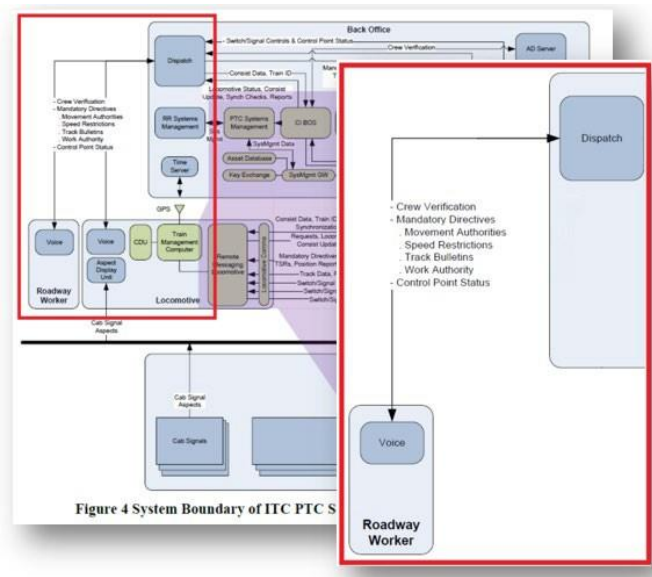
AMTRAK’S ANSWER: The document referenced in Paragraph 74 speaks for itself and Amtrak denies the allegations in Paragraph 74 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 74.

75. Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system or method, implemented by Amtrak, that places track sections in “foul time” necessarily “permit a terminal user of the terminal request the railway control apparatus to place a block on one or more specified track sections to permit a railway field worker to enter the track sections while blocking railway traffic to said track sections” as recited in this claim element. Specifically, FRA regulations 49 C.F.R. § 214.323 defines “foul time” as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that *no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track.*” Because Amtrak, through its implementation of ARINC RailwayNetSM/AIM system and/or other similar system or method, has the ability to place tracks

in foul time, it practices the claimed method “to place a block on one or more specified track sections to permit a railway field worker to enter the track sections while blocking railway traffic to said track sections.”

AMTRAK’S ANSWER: Paragraph 75 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 75.

76. In order to comply with and implement FRA’s regulations (communication-based/processor-based train control technology designed to address a number of railway safety issues including train-to-train collisions, over-speed derailments, incursions into established work-zone limits, and train movement through a main-line switch that is in an improper position), RailwayNetSM must be configured to place a block on one or more sections of railway track to prevent trains from traversing the one or more sections of railway track.



AMTRAK’S ANSWER: Paragraph 76 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement.

Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 76 relating to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 76.

77. Accordingly, by permitting the CETC train dispatcher to place a track under foul time, Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system or method, as implemented by Amtrak, "permit[s] a terminal user of the terminal request the railway control apparatus to place a block on one or more specified track sections to permit a railway field worker to enter the track sections while blocking railway traffic to said track sections."

AMTRAK'S ANSWER: Paragraph 77 contains legal arguments and conclusions based on claim language (cited in-part) from the '782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 77.

78. Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system or method further generates "by the railway control apparatus a release code and transmit[s] the release code to an electronic contact address accessible by the railway field worker via operation of the user interface of the user terminal."

AMTRAK'S ANSWER: Paragraph 78 contains legal arguments and conclusions based on claim (cited in-part) language from the '782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 78.

79. According to Amtrak's 2019 FY plan, it has implemented or is in the process of implementing an enhanced employee protection system (EEPS) that operates by "provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied

in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code to be provided by the roadway worker.”³⁵

AMTRAK’S ANSWER: Amtrak did not implement EEPs in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System. The document referenced in Paragraph 79 speaks for itself and Amtrak denies the allegations in Paragraph 79 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context.

80. In a report authored by Collins Aerospace and submitted to the U.S. Department of Transportation, Collins Aerospace illustrates the claimed railway control apparatus as the “back office” in the below diagram.

³⁵ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

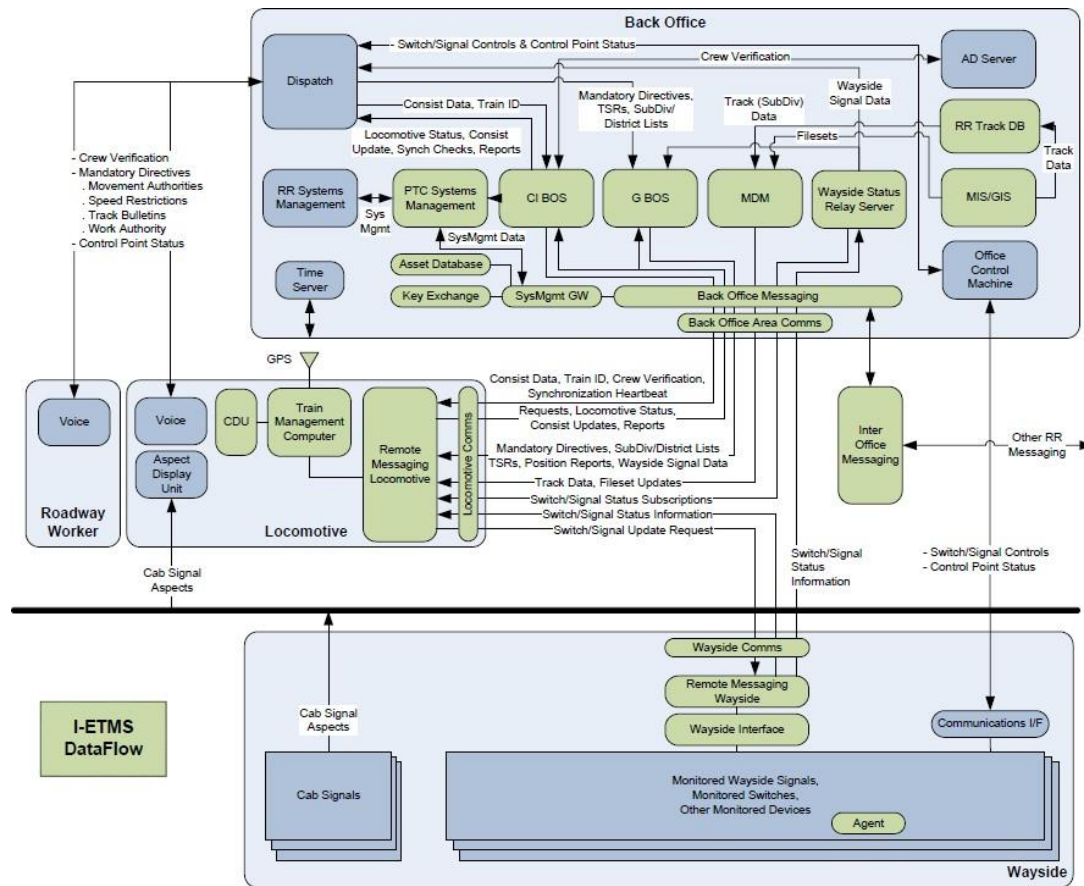


Figure 2 I-ETMS PTC Message Flows

AMTRAK’S ANSWER: Paragraph 80 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 80 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 80.

81. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system” that will “provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system.”³⁶

³⁶ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 81 speaks for itself and Amtrak denies the allegations in Paragraph 81 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 81.

82. The system provides, i.e., transmits to, railway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher requires that the authorization code be provided by the railway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to railway workers. The deliverable included modification to each CETC System to provide EEPS functionality in at least Wilmington CETC (Mid-Atlantic Division); Boston CETC (NH to Boston, Springfield Line and MBTA Lines); NY CETC West; PSCC (Pennsylvania Station Central Control); and CETC Hudson-Albany Line. The deliverables also included EEPS mobile devices for railway workers; EEPS operating practices documentation; training program for railway workers and dispatchers; and operations management plans and

procedures to be used after system acceptance.³⁷

AMTRAK’S ANSWER: Paragraph 82 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 82 speaks for itself and Amtrak denies the allegations in Paragraph 82 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 82. Notably, Amtrak did not implement EEPS in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System.

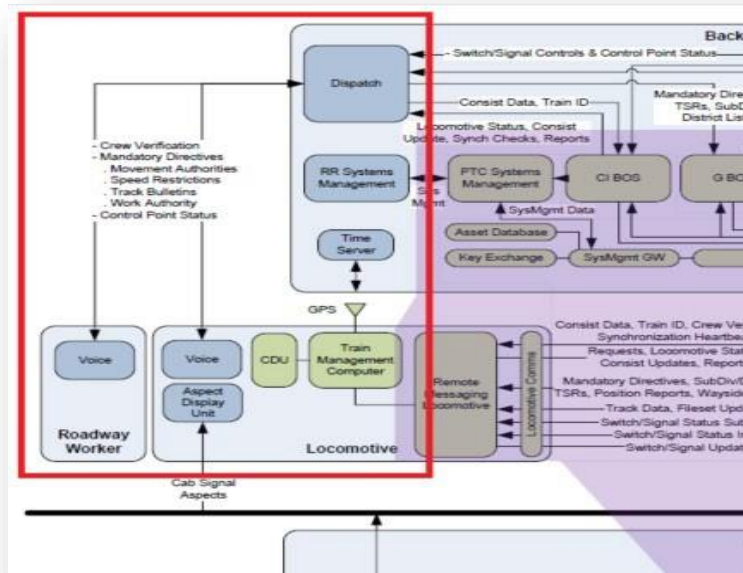
83. Collins Aerospace provides that the ARINC RailwayNetSM system implemented by Amtrak specifies providing back office infrastructure and messaging, including “[s]torage and delivery of crew and consist information, train IDs and clearances” as part of its RailwayNetSM product.³⁸ It further specifies enabling compliance with I-ETMS systems.³⁹ Because I-ETMS systems require communication of crew verification and employee authentication, Amtrak maintains electronic contact addresses of the railway field workers from a rail personnel contact database. RailwayNetSM messaging functions also include: “[k]ey exchange server,” described as “[s]ecurity keys with data store.”⁴⁰

³⁷ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan-FY19.pdf>.

³⁸ See White Paper at 7.

³⁹ See Report at 43.

⁴⁰ White Paper at 7.



AMTRAK'S ANSWER: Paragraph 83 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 83 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 83.

84. Accordingly, since Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system or method provides “roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system,”⁴¹ Amtrak practices the method of “generating by the railway control apparatus a release code and transmitting the release code to an electronic contact address accessible by the railway field worker via operation of the user interface of the user terminal.”

AMTRAK’S ANSWER: Paragraph 84 contains legal arguments and conclusions based

⁴¹ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan-FY19.pdf>.

on claim language (cited in-part) from the '782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 84.

85. Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system or method permits "the block to said one or more track sections to be removed by the railway control apparatus only upon receiving the release code from the user terminal in return."

AMTRAK'S ANSWER: Paragraph 85 contains legal arguments and conclusions based on claim language (cited in-part) from the '782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 85.

86. Amtrak has indicated that it has implemented or is implementing an enhanced employee protection system (EEPS) that requires the dispatcher to enter the "authorization code" in order to remove the protection (i.e., the foul time) from the track.⁴²

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK'S ANSWER: Amtrak did not implement EEPS in the accused Collins Aerospace's ARINC RailwayNetSM System/AIM System. The document referenced in Paragraph

⁴² *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

86 speaks for itself and Amtrak denies the allegations in Paragraph 86 to the extent that the portion cited above from the document does not accurately represent the document's full content and context.

87. FRA has recognized that systems such as the EEPs system implemented by Amtrak through Collins Aerospace's ARINC RailwayNetSM system complies with applicable regulations (communication-based/processor-based train control technology designed to address a number of rail safety issues including train-to-train collisions, over-speed derailments, incursions into established work-zone limits, and train movement through a main-line switch that is in an improper position), the "dispatching system will not allow a dispatcher to release controlled track working limits until the RWIC affirmatively indicates via an electronic prompt that he or she is releasing working limits authority."⁴³

AMTRAK'S ANSWER: Paragraph 87 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 87 as to the cited document and, on that basis, denies them. Otherwise, Amtrak denied the allegations and statements in Paragraph 87.

88. Accordingly, Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM system/AIM system and/or other similar system or method thus permits "the block to said one or more track sections to be removed by the railway control apparatus only upon receiving the release code from the user terminal in return."

AMTRAK'S ANSWER: Paragraph 88 contains legal arguments and conclusions based on claim language (cited in-part) from the '782 patent as opposed to allegations of fact and no

⁴³ *Railroad Workplace Safety; Roadway Worker Protection Miscellaneous Revisions (RRR)*, FRA-2008-0086 (May 27, 2016) at 81, <https://www.fra.dot.gov/eLib/Details/L17467> [hereinafter referred to as "RRR"].

response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 88.

89. Therefore, Amtrak, through its implementation of Collins Aerospace's ARINC RailwayNetSM/AIM systems and/or other similar system has infringed and continues to infringe at least claim 5 of the '782 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 89. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses. Notably, Amtrak did not implement EEPs in the accused Collins Aerospace's ARINC RailwayNetSM System/AIM System.

B. Infringement Based on Amtrak's Implementation of AMTEC System

90. In violation of 35 U.S.C. § 271(a), Amtrak has infringed and continues to infringe one or more claims of the '782 patent by making, using, offering for sale, selling, and/or importing in or into the United States a system or method covered by the '782 patent, including, but not limited to, at least Amtrak's implementation of its AMTEC system and/or other similar system or method.⁴⁴

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 90. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses.

91. Amtrak, through its implementation AMTEC system and/or other similar system or method, infringes at least claim 5 of the '782 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 91. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth

⁴⁴ Further investigation may reveal that others of Amtrak's products and systems also directly or indirectly infringe at least claim 5 or other claims of the '782 patent.

Defenses.

92. Amtrak’s AMTEC system and/or other similar system or method practice a “method to enhance railway control, to protect safety of railway workers on or near railway tracks.”

AMTRAK’S ANSWER: Paragraph 92 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 92.

93. AMTEC stands for Amtrak Train and Electrification Control. AMTEC is Amtrak’s proprietary train dispatch system that implements Amtrak’s CETC (Centralized Electrification and Train Control). Amtrak uses the AMTEC train dispatching system to improve central train control functionality across Amtrak’s tracks.⁴⁵

AMTRAK’S ANSWER: The documents referenced in Paragraph 93 speak for themselves. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Amtrak admits that AMTEC is known as “Amtrak Train and Electrification Control” and admits AMTEC is proprietary and was developed by Amtrak prior to this lawsuit. Amtrak further states that AMTEC uses Centralized Electrification and Train Control. Otherwise, Amtrak denies the allegations and statements in Paragraph 93.

94. In 2018, Amtrak budgeted \$2,405,319 as Northeast Corridor (NEC)-wide expenditure for implementing the SEPTA (Southeastern Pennsylvania Transportation Authority)

⁴⁵ See *Management Trainee Program*, AMTRAK, https://careers.amtrak.com/content/Management-Trainee-Program/?locale=en_US (last visited April 7, 2022) (“Work to support the Amtrak Train and Electrification Control (AMTEC) system... [and] work to support the expansion of the AMTEC train dispatching system to improve train control functionality across the Northeast and Southeast Divisions.”); see also *Director, IT, Train Control Systems*, AMTRAK, <https://careers.amtrak.com/job/Philadelphia-PA-19104/689937700/> (last visited April 7, 2022) (“Provide leadership, direction, and oversight to the IT group responsible for Amtrak’s proprietary train dispatch system (AMTEC – Amtrak Centralized Electrification and Train Control).”).

and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC (Centralized Electrification and Traffic Control) systems on the NEC in October 2017 for the fiscal year 2018.⁴⁶

C.EN.101714. CETC Amtrak System - MOFW Enhanced Employee Protection System (Segment 31). CETC - Enhanced Employee Protection System. This project will implement the SEPTA and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC systems on the NEC.	\$2,405,319
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AMTRAK’S ANSWER: The document referenced in Paragraph 94 speaks for itself. Amtrak admits the document states in-part, “C.EN. 101714 CETC Amtrak System - MOFW Enhanced Employee Protection System (Segment 31). CETC – Enhanced Employee Protection System. This project will implement the SEPTA and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC systems on the NEC. \$2,405,319.” Amtrak also admits that Railware pleads it is the “SEPTA and Metro North Enhanced Protection System (EEPS)” not Railware’s EEPS system. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 94.

95. In February 2019, Amtrak’s Five-Year Infrastructure Asset Line Plan for FY 2019-2024 allocated \$3,650,000 for FY 2019 and \$5,194,913 for FY 2020 to convert the ARINC system to the AMTEC system and replace the Mid-Atlantic Division (“MAD”) and Northeast Division (“NED”) CETC primary and backup system with the AMTEC system in the Washington to Boston line.⁴⁷ One of the identified benefits of the AMTEC system is “safety.”⁴⁸

⁴⁶ *Northeast Corridor One-Year Implementation Plan*, NEC COMMISSION 1, 16 (Oct. 2017), <http://nec-commission.com/app/uploads/2018/03/NEC-One-Year-Implementation-Plan-FY18.pdf>.

⁴⁷ *Amtrak Five Year Infrastructure Asset Line Plan FY 2019-2024*, AMTRAK 1, 320, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Infrastructure-Asset-Line-Plan-FY20-24.pdf> (last visited April 7, 2022).

⁴⁸ *Id.*

C.EN.101767 - WAS-BOS CETC ARINC TO AMTEC SOFTWARE The Washington to Boston ARINC to AMTEC Software Upgrade Project will replace the MAD and NED CETC primary and backup system with the AMTEC system. The project will be design, implement and test the new MAD and NED AMTEC systems by in-house PSCC staff as well as maintenance of all system interfaces. Transportation personnel in Wilmington, Boston and Remote locations will be able to transfer their operations to the new system. Power Director and Load Dispatcher operations will continue, either by a newly selected system by Electric Traction (E/T) personnel or by the existing system. The project will provide training on the new system to both Transportation and CETC specialists. Location: NEC wide.				FAST Act Category: - Improvements Also Supports: - Normalized Capital Replacement - Strategic Initiatives that improve operational performance, lower cost or improve efficiency - Statutory, regulatory, or other legal mandates		Construction Program Priority: N/A Project Benefits: - Safety - SOGR - Resilience
FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	C.EN.101767 Total
\$3,650,000	\$5,194,913	\$0	\$0	\$0	\$0	\$8,844,193

AMTRAK’S ANSWER: The document referenced in Paragraph 95 speaks for itself. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 95.

96. Six months earlier, in October 2018, Amtrak had estimated a total project cost of \$6,593,463—with a fiscal year 2019 planned expenditure of \$6,212,732—to convert ARINC system to AMTEC Software and replace the MAD and NED CETC primary and backup system with the AMTEC system in the Washington to Boston line.⁴⁹

⁴⁹ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 108 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

Washington to Boston ARINC to AMTEC Software Upgrade Project. CETC WASHINGTON TO BOSTON. C.EN.101767. FY19 scope includes completion of installation and testing of all software and hardware on the MAD-Harrisburg line and MAD-Mid-Atlantic Divisions. The project anticipates installation and testing on the NED-Springfield Line in FY19. The remaining work that is needed NED-Mainline will be start and complete in Early FY20.		\$6,593,463	\$6,212,732
<u>FY19 Phases</u>	<u>Schedule</u>		
MAD-Harrisburg line Phase 1	10/01/18 - 02/28/19		
MAD- Mid-Atlantic Phase 2	01/01/19 - 05/20/19		
NED-Springfield line Phase 3	06/01/19 - 10/01/19		
For project details, see Appendix A.			

AMTRAK’S ANSWER: The document referenced in Paragraph 96 speaks for itself. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 96.

97. In early 2021, as part of Amtrak’s new train control systems, Amtrak announced the “initiative to standardize dispatch systems on the Amtrak-developed AMTEC platform to replace the legacy Collins dispatch system [that] will provide a common dispatch platform for the NEC and the Central division that is more reliable and resilient and will reduce maintenance cost.”⁵⁰ The EEPS system described in Amtrak’s 2019 FY plan has been or will be implemented as part of the AMTEC system upgrade.

AMTRAK’S ANSWER: The document referenced in Paragraph 97 speaks for itself. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Amtrak admits it introduced the accused EEPS feature in AMTEC prior to this lawsuit. Otherwise, Amtrak denies the allegations and statements in Paragraph 97.

98. Because Amtrak’s implementation of the AMTEC system increases rail safety

⁵⁰ *Five-Year Plans | Service And Asset Line Plans | FY 2021-2026*, AMTRAK 1, 149, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Service-Line-Asset-Line-Plans-FY21-26.pdf> (last visited April 7, 2022).

through a reliable and resilient train control technology, and specifically includes the EEPS technology, Amtrak practices a “method to enhance railway control, to protect safety of railway workers on or near railway tracks.”

AMTRAK’S ANSWER: Paragraph 98 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 98.

99. Amtrak’s AMTEC system and/or other similar system or method configures “a mobile user device of a railway field worker to provide a device user interface to display information received via a network from a railway control apparatus and to permit the railway field worker to respond to prompts displayed thereon.”

AMTRAK’S ANSWER: Paragraph 99 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 99.

100. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system.”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 100 speaks for itself and Amtrak denies the allegations in Paragraph 100 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 100.

101. This system or method includes providing “mobile devices for roadway workers” as a part of its deliverables. It is common knowledge that mobile devices include a user interface for interaction by a user. According to Amtrak, the system, i.e., a railway control apparatus, provides an authorization code to the railway worker’s mobile device. Such communication must happen over a network. Further, the roadway worker must be able to respond to prompts displayed on the mobile device in order to provide the CETC train dispatcher with the authorization code. As noted in the image below, Amtrak’s implementation of AMTEC and/or other similar system

or method “require[s] the authorization code be provided by the roadway worker.”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 101 contains legal arguments and conclusions based on citing claim terms as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 101 speaks for itself and Amtrak denies the allegations in Paragraph 101 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 101.

102. Amtrak, for its implementation of AMTEC, has purchased mobile devices for its railway workers and implemented a system whereby its CETC system permits users to respond to prompts over a network in order to provide authorization codes to the train dispatcher.⁵¹

AMTRAK’S ANSWER: Paragraph 102 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 102 speaks for itself and Amtrak denies the allegations in Paragraph 102 to the extent that the portion cited above from the document does not accurately

⁵¹ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf> [hereinafter referred to as “NEC One-Year Plan 2019”].

represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 102.

103. In order to facilitate communication between the control room and the railway workers working on or near the tracks, Amtrak's AMTEC system must include a control apparatus comprising a network interface through which the railway control apparatus communicates via a network and permits the rail worker to respond via the interface on the mobile device.

AMTRAK'S ANSWER: Paragraph 103 contains legal arguments and conclusions based on citing claim terms, such as "railway control apparatus," as opposed to allegations of fact and no response is required. Otherwise, Amtrak denies the allegations and statements in Paragraph 103.

104. Accordingly, Amtrak's AMTEC system and/or other similar system or method "configur[es] a mobile user device of a railway field worker to provide a device user interface to display information received via a network from a railway control apparatus and to permit the railway field worker to respond to prompts displayed thereon."

AMTRAK'S ANSWER: Paragraph 104 contains legal arguments and conclusions based on claim language (cited in-part) from the '782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 104.

105. Amtrak's AMTEC system and/or other similar system or method provides "a terminal user interface on a terminal to permit a terminal user of the terminal request the railway control apparatus to place a block on one or more specified track sections to permit a railway field worker to enter the track sections while blocking railway traffic to said track sections."

AMTRAK'S ANSWER: Paragraph 105 contains legal arguments and conclusions based

on claim language (cited in-part) from the '782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 105.

106. AMTEC is a CETC system which, by definition, is configured for centralized control of traffic of a railway network.⁵² Further, the AMTEC system can place tracks in “foul time:”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPs operating practices documentation; • Modification to each CETC System to provide EEPs functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPs mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 106 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 106 speaks for itself and Amtrak denies the allegations in Paragraph 106 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 106.

107. Foul time is defined as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that no trains will

⁵² See *A Guide to Key Railroad Terminology for the Northeast Corridor*, AMTRAK, <https://media.amtrak.com/wp-content/uploads/2017/07/NEC-Terms-primer-v1.pdf> (last visited April 3, 2022) (“Dispatchers use computerized Centralized Traffic & Electrification Control (CTEC) systems to [centrally] control train movement over most of the NEC.”).

operate within a specific segment of controlled track until the roadway worker reports clear of the track.” 49 C.F.R. Part 214.7. The “specified segments” referred to in the rule are the “specified track sections” referred to in this claim element.

AMTRAK’S ANSWER: Paragraph 107 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The CFR provision referenced in Paragraph 107 speaks for itself and Amtrak denies the allegations in Paragraph 107 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 107.

108. The AMTEC system, as a CETC system, must include terminal user interface on a terminal to permit a terminal user of the terminal to place a specified track section in foul time.⁵³

AMTRAK’S ANSWER: Paragraph 108 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 108 speaks for itself and Amtrak denies the allegations in Paragraph 108 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 108.

109. According to Amtrak’s 2019 FY plan, it has implemented an enhanced employee protection system (EEPS) that operates by “provid[ing] roadway workers with an authorization code that corresponds to the **blocking protection** applied in the CETC control system.”⁵⁴ The referenced “blocking protection applied in the CETC control system [AMTEC]” is a reference to the claimed “railway control apparatus to place a block on one or more specified track sections.”

⁵³ 2019 NEC One-Year Plan at 233.

⁵⁴ 2019 NEC One-Year Plan at 233 (emphasis added).

All Other Amtrak Programs/Projects – Scopes**FY19 Proposed
Budget**

\$224,007

C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.

Deliverables:

- EEPS operating practices documentation;
- Modification to each CETC System to provide EEPS functionality:
 - Wilmington CETC (Mid-Atlantic Division)
 - Boston CETC (NH to Boston, Springfield Line and MBTA Lines)
 - NY CETC West
 - PSCC
 - CETC Hudson-Albany Line
- EEPS mobile devices for roadway workers;
- Training program for roadway workers and dispatchers;
- Operations management plans and procedures to be used after system acceptance;

AMTRAK’S ANSWER: Paragraph 109 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 109 speaks for itself and Amtrak denies the allegations in Paragraph 109 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 109.

110. Accordingly, Amtrak’s AMTEC system and/or other similar system or method provides “a terminal user interface on a terminal to permit a terminal user of the terminal request the railway control apparatus to place a block on one or more specified track sections to permit a railway field worker to enter the track sections while blocking railway traffic to said track sections.”

AMTRAK’S ANSWER: Paragraph 110 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 110.

111. Amtrak’s AMTEC system and/or other similar system or method generates “by the

railway control apparatus a release code and transmit[s] the release code to an electronic contact address accessible by the railway field worker via operation of the user interface of the user terminal.”

AMTRAK’S ANSWER: Paragraph 111 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 111.

112. According to Amtrak’s 2019 FY plan, it has implemented an enhanced employee protection system (EEPS) that operates by “provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system.”⁵⁵ The 2019 FY plan further specifies purchasing “EEPS mobile devices for roadway workers.”⁵⁶

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 112 speaks for itself and Amtrak denies the allegations in Paragraph 112 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise,

⁵⁵ 2019 NEC One-Year Plan at 233.

⁵⁶ *Id.*

Amtrak denies the allegations and statements in Paragraph 112.

113. In order to provide the railway workers with an authorization code to their EEPS mobile devices, Amtrak's AMTEC system has a database containing contact information for each railway worker (i.e., a railway personnel contact database registering, for each railway personnel, an electronic contact address of the railway personnel) and retrieve the electronic contact address for the railway worker from the electronic contact database.

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	<p>\$224,007</p>

AMTRAK'S ANSWER: Paragraph 113 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 113 speaks for itself and Amtrak denies the allegations in Paragraph 113 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 113.

114. Additionally, in order to provide railway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system, the AMTEC system must generate the authorization code. Further, the *2019 NEC One-year-Plan* specifically notes that the AMTEC system "will provide roadway workers with an authorization code" which meets

the claim element “transmitting the release code to an electronic contact address accessible by the railway field worker via operation of the user interface of the user terminal.”⁵⁷

AMTRAK’S ANSWER: Paragraph 114 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 114 speaks for itself and Amtrak denies the allegations in Paragraph 114 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 114.

115. Accordingly, Amtrak’s AMTEC system and/or other similar system or method generates “by the railway control apparatus a release code and transmit[s] the release code to an electronic contact address accessible by the railway field worker via operation of the user interface of the user terminal.”

AMTRAK’S ANSWER: Paragraph 115 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 115.

116. Amtrak’s AMTEC system and/or other similar system or method permits “the block to said one or more track sections to be removed by the railway control apparatus only upon receiving the release code from the user terminal in return.”

AMTRAK’S ANSWER: Paragraph 116 contains legal arguments and conclusions based on claim language (cited in-part) from the ’782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and

⁵⁷ *Id.*

statements in Paragraph 116.

117. According to Amtrak's 2019 FY plan, it has implemented an enhanced employee protection system (EEPS) that operates by "provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system."⁵⁸ The system notes that "removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker."⁵⁹

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK'S ANSWER: The document referenced in Paragraph 117 speaks for itself and Amtrak denies the allegations in Paragraph 117 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 117.

118. In order to ensure that removal of the protection by the CETC train dispatcher is not done prematurely, the AMTEC system requires the authorization code provided by the railway worker; the AMTEC system will then remove block only upon entry of the removal code from the railway worker.

AMTRAK'S ANSWER: Paragraph 118 contains legal arguments and conclusions as

⁵⁸ 2019 NEC One-Year Plan at 233.

⁵⁹ *Id.*

opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 118.

119. Accordingly, Amtrak's AMTEC system and/or other similar system or method permits "the block to said one or more track sections to be removed by the railway control apparatus only upon receiving the release code from the user terminal in return."

AMTRAK'S ANSWER: Paragraph 119 contains legal arguments and conclusions based on claim language (cited in-part) from the '782 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 119.

120. As direct and proximate result of Amtrak's infringement of the '782 patent, Railware has been injured and has been caused significant harm and financial damages.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 120.

121. On information and belief, Amtrak has also induced and continues to induce infringement of at least claim 5 of the '782 patent in violation of 35 U.S.C. § 271(b).

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 121.

122. Amtrak induces its users, and/or developers of its systems to infringe at least claim 5 of the '782 patent, and does so with the specific intent, by providing instructions, directions, information, and/or knowledge on how to use its systems and/or incorporate its systems into other products (including both the Collins Aerospace RailwayNet/AIM systems and the AMTEC systems or similar systems or methods). For example, Amtrak provides a "Management Trainee Program" through which trainees "work to support the Amtrak Train and Electrification Control (AMTEC) system by updating the track model software design and configuration work supporting

new interlocking construction and reconfiguration of existing interlockings, as well as similar technical work to support the expansion of the AMTEC train dispatching system to improve train control functionality across the Northeast and Southeast Divisions.”⁶⁰

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 122.

123. As a direct and proximate result of Amtrak’s infringement of the ’782 patent, Railware has been injured and has been caused significant harm and financial damages.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 123.

124. Upon information and belief, Amtrak, without Railware’s permission, has been and is presently infringing at least claim 5 of the ’782 patent in violation of 35 U.S.C. § 271(c), by selling or offering to sell an apparatus that is intended for use in practicing the ’782 patent that is a material part of the invention to its customers, purchasers, users, and/or developers.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 124.

125. The apparatuses and systems used, sold, or offered for sale by Amtrak have no substantial noninfringing uses. Further, they are not staple articles of commerce and constitute a material part of the invention. Thus, Amtrak knew or should have known that the combination for which their apparatuses and systems were made was protected by the ’782 patent.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 125.

126. As such, Amtrak has contributorily infringed and continue to infringe the ’782 patent, as set forth herein, knowing that the apparatuses or systems would be made or adapted for use in an infringing manner.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 126.

127. To the extent the marking requirements of 35 U.S.C. § 287 apply, Amtrak has had

⁶⁰ https://careers.amtrak.com/content/Management-Trainee-Program/?locale=en_US (last visited May 6, 2022).

constructive knowledge of the '782 patent at least since October 21, 2020. Amtrak's continued infringement on or after this date is in spite of the objectively high likelihood that its activities constitute infringement of a valid patent, and this risk was either known or so obvious that it should have been known to Amtrak. Thus, Amtrak's continued infringement at least as of October 21, 2020, or as of the filing of this Complaint is willful and deliberate.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 127. For instance, Amtrak denies it "had constructive knowledge of the '782 patent at least since October 21, 2020" given the Court's finding. Dkt. No. 39, 28-29 and Amtrak denies it willfully infringed. Amtrak denies any other allegations in Paragraph 127.

128. Railware has suffered and continues to suffer damages and irreparable harm as a result of Amtrak's past and ongoing infringement. Unless and until Amtrak's infringement is enjoined, Railware will continue to be damaged and irreparably harmed.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 128.

129. Railware is entitled to all remedies at law and equity including, but not limited to, an injunction against Amtrak's infringement of the '782 patent pursuant to 35 U.S.C. § 283.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 129.

130. Railware is entitled to damages for Amtrak's infringement of the '782 patent including, but not limited to, damages pursuant to 35 U.S.C. §§ 284 and 285.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 130.

SECOND CLAIM FOR RELIEF

(Infringement of the '835 patent)

131. Railware repeats and incorporates by reference all prior allegations of this Complaint as if fully set forth herein.

AMTRAK'S ANSWER: Amtrak repeats and incorporates by reference all its prior

responses to all prior allegations as if set forth fully here.

132. Railware is the owner by assignment of all rights, title, and interest in and to the '835 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 132 as shown, for instance, in the Second Defense.

133. The '835 patent is valid and enforceable.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 133 as shown, for instance, in the Fifth, Seventh, and Tenth Defenses.

134. Claim 19 of the '835 patent recites:

A method for controlling railway access using a railway traffic control apparatus of a centralized railway control system configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network, the method comprising:

providing a user interface of the railway traffic control apparatus, including a block placing part to place a block on one or more specified track sections in any of said plural railways constituting said railway network that is managed by centralized control operation from the railway traffic control apparatus, the railway traffic control apparatus controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network, to block railway traffic to the specified track sections and thereby to permit a railway field worker to enter the track sections;

generating a removal code, determining an electronic contact address of the railway field worker by accessing a rail personnel contact database registering, for each railway personnel, electronic contact information of the railway personnel, and transmitting the removal code to the electronic contact address of the railway field worker; and

permitting the block to said one or more track sections to be removed only upon entry of the removal by said centralized control operation from the railway traffic control apparatus.

AMTRAK'S ANSWER: Amtrak admits Railware claims to recite in Paragraph 134 claim

language from Claim 19 of the '835 patent, but Amtrak denies any other allegations.

A. Infringement Based on Amtrak's Implementation of Collins Aerospace's ARINC RailwayNetSM System/AIM System

135. In violation of 35 U.S.C. § 271(a), Amtrak has infringed and continues to infringe one or more claims of the '835 patent by making, using, offering for sale, selling, and/or importing in or into the United States a system or method covered by the '835 patent, including, but not limited to, at least Amtrak's implementation and/or use of Collins Aerospace's ARINC RailwayNetSM system/AIM system and/or other similar system or method.⁶¹

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 135. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses. Notably, Amtrak did not implement EEPs in the accused Collins Aerospace's ARINC RailwayNetSM System/AIM System.

136. Amtrak, through its implementation and/or use of Collins Aerospace's ARINC RailwayNetSM system/AIM system and/or other similar system or method, infringes at least claim 19 of the '835 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 136. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses. Notably, Amtrak did not implement EEPs in the accused Collins Aerospace's ARINC RailwayNetSM System/AIM System.

137. Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM system/AIM system and/or other similar system or method practices a "method for controlling railway access using a railway traffic control apparatus of a centralized railway control system

⁶¹ Further investigation may reveal that others of Amtrak's products and systems also directly or indirectly infringe at least claim 19 or other claims of the '835 patent.

configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network.”

AMTRAK’S ANSWER: Paragraph 137 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 137.

138. Amtrak owns and/or operates a number of dispatch centers along the Northeast Corridor (NEC) spine including in Boston, MA, New York, NY (Penn Station), and Philadelphia, PA.⁶² Dispatching centers are centralized railway control systems using methods to control access to railway tracks configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network.

AMTRAK’S ANSWER: Paragraph 138 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak admits it operates dispatch centers along the Northeast Corridor (NEC) including in Boston, MA, New York, NY (PSCC), and Philadelphia, PA. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 138 as to the document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 138.

139. Collins Aerospace advertises that its AIM system provides “centralized traffic control,” “train monitoring and control,” “automatic route setting/automatic routing,” “automatic

⁶² See *CETC Dispatch*, RAILROAD.NET, <https://railroad.net/cetc-dispatch-t66499-15.html> (last visited Apr. 04, 2022); see also *Supra* ¶¶ 22–29.

traffic regulation,” and “bulletins, authorities,” and “restrictions management.”⁶³

Centralized Traffic Control and SCADA

Collins designs and integrates state-of-the-art rail control solutions using our ARINC Advanced Information Management (AIM®) platform. AIM serves as an end-to-end solution for all rail control requirements, including SCADA, Centralized Traffic Control, Positive Train Control (PTC) and control center integration. Highly flexible and feature-rich, AIM enables railroads to maximize operational efficiency, cost-effectiveness and safety, all while providing an environment protected by the latest tools and techniques in cybersecurity.

KEY AREAS OF EXPERTISE

- | | |
|---|--|
| • Train monitoring and control | • Bulletins, authorities and restrictions management |
| • Automatic train tracking | • Employee in Charge (EIC) terminals |
| • Automatic route setting/automatic routing | • Emergency Operating Procedures (EOP) |
| • Automatic traffic regulation and schedule deviation | • Power planning |
| • Schedule management | • Playback and simulation |
| • Integrated yard management | • Data acquisition |
| | • Interface integration |

AMTRAK’S ANSWER: Paragraph 139 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 139 as to the Collins Aerospace document cited and, on that basis, denies them.

140. Amtrak implemented the Collins Aerospace-developed RailwayNetSM as a SaaS and/or IaaS—a software/infrastructure as a service—product that provides “full-featured network management and infrastructure, hardware, network, operating systems, and applications for fault,

⁶³ *Intelligence-Based Rail Solutions*, Collins Aerospace, <https://www.collinsaerospace.com/-/media/project/collinsaerospace/collinsaerospace-website/product-assets/marketing/r/rail/arinc-rail-solutions-for-passengers.pdf?rev=e7e5ddbff2de4154ba265f03e27f14d3>.

performance, security and configuration management.”⁶⁴ Amtrak has further implemented Collins Aerospace-developed AIM software.

AMTRAK’S ANSWER: Amtrak admits it implemented Collins Aerospace’s ARINC RailwayNetSM System/AIM System with RailwayNetSM in certain locations (not the PSCC) and such system speaks for itself. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 140 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 140.

141. According to Collins Aerospace, RailwayNetSM helps facilitate the increases in safety and reliability that PTC provides.⁶⁵

AMTRAK’S ANSWER: Amtrak lacks knowledge or information sufficient to form a belief as to the truth or falsity of the allegations in Paragraph 141, and therefore denies the allegations on that basis.

142. Collins Aerospace advertises that RailwayNetSM, which Amtrak uses, improves rail safety. “This system refers to communication-based/processor-based train control technology designed to address a number of rail safety issues, including train-to-train collisions, over-speed derailments, incursions into established work-zone limits, and train movement through a main-line switch that is in an improper position.”⁶⁶

⁶⁴ ROCKWELL COLLINS INC., ARINC RAILWAYNET WHITE PAPER 6 (2016), https://www.rockwellcollins.com/-/media/Files/Unsecure/Services-And-Support/Information-Management/ARINC-Rail/RailwayNet/ARINC-Rail_RailwayNet_white-paper.ashx [hereinafter referred to as “White Paper”]; see also *Supra* ¶¶ 33–41.

⁶⁵ *Amtrak signs nationwide contract for Rockwell Collins’ ARINC RailwayNetSM Positive Train Control service*, COLLINS AEROSPACE (Sep. 6, 2017), <https://www.collinsaerospace.com/-/media/project/collinsaerospace/collinsaerospace-website/product-assets/files/public/services-and-support/information-management/arinc-rail/amtrak-and-railwaynet-press-release.pdf>.

⁶⁶ White Paper at 3.



AMTRAK’S ANSWER: Amtrak admits it used Collins Aerospace’s ARINC RailwayNetSM System/AIM System in certain locations (not the PSCC) and such system speaks for itself. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 142 as to the Collins Aerospace document cited and, on that basis, denies them.

143. In 2017, Amtrak signed an agreement with Rockwell Collins to implement the company’s ARINC RailwayNetSM service on approximately 310 Amtrak locomotives operating across the United States. RailwayNetSM was implemented nationwide on Amtrak routes, where it operates its trains over other railroad companies’ tracks. Under the agreement, Rockwell Collins initialized Amtrak’s fleet enabling its trains to run as “tenants” on 19 different host railroads, including Class 1, commuter and freight tracks. As explained below, ARINC RailwayNetSM is a hosted network, messaging and application platform, designed to assist operators in meeting the requirements mandated by the Rail Safety Improvement Act of 2008 (the “Act”). The Act directs the Federal Railroad Administration (FRA) to mandate new regulations focused on railroad safety. When used in conjunction with the operator’s PTC infrastructure, RailwayNetSM helps facilitate

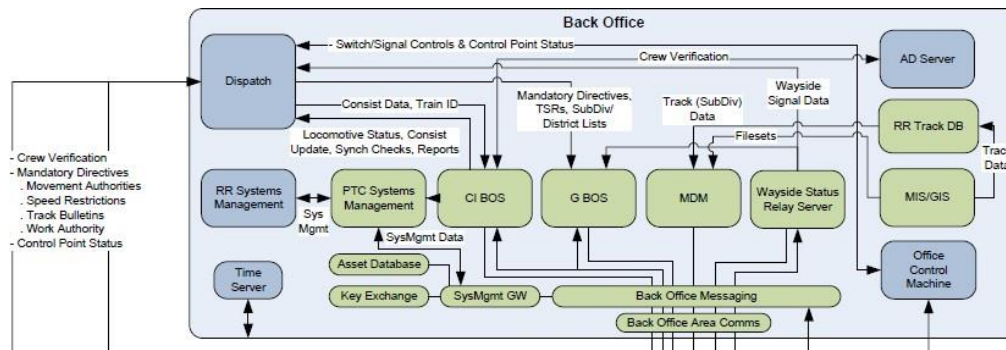
the increases in safety and reliability that PTC provides.⁶⁷

AMTRAK’S ANSWER: Paragraph 143 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the documents referenced in Paragraph 143 speak for themselves and Amtrak denies the allegations and characterizations in Paragraph 143 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context.

144. The “ARINC RailwayNetSM integrations server and software provides connectivity between the railroad IT systems and the hosted back-office components.”⁶⁸ The integration server provides an interface with various system components.

⁶⁷ *Amtrak signs nationwide contract for Rockwell Collins’ ARINC RailwayNetSM Positive Train Control service*, COLLINS AEROSPACE (Sep. 6, 2017), <https://www.collinsaerospace.com/-/media/project/collinsaerospace/collinsaerospace-website/product-assets/files/public/services-and-support/information-management/arinc-rail/amtrak-and-railwaynet-press-release.pdf>.

⁶⁸ See White Paper at 8 (illustrating “AIM[®] integration server”).



AIM® integration server

The ARINC RailwayNet integrations server and software provides connectivity between the railroad IT systems and the hosted back-office components. The functions of this application include:

- > Interface with customer's IT gateway
- > Interface with back office
- > Manage crew authentication through the customer's IT gateway
- > Functions to assign train ID to trains based on the clearance number
- > Functions to manage train consist through the customer's IT gateway
- > Functions to track, display, and store events and alarms

Centralized Traffic Control and SCADA

Collins designs and integrates state-of-the-art rail control solutions using our ARINC Advanced Information Management (AIM®) platform. AIM serves as an end-to-end solution for all rail control requirements, including SCADA, Centralized Traffic Control, Positive Train Control (PTC) and control center integration. Highly flexible and feature-rich, AIM enables railroads to maximize operational efficiency, cost-effectiveness and safety, all while providing an environment protected by the latest tools and techniques in cybersecurity.

KEY AREAS OF EXPERTISE

- | | |
|---|--|
| • Train monitoring and control | • Bulletins, authorities and restrictions management |
| • Automatic train tracking | • Employee in Charge (EIC) terminals |
| • Automatic route setting/automatic routing | • Emergency Operating Procedures (EOP) |
| • Automatic traffic regulation and schedule deviation | • Power planning |
| • Schedule management | • Playback and simulation |
| • Integrated yard management | • Data acquisition |
| | • Interface integration |

AMTRAK'S ANSWER: Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 144 and, on that basis, denies them.

145. Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system or method, implemented by Amtrak, provides the network connections and office applications required to exchange critical information among Class I railroads and their partner short line commuter railroads. It is available on a subscription basis as hosted SaaS (software as a service) and IaaS (infrastructure as a service) solutions, and PTC messaging from the back office

to the locomotive through VHF, cellular, and Wi-Fi is also available.⁶⁹

AMTRAK’S ANSWER: Paragraph 145 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 145 and, on that basis, denies them.

146. The ARINC RailwayNetSM/AIM system, as implemented by Amtrak, further controls plural railways and a plurality of railway traffic interlocks. Specifically, Centralized Train Control systems, such as that employed by Amtrak and its implementation of ARINC RailwayNetSM/AIM and/or other similar system or method “consists of a centralized train dispatcher's office that controls railroad interlocking and traffic flows in portions of the rail system designated as CTC territory.”⁷⁰

AMTRAK’S ANSWER: Paragraph 146 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 146 and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 146.

147. Collins Aerospace implemented the ARINC RailwayNetSM/AIM system and/or other similar system or method—a hosted network, messaging and application platform as amended—on Amtrak’s 19 different railroads, including commuter and freight routes that host Amtrak services.

AMTRAK’S ANSWER: Paragraph 147 contains legal arguments and conclusions as

⁶⁹ *New from Rockwell Collins: Shared-network PTC platform*, RAILWAY AGE 14 (July 2016), https://issuu.com/railwayage/docs/july_2016_railway_age.

⁷⁰ CTC, WIKIPEDIA, https://en.wikipedia.org/wiki/Centralized_traffic_control.

opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak admits it used Collins Aerospace's ARINC RailwayNetSM System/AIM System in certain locations. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 147 and, on that basis, denies them.

148. Accordingly, Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system or method practices a "method for controlling railway access using a railway traffic control apparatus of a centralized railway control system configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network."

AMTRAK'S ANSWER: Paragraph 148 contains legal arguments and conclusions based on claim language (cited in-part) from the '835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 148.

149. Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system or method provides "a user interface of the railway traffic control apparatus, including a block placing part to place a block on one or more specified track sections in any of said plural railways constituting said railway network that is managed by centralized control operation from the railway traffic control apparatus, the railway traffic control apparatus controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network, to block railway traffic to the specified track sections and thereby to permit a railway field worker to enter the track sections."

AMTRAK’S ANSWER: Paragraph 149 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 149.

150. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system.”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance: 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 150 speaks for itself and Amtrak denies the allegations in Paragraph 150 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 150.

151. Collins Aerospace’s ARINC RailwayNetSMAIM system, implemented by Amtrak, that places track sections in “foul time” is a “block placing part” as recited in this claim element. Specifically, FRA regulations 49 C.F.R. § 214.323 defines “foul time” as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that *no trains will operate within a specific segment of controlled*

track until the roadway worker reports clear of the track.” Because Amtrak, through its implementation of ARINC RailwayNetSM/AIM, has the ability to place tracks in foul time, it includes a “a block placing part to place a block on one or more specified track sections in any of said plural railways constituting said railway network that is managed by centralized control operation from the railway traffic control apparatus, the railway traffic control apparatus controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network, to block railway traffic to the specified track sections and thereby to permit a railway field worker to enter the track sections.” Moreover, in order to place a track segment in “foul time,” the system must provide a “user interface of the railway traffic control apparatus” to permit the dispatcher to establish the blocking protection.

AMTRAK’S ANSWER: Paragraph 151 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 151.

152. Collins Aerospace advertises that its AIM system provides “train monitoring and control,” automatic route setting/automatic routing,” “automatic traffic regulation,” and “bulletins, authorities, and restrictions management.”⁷¹ One or more of these functionalities encompasses the claimed block placing part.

⁷¹ *Intelligence-Based Rail Solutions*, Collins Aerospace, <https://www.collinsaerospace.com/-/media/project/collinsaerospace/collinsaerospace-website/product-assets/marketing/r/rail/arinc-rail-solutions-for-passengers.pdf?rev=e7e5ddbff2de4154ba265f03e27f14d3>.

Centralized Traffic Control and SCADA

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KEY AREAS OF EXPERTISE

- | | |
|---|--|
| • Train monitoring and control | • Bulletins, authorities and restrictions management |
| • Automatic train tracking | • Employee in Charge (EIC) terminals |
| • Automatic route setting/automatic routing | • Emergency Operating Procedures (EOP) |
| • Automatic traffic regulation and schedule deviation | • Power planning |
| • Schedule management | • Playback and simulation |
| • Integrated yard management | • Data acquisition |
| | • Interface integration |

AMTRAK’S ANSWER: Paragraph 152 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 152 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the statements and allegations in Paragraph 152.

153. Collins Aerospace’s ARINC RailwayNetSM/AIM system, implemented by Amtrak, is a SaaS and IaaS product that provides “full-featured network management and infrastructure, hardware, network, operating systems, and applications for fault, performance, security and configuration management.”⁷² Additionally, RailwayNetSM is “designed to help meet the availability standards required for PTC operations.”⁷³ Because RailwayNetSM is designed to support railroads to meet the PTC requirements, RailwayNetSM should be configured to manage

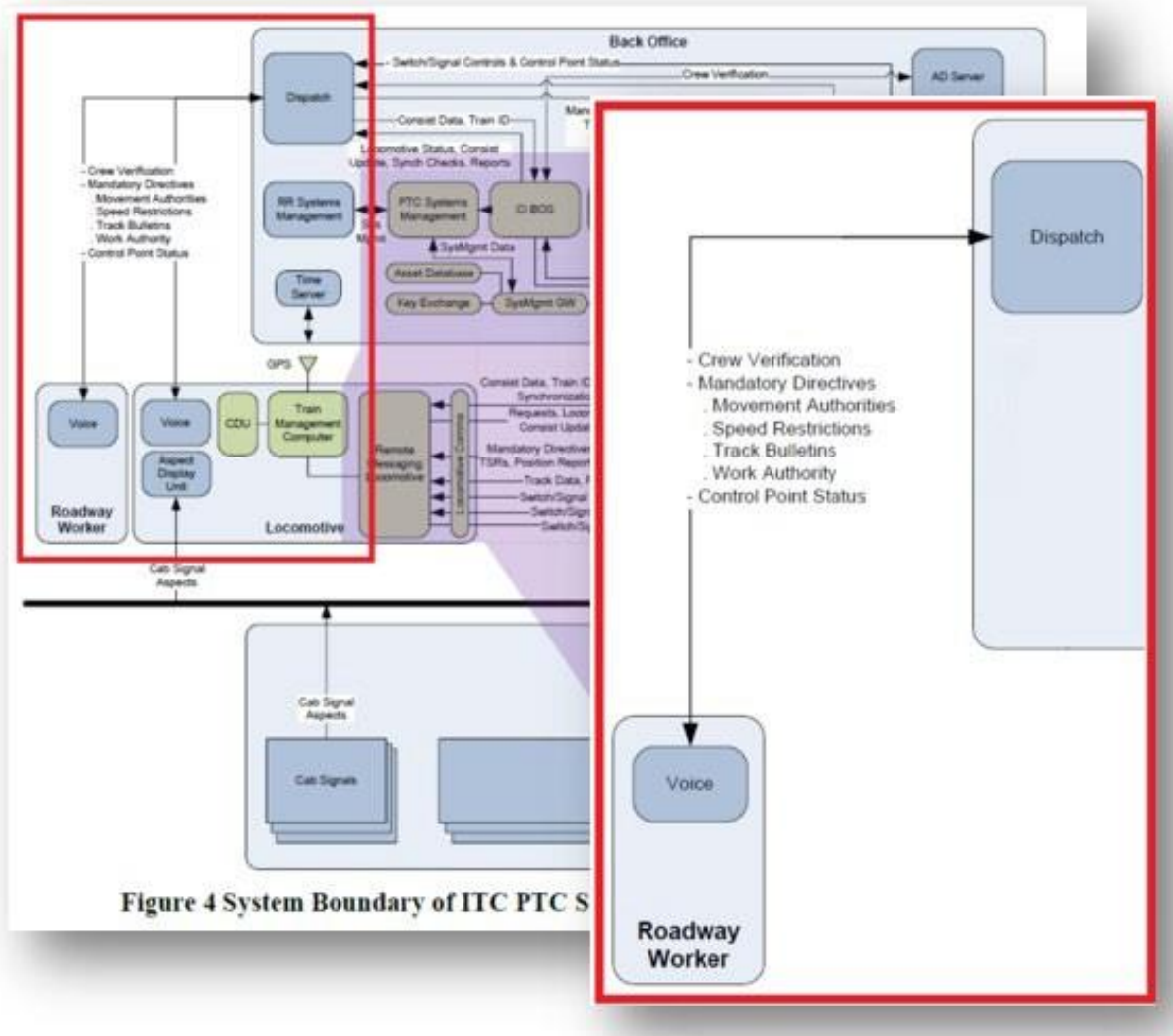
⁷² White Paper at 6.

⁷³ *Id.*

train movements, including placing blocks on one or more sections of railway track to prevent trains from traversing the one or more sections of railway track.

AMTRAK’S ANSWER: Paragraph 153 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 153 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 153.

154. In order to comply with and implement FRA’s regulations (communication-based/processor-based train control technology designed to address a number of railway safety issues including train-to-train collisions, over-speed derailments, incursions into established work-zone limits, and train movement through a main-line switch that is in an improper position), RailwayNetSM/AIM system and/or other similar system or method is configured to place a block on one or more sections of railway track to prevent trains from traversing the one or more sections of railway track.



AMTRAK'S ANSWER: Paragraph 154 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 154 relating to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 154.

155. Accordingly, Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system or method provides a "a user interface of the railway traffic control apparatus, including a block placing part to place a block on one or more specified track sections in any of said plural railways constituting said railway network that

is managed by centralized control operation from the railway traffic control apparatus, the railway traffic control apparatus controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network, to block railway traffic to the specified track sections and thereby to permit a railway field worker to enter the track sections.”

AMTRAK’S ANSWER: Paragraph 155 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 155.

156. Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system or method further generates “a removal code, determin[es] an electronic contact address of the railway field worker by accessing a rail personnel contact database registering, for each railway personnel, electronic contact information of the railway personnel, and transmit[s] the removal code to the electronic contact address of the railway field worker.”

AMTRAK’S ANSWER: Paragraph 156 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 156.

157. Amtrak budgeted an additional \$224,007 in FY19 for implementing a system to enhance railway worker protection when working on track under foul time or track out of service. The system provides railway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system via their mobile devices. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the railway

worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to railway workers.

AMTRAK’S ANSWER: Paragraph 157 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent this is referring to a document, it speaks for itself and Amtrak denies the allegations in Paragraph 157 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 157.

158. The deliverables included modification to each CETC System to provide EEPS functionality in at least Wilmington CETC (Mid-Atlantic Division); Boston CETC (NH to Boston, Springfield Line and MBTA Lines); NY CETC West; PSCC (Pennsylvania Station Central Control); and CETC Hudson-Albany Line. The deliverables also included EEPS mobile devices for railway workers; EEPS operating practices documentation; training program for railway workers and dispatchers; and operations management plans and procedures to be used after system acceptance.⁷⁴

AMTRAK’S ANSWER: The document referenced in Paragraph 158 speaks for itself and Amtrak denies the allegations in Paragraph 158 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 158.

159. In a report authored by Collins Aerospace and submitted to the U.S. Department of Transportation, Collins Aerospace illustrates the claimed railway control apparatus as the “back office” in the below diagram.

⁷⁴ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

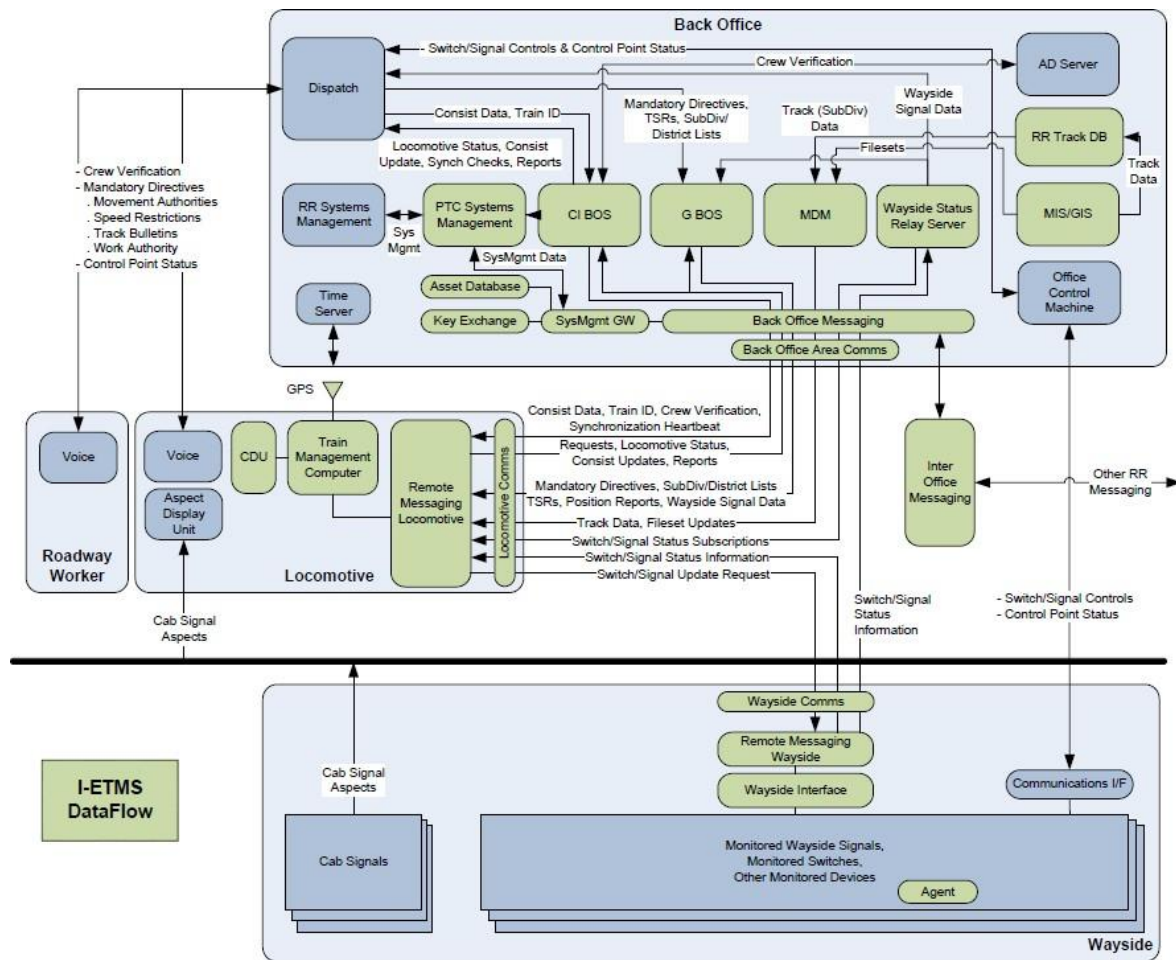


Figure 2 I-ETMS PTC Message Flows

AMTRAK'S ANSWER: Paragraph 159 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 159 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 159.

160. Amtrak, for its implementation of Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system or method, has purchased mobile devices for its railway workers and implemented a system whereby its CETC system sends authorization codes to the railway

workers. In order to know which mobile device to send the authorization code to, the RailwayNetSM/AIM system, as implemented by Amtrak, must have a database storing the electronic contact address for the railway workers.⁷⁵

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 160 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 160 speaks for itself and Amtrak denies the allegations in Paragraph 160 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 160.

161. According to Amtrak’s Northeast Corridor Annual Report for fiscal year 2017, Amtrak allocated more than \$420,000 in implementing the Enhanced Employee Protection System (EEPS) in the Northeast Corridor through its implementation of Collins Aerospace’s ARINC RailwayNetSM.⁷⁶ It also specifies providing back-office infrastructure and messaging, including

⁷⁵ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf> [hereinafter referred to as “NEC One-Year Plan 2019”].

⁷⁶ *Northeast Corridor Annual Report: Operations and Infrastructure*, NEC COMMISSION 1, 49 (April 2018),

“[s]torage and delivery of crew and consist information, train IDs and clearances.”⁷⁷

AMTRAK’S ANSWER: The document referenced in Paragraph 161 speaks for itself and Amtrak denies the allegations in Paragraph 161 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 161. Notably, Amtrak did not implement EEPS in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System.

162. Collins Aerospace has stated that the ARINC RailwayNetSM system implemented by Amtrak is a SaaS and IaaS product that provides “full-featured network management and infrastructure, hardware, network, operating systems, and applications for fault, performance, security and configuration management.”⁷⁸ It additionally specifies enabling ITC PTC interoperability and compliance with I-ETMS systems.⁷⁹

AMTRAK’S ANSWER: Amtrak admits it implemented Collins Aerospace’s ARINC RailwayNetSM System/AIM System with RailwayNetSM in certain locations (not the PSCC) and such system speaks for itself. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 162 as to the Collins Aerospace documents cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 162.

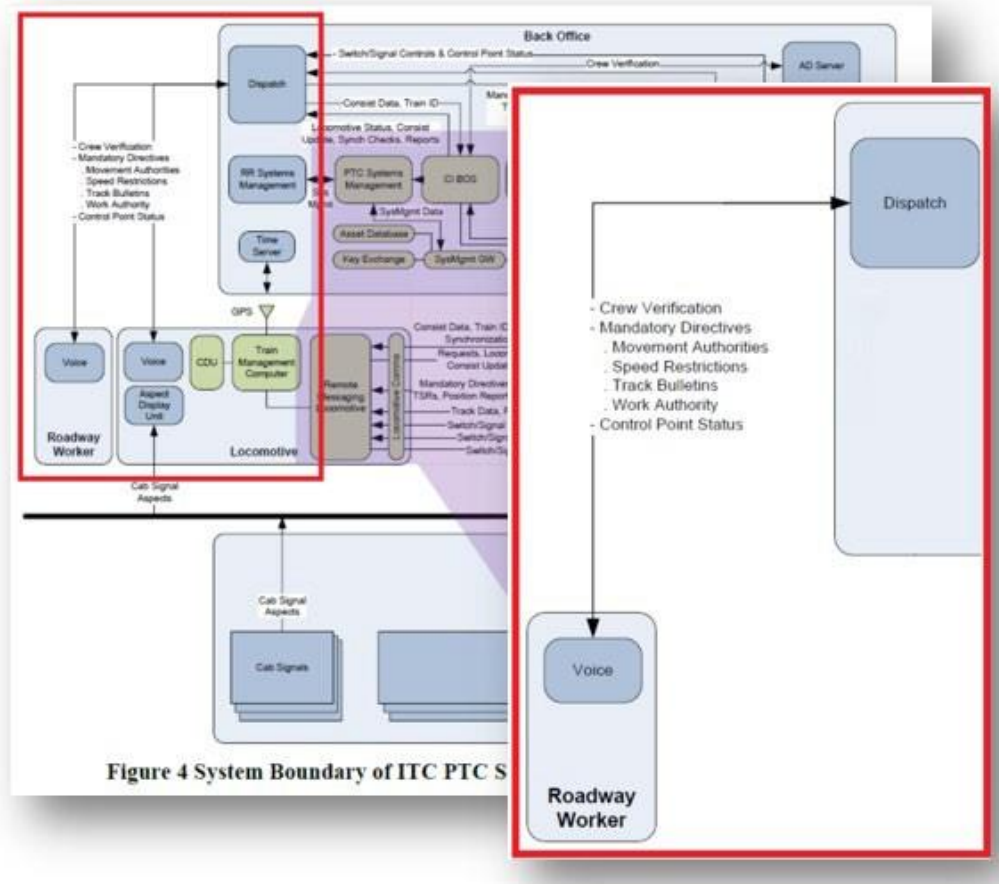
163. According to Collins Aerospace, its RailwayNetSM system supports I-ETMS message flows, including communications with railway workers to communicate crew verification and mandatory directives.

<https://nec-commission.com/app/uploads/2018/04/NEC-Annual-Report-FY17.pdf>.

⁷⁷ White Paper at 7.

⁷⁸ White Paper at 6.

⁷⁹ Report at 43.



AMTRAK’S ANSWER: Amtrak lacks knowledge or information sufficient to form a belief as to the truth or falsity of the allegations in Paragraph 163, and therefore denies the allegations on that basis.

164. According to Amtrak’s 2019 FY plan, it has implemented or is in the process of implementing an enhanced employee protection system (EEPS) that operates by “provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code to be provided by the roadway worker.”⁸⁰ In order to provide the railway workers with an authorization code, the system must use a method that has a database containing

⁸⁰ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan-FY19.pdf>.

contact information for each railway worker (i.e., a railway personnel contact database registering, for each railway personnel, an electronic contact address of the railway personnel). Moreover, in order to facilitate communication between the control room and the railway workers working on or near the tracks, the system must include a control apparatus comprising a network interface through which the railway control apparatus communicates via a network.

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 164 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the document referenced in Paragraph 164 speaks for itself and Amtrak denies the allegations in Paragraph 164 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 164. Notably, Amtrak did not implement EEPS in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System.

165. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system” that will “provide roadway workers with an authorization

code that corresponds to the blocking protection applied in the CETC control system.”⁸¹

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 165 speaks for itself and Amtrak denies the allegations in Paragraph 165 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 165.

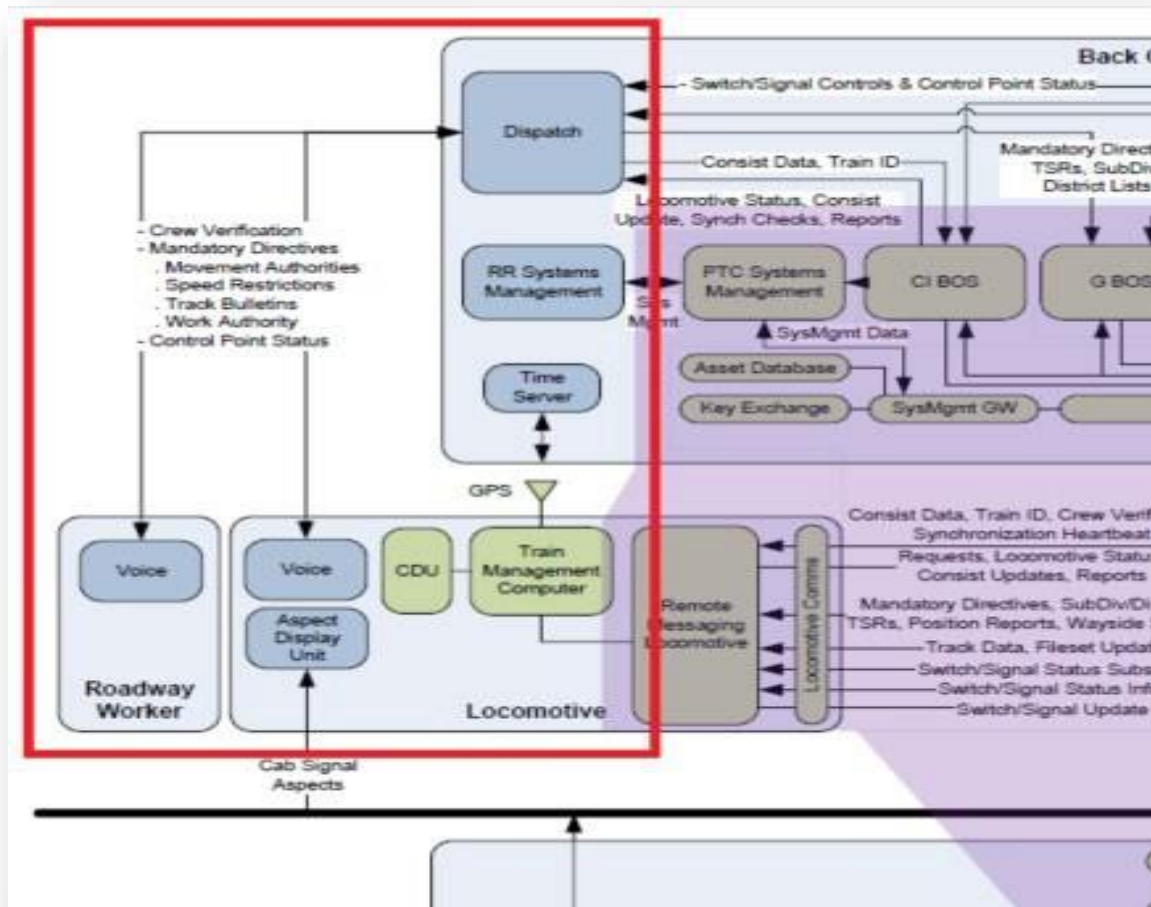
166. Collins Aerospace provides that the ARINC RailwayNetSM/AIM system implemented by Amtrak specifies providing back office infrastructure and messaging, including “[s]torage and delivery of crew and consist information, train IDs and clearances.”⁸² It further specifies enabling ITC PTC interoperability and compliance with I-ETMS systems.⁸³ Because I-ETMS systems require communication of crew verification and employee authentication, Amtrak maintains electronic contact addresses of the railway field workers from a rail personnel contact database. RailwayNetSM messaging functions also include: “[k]ey exchange server,” described as “[s]ecurity keys with data store.”⁸⁴

⁸¹ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

⁸² See White Paper at 7.

⁸³ See Report at 43.

⁸⁴ White Paper at 7.



AMTRAK'S ANSWER: Paragraph 166 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 166 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 166.

167. Additionally, RailwayNetSM serves as a node on a network of Class I railroads, enabling interoperability and electronic communications connectivity to the network.⁸⁵ Accordingly, on information and belief, RailwayNetSM is configured to retrieve the electronic

⁸⁵ *Id.* at 4.

contact address of the railway field worker from the rail personnel contact database, and transmit the removal code to the electronic contact address of the railway field worker.

AMTRAK’S ANSWER: Paragraph 167 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 167 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 167.

168. Accordingly, Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system or method generates “a removal code, determin[es] an electronic contact address of the railway field worker by accessing a rail personnel contact database registering, for each railway personnel, electronic contact information of the railway personnel, and transmitting the removal code to the electronic contact address of the railway field worker.”

AMTRAK’S ANSWER: Paragraph 168 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 168.

169. Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system or method permits “the block to said one or more track sections to be removed only upon entry of the removal code by said centralized control operation from the railway traffic control apparatus.”

AMTRAK’S ANSWER: Paragraph 169 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no

response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 169.

170. Amtrak has indicated that it has implemented or is implementing an enhanced employee protection system (EEPS) that requires the dispatcher to enter the “authorization code” in order to remove the protection (i.e., the foul time) from the track.⁸⁶

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 170 speaks for itself and Amtrak denies the allegations in Paragraph 170 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 170. Notably, Amtrak did not implement EEPS in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System.

171. FRA has recognized that systems such as the EEPS system implemented by Amtrak through Collins Aerospace’s ARINC RailwayNetSM system complies with applicable regulations (communication-based/processor-based train control technology designed to address a number of rail safety issues including train-to-train collisions, over-speed derailments, incursions into

⁸⁶ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

established work-zone limits, and train movement through a main-line switch that is in an improper position), the “dispatching system will not allow a dispatcher to release controlled track working limits until the RWIC affirmatively indicates via an electronic prompt that he or she is releasing working limits authority.”⁸⁷

AMTRAK’S ANSWER: Paragraph 171 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 171 as to the document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 171.

172. Accordingly, Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system or method permits “the block to said one or more track sections to be removed only upon entry of the removal code by said centralized control operation from the railway traffic control apparatus.”

AMTRAK’S ANSWER: Paragraph 172 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 172.

173. Therefore, Amtrak, through its implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM systems and/or other similar system or method has infringed and continues to infringe at least claim 19 of the ’835 patent.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 173. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth

⁸⁷ *Railroad Workplace Safety; Roadway Worker Protection Miscellaneous Revisions (RRR)*, FRA-2008-0086 (May 27, 2016) at 81, <https://www.fra.dot.gov/eLib/Details/L17467> [hereinafter referred to as “RRR”].

Defenses. Notably, Amtrak did not implement EEPs in the accused Collins Aerospace's ARINC RailwayNetSM System/AIM System.

B. Infringement Based on Amtrak's Implementation of AMTEC System

174. In violation of 35 U.S.C. § 271(a), Amtrak has infringed and continues to infringe one or more claims of the '835 patent by making, using, offering for sale, selling, and/or importing in or into the United States a system or method covered by the '835 patent, including, but not limited to, at least Amtrak's implementation of its AMTEC system and/or other similar system.⁸⁸

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 174. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses.

175. Amtrak, through its implementation AMTEC system and/or other similar system or method, infringes at least claim 19 of the '835 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 175. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses.

176. Amtrak's AMTEC system and/or other similar system or method practices a "method for controlling railway access using a railway traffic control apparatus of a centralized railway control system configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network."

AMTRAK'S ANSWER: Paragraph 176 contains legal arguments and conclusions based on claim language (cited in-part) from the '835 patent as opposed to allegations of fact and no

⁸⁸ Further investigation may reveal that others of Amtrak's products and systems also directly or indirectly infringe at least claim 19 or other claims of the '835 patent.

response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 176.

177. AMTEC stands for Amtrak Train and Electrification Control. AMTEC is Amtrak’s proprietary train dispatch system that implements Amtrak’s CETC (Centralized Electrification and Train Control). Amtrak uses the AMTEC train dispatching system to improve central train control functionality across Amtrak’s tracks.⁸⁹

AMTRAK’S ANSWER: The document referenced in Paragraph 177 speaks for itself. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Amtrak admits that AMTEC is known as “Amtrak Train and Electrification Control” and admits AMTEC is proprietary and was developed by Amtrak prior to this lawsuit. Otherwise, Amtrak denies the allegations and statements in Paragraph 177.

178. In 2018, Amtrak budgeted \$2,405,319 as Northeast Corridor (NEC)-wide expenditure for implementing the SEPTA (Southeastern Pennsylvania Transportation Authority) and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC (Centralized Electrification and Traffic Control) systems on the NEC in October 2017 for the fiscal year 2018.⁹⁰

C.EN.101714. CETC Amtrak System - MOFW Enhanced Employee Protection System (Segment 31). CETC - Enhanced Employee Protection System. This project will implement the SEPTA and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC systems on the NEC.	\$2,405,319
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⁸⁹ See *Management Trainee Program*, AMTRAK, https://careers.amtrak.com/content/Management-Trainee-Program/?locale=en_US (last visited April 7, 2022) (“Work to support the Amtrak Train and Electrification Control (AMTEC) system... [and] work to support the expansion of the AMTEC train dispatching system to improve train control functionality across the Northeast and Southeast Divisions.”); see also *Director, IT, Train Control Systems*, AMTRAK, <https://careers.amtrak.com/job/Philadelphia-PA-19104/689937700/> (last visited April 7, 2022) (“Provide leadership, direction, and oversight to the IT group responsible for Amtrak’s proprietary train dispatch system (AMTEC – Amtrak Centralized Electrification and Train Control).”).

⁹⁰ *Northeast Corridor One-Year Implementation Plan*, NEC COMMISSION 1, 16 (Oct. 2017), <http://nec-commission.com/app/uploads/2018/03/NEC-One-Year-Implementation-Plan- FY18.pdf>.

AMTRAK’S ANSWER: The document referenced in Paragraph 178 speaks for itself. Amtrak admits the document states in-part, “C.EN. 101714. CETC Amtrak System - MOFW Enhanced Employee Protection System (Segment 31). CETC – Enhanced Employee Protection System. This project will implement the SEPTA and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC systems on the NEC. \$2,405,319” Amtrak also admits that Railware pleads it is the “SEPTA and Metro North Enhanced Protection System (EEPS)” not Railware’s EEPS system. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 178.

179. In February 2019, Amtrak’s Five-Year Infrastructure Asset Line Plan for FY 2019-2024 allocated \$3,650,000 for FY 2019 and \$5,194,913 for FY 2020 to convert the ARINC system to the AMTEC system and replace the Mid-Atlantic Division (“MAD”) and Northeast Division (“NED”) CETC primary and backup system with the AMTEC system in the Washington to Boston line.⁹¹

⁹¹ Amtrak Five Year Infrastructure Asset Line Plan FY 2019-2024, AMTRAK 1, 320, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Infrastructure-Asset-Line-Plan-FY20-24.pdf> (last visited April 7, 2022).

C.EN.101767 - WAS-BOS CETC ARINC TO AMTEC SOFTWARE The Washington to Boston ARINC to AMTEC Software Upgrade Project will replace the MAD and NED CETC primary and backup system with the AMTEC system. The project will be design, implement and test the new MAD and NED AMTEC systems by in-house PSCC staff as well as maintenance of all system interfaces. Transportation personnel in Wilmington, Boston and Remote locations will be able to transfer their operations to the new system. Power Director and Load Dispatcher operations will continue, either by a newly selected system by Electric Traction (E/T) personnel or by the existing system. The project will provide training on the new system to both Transportation and CETC specialists. Location: NEC wide.				FAST Act Category: - Improvements Also Supports: - Normalized Capital Replacement - Strategic Initiatives that improve operational performance, lower cost or improve efficiency - Statutory, regulatory, or other legal mandates		Construction Program Priority: N/A Project Benefits: - Safety - SOGR - Resilience
FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	C.EN.101767 Total
\$3,650,000	\$5,194,913	\$0	\$0	\$0	\$0	\$8,844,193

AMTRAK’S ANSWER: The document referenced in Paragraph 179 speaks for itself and Amtrak denies the allegations in Paragraph 179 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context.

180. Six months earlier, in October 2018, Amtrak had estimated a total project cost of \$6,593,463—with a fiscal year 2019 planned expenditure of \$6,212,732—to convert ARINC system to AMTEC Software and replace the MAD and NED CETC primary and backup system with the AMTEC system in the Washington to Boston line.⁹²

Washington to Boston ARINC to AMTEC Software Upgrade Project. CETC WASHINGTON TO BOSTON. C.EN.101767. FY19 scope includes completion of installation and testing of all software and hardware on the MAD-Harrisburg line and MAD-Mid-Atlantic Divisions. The project anticipates installation and testing on the NED-Springfield Line in FY19. The remaining work that is needed NED-Mainline will be start and complete in Early FY20.		\$6,593,463	\$6,212,732
<u>FY19 Phases</u>	<u>Schedule</u>		
MAD-Harrisburg line Phase 1	10/01/18 - 02/28/19		
MAD- Mid-Atlantic Phase 2	01/01/19 - 05/20/19		
NED-Springfield line Phase 3	06/01/19 - 10/01/19		
For project details, see Appendix A.			

⁹² *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 108 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

AMTRAK’S ANSWER: The document referenced in Paragraph 180 speaks for itself and Amtrak denies the allegations in Paragraph 180 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context.

181. In early 2021, as part of Amtrak’s new train control systems, Amtrak announced the “initiative to standardize dispatch systems on the Amtrak-developed AMTEC platform to replace the legacy Collins dispatch system [that] will provide a common dispatch platform for the NEC and the Central division that is more reliable and resilient and will reduce maintenance cost.”⁹³ The EEPs system described in Amtrak’s 2019 FY plan has been or will be implemented as part of the AMTEC system upgrade.

AMTRAK’S ANSWER: The document referenced in Paragraph 181 speaks for itself and Amtrak denies the allegations in Paragraph 181 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Amtrak admits it introduced the accused EEPs feature in AMTEC prior to this lawsuit. Otherwise, Amtrak denies the allegations and statements in Paragraph 181.

182. Accordingly, Amtrak’s AMTEC system and/or other similar system or method practices a “method for controlling railway access using a railway traffic control apparatus of a centralized railway control system configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network.”

AMTRAK’S ANSWER: Paragraph 182 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no

⁹³ Five-Year Plans | Service And Asset Line Plans | FY 2021-2026, AMTRAK 1, 149, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Service-Line-Asset-Line-Plans-FY21-26.pdf> (last visited April 7, 2022).

response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 182.

183. Amtrak's AMTEC system and/or other similar system or method provides "a user interface of the railway traffic control apparatus, including a block placing part to place a block on one or more specified track sections in any of said plural railways constituting said railway network that is managed by centralized control operation from the railway traffic control apparatus, the railway traffic control apparatus controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network, to block railway traffic to the specified track sections and thereby to permit a railway field worker to enter the track sections."

AMTRAK'S ANSWER: Paragraph 183 contains legal arguments and conclusions based on claim language (cited in-part) from the '835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 183.

184. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an "enhanced employee protection system."

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 184 speaks for itself and Amtrak denies the allegations in Paragraph 184 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 184.

185. The portion of Amtrak’s AMTEC system that places track sections in “foul time” is a “block placing part” as recited in this claim element. Specifically, FRA regulations 49 C.F.R. § 214.323 defines “foul time” as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that *no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track.*” Because Amtrak, through its implementation of AMTEC, has the ability to place tracks in foul time, it includes a “a block placing part to place a block on one or more specified track sections in any of said plural railways constituting said railway network that is managed by centralized control operation from the railway traffic control apparatus, the railway traffic control apparatus controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network, to

block railway traffic to the specified track sections and thereby to permit a railway field worker to enter the track sections.” Moreover, in order to place a track segment in “foul time,” the system must provide a “user interface of the railway traffic control apparatus” to permit the dispatcher to establish the blocking protection.

AMTRAK’S ANSWER: Paragraph 185 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 185.

186. According to Amtrak’s 2019 FY plan, it has implemented an enhanced employee protection system (EEPS) that operates by “provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system.”⁹⁴ The 2019 FY plan further specifies purchasing “EEPS mobile devices for roadway workers.”⁹⁵

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Amtrak states the document referenced in Paragraph 186 speaks for itself and Amtrak denies the allegations in Paragraph 186 to the extent that the portion cited

⁹⁴ 2019 NEC One-Year Plan at 233.

⁹⁵ *Id.*

above from the document does not accurately represent the document's full content and context.

187. In order to provide the railway workers with an authorization code to their EEPS mobile devices, Amtrak's AMTEC system must have a database containing contact information for each railway worker (i.e., a rail personnel contact database registering, for each railway personnel, an electronic contact address of the railway personnel). Moreover, in order to facilitate communication between the control room and the railway workers working on or near the tracks, Amtrak's AMTEC system must include a control apparatus comprising a network interface through which the railway control apparatus communicates via a network.

AMTRAK'S ANSWER: Paragraph 187 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 187.

188. AMTEC is a CETC system which, by definition, is configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in the plural railways and controls access to the railway tracks.⁹⁶ Further, the AMTEC system can place tracks in "foul time:"

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on <u>track under foul time</u> or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

⁹⁶ See *A Guide to Key Railroad Terminology for the Northeast Corridor*, AMTRAK, <https://media.amtrak.com/wp-content/uploads/2017/07/NEC-Terms-primer-v1.pdf> (last visited April 3, 2022) ("Dispatchers use computerized Centralized Traffic & Electrification Control (CTEC) systems to [centrally] control train movement over most of the NEC.").

AMTRAK’S ANSWER: Paragraph 188 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the document in Paragraph 188 speaks for itself and Amtrak denies the allegations in Paragraph 188 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 188.

189. Foul time is defined as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track.” 49 C.F.R. Part 214.7. The “specified segments” referred to in the rule are the “plural railways” referred to in this claim element.

AMTRAK’S ANSWER: Paragraph 189 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the CFR provision referenced in Paragraph 189 speaks for itself and Amtrak denies the allegations in Paragraph 189 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 189.

190. Amtrak budgeted an additional \$224,007 as FY19 Proposed Budget for implementing a system to enhance railway worker protection:

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 190 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the document referenced in Paragraph 190 speaks for itself and Amtrak denies the allegations in Paragraph 190 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 190.

191. The EEPS mobile devices for railway workers are part of the deliverables that Amtrak has budgeted an additional \$224,007 as FY19 Proposed Budget for implementing a system to enhance railway worker protection when working on track under foul time or track out of service. Moreover, with the advent in mobile technology, these EEPS mobile devices provide a user interface to display information received from the railway control apparatus and to permit the railway field worker to respond to prompts displayed thereon.⁹⁷

AMTRAK’S ANSWER: Paragraph 191 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To

⁹⁷ See 2019 NEC One-Year Plan at 233.

the extent a response is required, the document referenced in Paragraph 191 speaks for itself and Amtrak denies the allegations in Paragraph 191 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 191.

192. According to Amtrak's 2019 FY plan, it has implemented an enhanced employee protection system (EEPS) that operates by "provid[ing] roadway workers with an authorization code that corresponds to the **blocking protection** applied in the CETC control system."⁹⁸ The referenced "blocking protection applied in the CETC control system [AMTEC]" is a reference to the claimed "block placing part."

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK'S ANSWER: Paragraph 192 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak states the document referenced in Paragraph 192 speaks for itself and Amtrak denies the allegations in Paragraph 192 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 192.

⁹⁸ 2019 NEC One-Year Plan at 233 (emphasis added).

193. The AMTEC system can place tracks in “foul time” which is defined as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track.” 49 C.F.R. Part 214.7. The “specified segments” referred to in the rule are the “plural railways” referred to in this claim element. In order to provide “blocking protection” to the railway workers and place tracks in “foul time,” the system must have a block placing part to place a block on one or more specified track sections in any of said plural railways constituting said railway network.

AMTRAK’S ANSWER: Paragraph 193 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 193.

194. Accordingly, Amtrak’s AMTEC system and/or other similar system or method provides “a user interface of the railway traffic control apparatus, including a block placing part to place a block on one or more specified track sections in any of said plural railways constituting said railway network that is managed by centralized control operation from the railway traffic control apparatus, the railway traffic control apparatus controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network, to block railway traffic to the specified track sections and thereby to permit a railway field worker to enter the track sections.”

AMTRAK’S ANSWER: Paragraph 194 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and

statements in Paragraph 194.

195. Amtrak's AMTEC system and/or other similar system or method generates "a removal code, determin[es] an electronic contact address of the railway field worker by accessing a rail personnel contact database registering, for each railway personnel, electronic contact information of the railway personnel, and transmit[s] the removal code to the electronic contact address of the railway field worker."

AMTRAK'S ANSWER: Paragraph 195 contains legal arguments and conclusions based on claim language (cited in-part) from the '835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 195.

196. Amtrak's AMTEC system implements an enhanced employee protection system (EEPS) that operates by "provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system."⁹⁹ In order to provide the railway workers with an authorization code, Amtrak's AMTEC system must first generate the code. Amtrak's AMTEC system must also include a database containing contact information for each railway worker (i.e., a railway personnel contact database registering, for each railway personnel, an electronic contact address of the railway personnel) and retrieve the electronic contact address for the railway worker from the electronic contact database in order to send the generated code to the railway field worker.

⁹⁹ 2019 NEC One-Year Plan at 233.

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 196 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak states the document referenced in Paragraph 196 speaks for itself and Amtrak denies the allegations in Paragraph 196 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 196.

197. Additionally, in order to provide railway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system, the AMTEC system must generate the authorization code . Further, the *2019 NEC One-year-Plan* specifically notes that the AMTEC system “will provide roadway workers with an authorization code” which demonstrates that the AMTEC system “transmit[s] the removal code to the electronic contact address of the railway field worker.”¹⁰⁰

AMTRAK’S ANSWER: Paragraph 197 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 197 speaks for itself and Amtrak denies the allegations in

¹⁰⁰ *Id.*

Paragraph 197 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 197.

198. Accordingly, AMTEC system and/or other similar system or method generates “a removal code, determining an electronic contact address of the railway field worker by accessing a rail personnel contact database registering, for each railway personnel, electronic contact information of the railway personnel, and transmitting the removal code to the electronic contact address of the railway field worker.”

AMTRAK'S ANSWER: Paragraph 198 contains legal arguments and conclusions based on claim language (cited in-part) from the '835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 198.

199. Amtrak's AMTEC system and/or other similar system or method permits “the block to said one or more track sections to be removed only upon entry of the removal by said centralized control operation from the railway traffic control apparatus.”

AMTRAK'S ANSWER: Paragraph 199 contains legal arguments and conclusions based on claim language (cited in-part incorrectly as missing “code” after “removal”) from the '835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 199.

200. According to Amtrak's 2019 FY plan, it has implemented an enhanced employee protection system (EEPS) that operates by “provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system.”¹⁰¹ The

¹⁰¹ 2019 NEC One-Year Plan at 233.

system notes that “removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker.”¹⁰²

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPs operating practices documentation; • Modification to each CETC System to provide EEPs functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPs mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Amtrak states the document referenced in Paragraph 200 speaks for itself and Amtrak denies the allegations in Paragraph 200 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 200.

201. In order to ensure that removal of the protection by the CETC train dispatcher is not done prematurely, the AMTEC system requires the authorization code provided by the railway worker; the AMTEC system will then remove the block only upon entry of the removal code from the railway worker.

AMTRAK’S ANSWER: Paragraph 201 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 201.

202. Accordingly, AMTEC system and/or other similar system or method permits “the

¹⁰² *Id.*

block to said one or more track sections to be removed only upon entry of the removal code by said centralized control operation from the railway traffic control apparatus.”

AMTRAK’S ANSWER: Paragraph 202 contains legal arguments and conclusions based on claim language (cited in-part) from the ’835 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 202.

203. As direct and proximate result of Amtrak’s infringement of the ’835 patent, Railware has been injured and has been caused significant harm and financial damages.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 203.

204. On information and belief, Amtrak has also induced and continues to induce infringement of at least claim 19 of the ’835 patent in violation of 35 U.S.C. § 271(b).

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 204.

205. Amtrak induces its users, and/or developers of its systems to infringe at least claim 19 of the ’835 patent, and does so with the specific intent, by providing instructions, directions, information, and/or knowledge on how to use its systems and/or incorporate its systems into other products (including both the Collins Aerospace RailwayNet/AIM systems and the AMTEC systems or similar systems or methods). For example, Amtrak provides a “Management Trainee Program” through which trainees “work to support the Amtrak Train and Electrification Control (AMTEC) system by updating the track model software design and configuration work supporting new interlocking construction and reconfiguration of existing interlockings, as well as similar technical work to support the expansion of the AMTEC train dispatching system to improve train

control functionality across the Northeast and Southeast Divisions.”¹⁰³

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 205.

206. As a direct and proximate result of Amtrak’s infringement of the ’835 patent, Railware has been injured and has been caused significant harm and financial damages.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 206.

207. Upon information and belief, Amtrak, without Railware’s permission, has been and is presently infringing at least claim 19 of the ’835 patent in violation of 35 U.S.C. § 271(c), by selling or offering to sell an apparatus for use in practicing the ’835 patent that is a material part of the invention to its customers, purchasers, users, and/or developers.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 207.

208. The apparatuses and systems sold or offered for sale by Amtrak have no substantial noninfringing uses. Further, they are not staple articles of commerce and constitute a material part of the invention. Thus, Amtrak knew or should have known that the combination for which their apparatuses and systems were made was protected by the ’835 patent.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 208.

209. As such, Amtrak has contributorily infringed and continue to infringe the ’835 patent, as set forth herein, knowing that the apparatuses or systems would be made or adapted for use in an infringing manner.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 209.

210. To the extent the marking requirements of 35 U.S.C. § 287 apply, Amtrak has had constructive knowledge of the ’835 patent at least since October 21, 2020. Amtrak’s continued infringement on or after this date is in spite of the objectively high likelihood that its activities

¹⁰³ https://careers.amtrak.com/content/Management-Trainee-Program/?locale=en_US (last visited May 6, 2022).

constitute infringement of a valid patent, and this risk was either known or so obvious that it should have been known to Amtrak. Thus, Amtrak's continued infringement at least as of October 21, 2020, or as of the filing of this Complaint is willful and deliberate.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 210. For instance, Amtrak denies it "had constructive knowledge of the '835 patent at least since October 21, 2020" given the Court's finding. Dkt. No. 39, 28-29 and Amtrak denies it willfully infringed. Amtrak denies any other allegations in Paragraph 210.

211. Railware has suffered and continues to suffer damages and irreparable harm as a result of Amtrak's past and ongoing infringement. Unless and until Amtrak's infringement is enjoined, Railware will continue to be damaged and irreparably harmed.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 211.

212. Railware is entitled to all remedies at law and equity including, but not limited to, an injunction against Amtrak's infringement of the '835 patent pursuant to 35 U.S.C. § 283.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 212.

213. Railware is entitled to damages for Amtrak's infringement of the '835 patent including, but not limited to, damages pursuant to 35 U.S.C. §§ 284 and 285.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 213.

THIRD CLAIM FOR RELIEF

(Infringement of the '115 patent)

214. Railware repeats and incorporates by reference all prior allegations of this Complaint as if fully set forth herein.

AMTRAK'S ANSWER: Amtrak repeats and incorporates by reference all its prior responses to all prior allegations as if set forth fully here.

215. Railware is the owner by assignment of all rights, title, and interest in and to the

'115 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 215 as shown, for instance, in the Second Defense.

216. The '115 patent is valid and enforceable.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 216 as shown, for instance, in the Fifth, Seventh, and Tenth Defenses.

217. Claim 20 of the '115 patent recites:

A railway control apparatus for centralized control of a centrally controllable railway network including plural railways and a plurality of railway interlocks dispersed in said plural railways, comprising:

a processor for controlling a plurality of track sections in the railway network, wherein each track section is associated with a corresponding interlock and is disposed in any of said plural railways of said railway network that is managed by centralized control operation from the railway control apparatus, the processor controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway interlocks dispersed in said plural railways of said railway network, to block railway traffic to one or more specified track sections; and

a memory device storing computer-executable instructions, wherein execution of the computer-executable instructions by the processor causes the railway control apparatus to:

receive a selection of at least one track section amongst the plurality of track sections;

transmit a block signal to the corresponding interlock associated with the at least one selected track section, to place a block on the selected track section by said centralized control operation from the railway control apparatus;

generate a secret code associated with the at least one selected track section; and

transmit the secret code to a remote user terminal.

AMTRAK'S ANSWER: Amtrak admits Railware claims to recite in Paragraph 217 claim

language from Claim 20 of the '115 patent, but Amtrak denies any other allegations.

A. Infringement Based on Amtrak's Implementation of Collins Aerospace's ARINC RailwayNetSM System/AIM System

218. In violation of 35 U.S.C. § 271(a), Amtrak has infringed and continues to infringe one or more claims of the '115 patent by making, using, offering for sale, selling, and/or importing in or into the United States a system or method covered by the '115 patent, including, but not limited to, at least Amtrak's implementation and/or use of Collins Aerospace's ARINC RailwayNetSM system/AIM system and/or other similar system.¹⁰⁴

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 218. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses. Notably, Amtrak did not implement EEPS in the accused Collins Aerospace's ARINC RailwayNetSM System/AIM System.

219. Amtrak, through its implementation and/or use of Collins Aerospace's ARINC RailwayNetSM system/AIM system and/or other similar system, infringes at least claim 20 of the '115 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 219. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses. Notably, Amtrak did not implement EEPS in the accused Collins Aerospace's ARINC RailwayNetSM System/AIM System.

220. Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM system/AIM system and/or other similar system is a "railway control apparatus for centralized control of a centrally controllable railway network including plural railways and a plurality of

¹⁰⁴ Further investigation may reveal that others of Amtrak's products and systems also directly or indirectly infringe at least claim 20 or other claims of the '115 patent.

railway interlocks dispersed in said plural railways.”

AMTRAK’S ANSWER: Paragraph 220 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 220.

221. Amtrak owns and/or operates a number of dispatch centers along the Northeast Corridor (NEC) spine including in Boston, MA, New York, NY (Penn Station), and Philadelphia, PA.¹⁰⁵ Dispatching centers are centralized railway control systems using methods to control access to railway tracks configured for centralized control of a centrally controllable railway network including plural railways and a plurality of railway interlocks dispersed in said plural railways.

AMTRAK’S ANSWER: Paragraph 221 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak admits it operates dispatch centers along the Northeast Corridor (NEC) including in Boston, MA, New York, NY (PSCC), and Philadelphia, PA. Otherwise, Amtrak denies the allegations and statements in Paragraph 221.

222. Collins Aerospace advertises that its AIM system provides “centralized traffic control,” “train monitoring and control,” “automatic route setting/automatic routing,” “automatic traffic regulation,” and “bulletins, authorities,” and “restrictions management.”¹⁰⁶

¹⁰⁵ See *CETC Dispatch*, RAILROAD.NET, <https://railroad.net/cetc-dispatch-t66499-15.html> (last visited Apr. 04, 2022); see also *Supra* ¶¶ 22–29.

¹⁰⁶ *Intelligence-Based Rail Solutions*, Collins Aerospace, <https://www.collinsaerospace.com/-/media/project/collinsaerospace/collinsaerospace-website/product-assets/marketing/r/rail/arinc-rail-solutions-for-passengers.pdf?rev=e7e5ddbff2de4154ba265f03e27f14d3>.

Centralized Traffic Control and SCADA

Collins designs and integrates state-of-the-art rail control solutions using our ARINC Advanced Information Management (AIM®) platform. AIM serves as an end-to-end solution for all rail control requirements, including SCADA, Centralized Traffic Control, Positive Train Control (PTC) and control center integration. Highly flexible and feature-rich, AIM enables railroads to maximize operational efficiency, cost-effectiveness and safety, all while providing an environment protected by the latest tools and techniques in cybersecurity.

KEY AREAS OF EXPERTISE

- | | |
|---|--|
| • Train monitoring and control | • Bulletins, authorities and restrictions management |
| • Automatic train tracking | • Employee in Charge (EIC) terminals |
| • Automatic route setting/automatic routing | • Emergency Operating Procedures (EOP) |
| • Automatic traffic regulation and schedule deviation | • Power planning |
| • Schedule management | • Playback and simulation |
| • Integrated yard management | • Data acquisition |
| | • Interface integration |

AMTRAK’S ANSWER: Paragraph 222 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 222 and, on that basis, denies them.

223. Amtrak implemented the Collins Aerospace-developed RailwayNetSM as a SaaS and/or IaaS—a software/infrastructure as a service—product that provides “full-featured network management and infrastructure, hardware, network, operating systems, and applications for fault, performance, security and configuration management.”¹⁰⁷ Amtrak has further implemented Collins Aerospace-developed AIM software.

¹⁰⁷ ROCKWELL COLLINS INC., ARINC RAILWAYNET WHITE PAPER 6 (2016), https://www.rockwellcollins.com/-/media/Files/Unsecure/Services-And-Support/Information-Management/ARINC-Rail/RailwayNet/ARINC-Rail_RailwayNet_white-paper.ashx [hereinafter referred to as “White Paper”]; see also *Supra* ¶¶ 33–41.

AMTRAK’S ANSWER: Amtrak admits it implemented Collins Aerospace’s ARINC RailwayNetSM System/AIM System with RailwayNetSM in certain locations (not the PSCC) and such system speaks for itself. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 223 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 223.

224. According to Collins Aerospace, RailwayNetSM helps facilitate the increases in safety and reliability that PTC provides.¹⁰⁸

AMTRAK’S ANSWER: Amtrak lacks knowledge or information sufficient to form a belief as to the truth or falsity of the allegations in Paragraph 224, and therefore denies the allegations on that basis.

225. Collins Aerospace advertises that RailwayNetSM, which Amtrak uses, improves rail safety. “This system refers to communication-based/processor-based train control technology designed to address a number of rail safety issues, including train-to-train collisions, over-speed derailments, incursions into established work-zone limits, and train movement through a main-line switch that is in an improper position.”¹⁰⁹

¹⁰⁸ *Amtrak signs nationwide contract for Rockwell Collins’ ARINC RailwayNetSM Positive Train Control service*, COLLINS AEROSPACE (Sep. 6, 2017), <https://www.collinsaerospace.com/-/media/project/collinsaerospace/collinsaerospace-website/product-assets/files/public/services-and-support/information-management/arinc-rail/amtrak-and-railwaynet-press-release.pdf>.

¹⁰⁹ White Paper at 3.



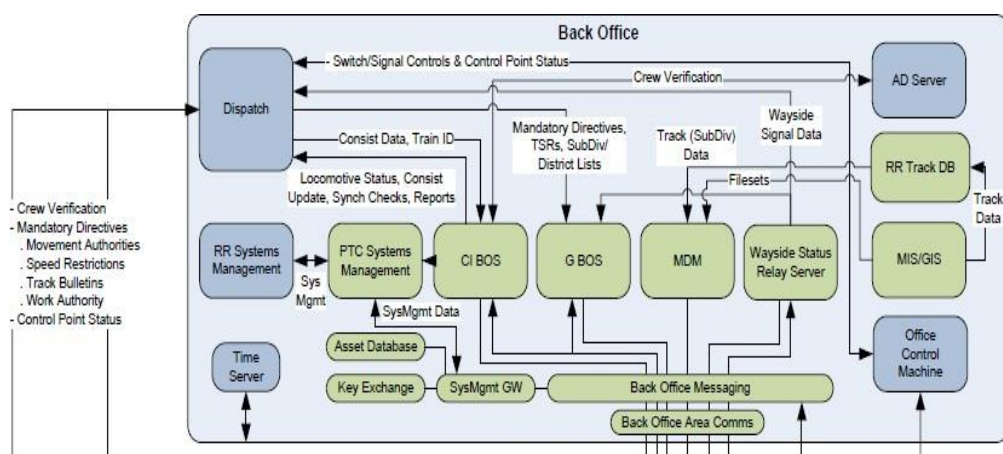
AMTRAK'S ANSWER: Amtrak admits it used Collins Aerospace's ARINC RailwayNetSM System/AIM System in certain locations (not the PSCC) and such system speaks for itself. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 225 as to the Collins Aerospace document cited and, on that basis, denies them.

226. In 2017, Amtrak signed an agreement with Rockwell Collins to implement the company's ARINC RailwayNetSM service on approximately 310 Amtrak locomotives operating across the United States. RailwayNetSM was implemented nationwide on Amtrak routes, where it operates its trains over other railroad companies' tracks. Under the agreement, Rockwell Collins initialized Amtrak's fleet enabling its trains to run as "tenants" on 19 different host railroads, including Class 1, commuter and freight tracks. As explained below, ARINC RailwayNetSM is a hosted network, messaging and application platform, designed to assist operators in meeting the requirements mandated by the Rail Safety Improvement Act of 2008 (the "Act"). The Act directs the Federal Railroad Administration (FRA) to mandate new regulations focused on railroad safety. When used in conjunction with the operator's PTC infrastructure, RailwayNetSM helps facilitate

the increases in safety and reliability that PTC provides.¹¹⁰

AMTRAK’S ANSWER: Paragraph 226 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the documents referenced in Paragraph 226 speak for themselves and Amtrak denies the allegations in Paragraph 226 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context.

227. The “ARINC RailwayNetSM integrations server and software provides connectivity between the railroad IT systems and the hosted back-office components.”¹¹¹ The integration server provides an interface with various system components.



¹¹⁰ Amtrak signs nationwide contract for Rockwell Collins’ ARINC RailwayNetSM Positive Train Control service, COLLINS AEROSPACE (Sep. 6, 2017), <https://www.collinsaerospace.com/-/media/project/collinsaerospace/collinsaerospace-website/product-assets/files/public/services-and-support/information-management/arinc-rail/amtrak-and-railwaynet-press-release.pdf>.

¹¹¹ See White Paper at 8 (illustrating “AIM[®] integration server”).

AIM® integration server

The ARINC RailwayNet integrations server and software provides connectivity between the railroad IT systems and the hosted back-office components. The functions of this application include:

- › Interface with customer's IT gateway
- › Interface with back office
- › Manage crew authentication through the customer's IT gateway
- › Functions to assign train ID to trains based on the clearance number
- › Functions to manage train consist through the customer's IT gateway
- › Functions to track, display, and store events and alarms

Centralized Traffic Control and SCADA

Collins designs and integrates state-of-the-art rail control solutions using our ARINC Advanced Information Management (AIM®) platform. AIM serves as an end-to-end solution for all rail control requirements, including SCADA, Centralized Traffic Control, Positive Train Control (PTC) and control center integration. Highly flexible and feature-rich, AIM enables railroads to maximize operational efficiency, cost-effectiveness and safety, all while providing an environment protected by the latest tools and techniques in cybersecurity.

KEY AREAS OF EXPERTISE

- | | |
|---|--|
| • Train monitoring and control | • Bulletins, authorities and restrictions management |
| • Automatic train tracking | • Employee in Charge (EIC) terminals |
| • Automatic route setting/automatic routing | • Emergency Operating Procedures (EOP) |
| • Automatic traffic regulation and schedule deviation | • Power planning |
| • Schedule management | • Playback and simulation |
| • Integrated yard management | • Data acquisition |
| | • Interface integration |

AMTRAK'S ANSWER: Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 227 and, on that basis, denies them.

228. Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system, implemented by Amtrak, provides the network connections and office applications required to exchange critical information among Class I railroads and their partner short line commuter railroads. It is available on a subscription basis as hosted SaaS (software as a service) and IaaS (infrastructure as a service) solutions, and PTC messaging from the back office to the locomotive through VHF, cellular, and Wi-Fi is also available.¹¹²

AMTRAK'S ANSWER: Paragraph 228 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the

¹¹² *New from Rockwell Collins: Shared-network PTC platform*, RAILWAY AGE 14 (July 2016), https://issuu.com/railwayage/docs/july_2016_railway_age.

allegations of Paragraph 228 and, on that basis, denies them.

229. The ARINC RailwayNetSM/AIM system, as implemented by Amtrak, further controls plural railways and a plurality of railway traffic interlocks. Specifically, Centralized Train Control systems, such as that employed by Amtrak and its implementation of ARINC RailwayNetSM/AIM and/or other similar system “consists of a centralized train dispatcher’s office that controls railroad interlocking and traffic flows in portions of the rail system designated as CTC territory.”¹¹³

AMTRAK’S ANSWER: Paragraph 229 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 229 and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 229.

230. Collins Aerospace implemented the ARINC RailwayNetSM/AIM system and/or other similar system—a hosted network, messaging and application platform as amended—on Amtrak’s 19 different railroads, including commuter and freight routes that host Amtrak services.

AMTRAK’S ANSWER: Paragraph 230 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak admits it used Collins Aerospace’s ARINC RailwayNetSM System/AIM System in certain locations. Otherwise, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 230 and, on that basis, denies them.

231. Accordingly, Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system is a “railway control apparatus for

¹¹³ CTC, WIKIPEDIA, https://en.wikipedia.org/wiki/Centralized_traffic_control.

centralized control of a centrally controllable railway network including plural railways and a plurality of railway interlocks dispersed in said plural railways.”

AMTRAK’S ANSWER: Paragraph 231 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 231.

232. Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system includes “a processor for controlling a plurality of track sections in the railway network, wherein each track section is associated with a corresponding interlock and is disposed in any of said plural railways of said railway network that is managed by centralized control operation from the railway control apparatus, the processor controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway interlocks dispersed in said plural railways of said railway network, to block railway traffic to one or more specified track sections.”

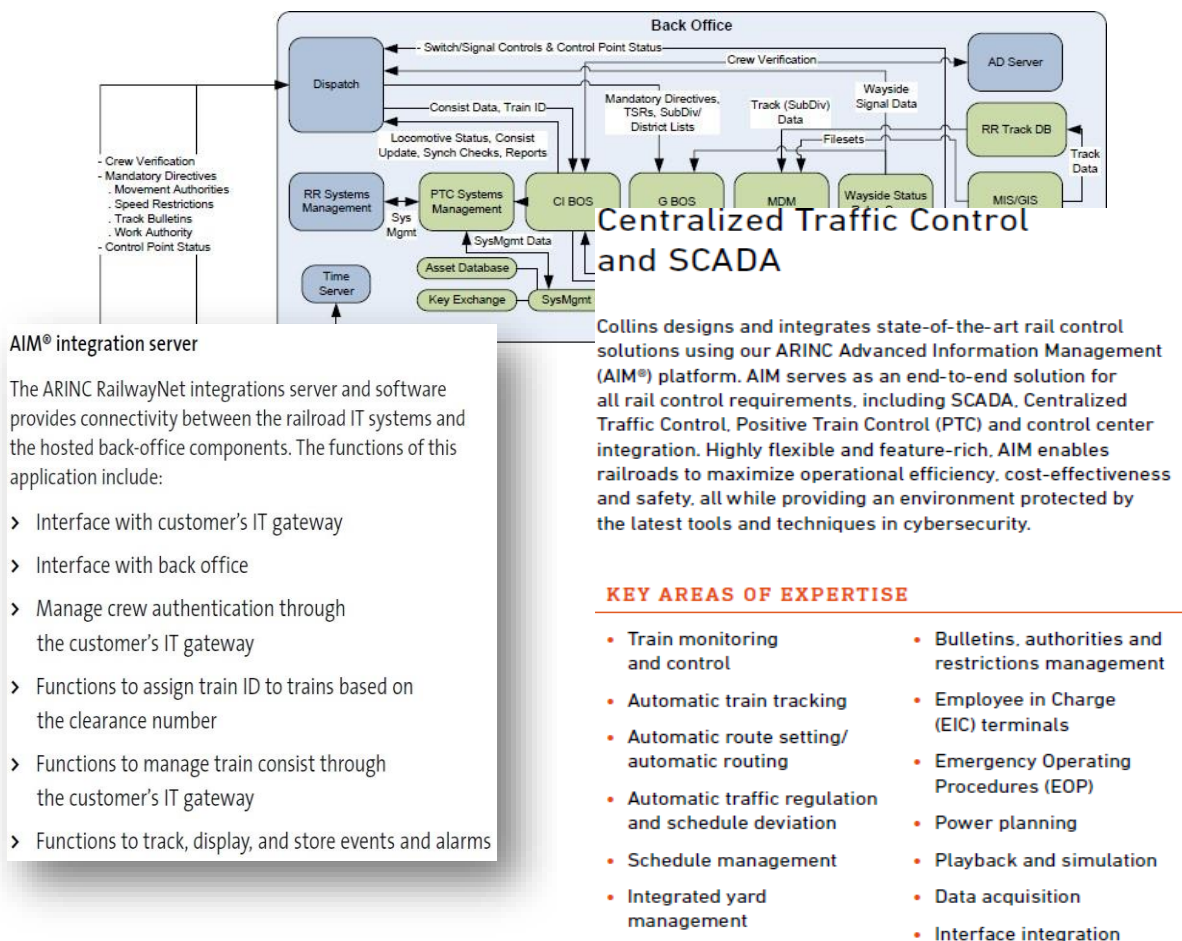
AMTRAK’S ANSWER: Paragraph 232 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 232.

233. Collins Aerospace advertises that RailwayNetSM, which Amtrak uses, improves rail safety. “This system refers to **communication-based/processor-based** train control technology designed to address a number of rail safety issues, including train-to-train collisions, over-speed derailments, incursions into established work-zone limits, and train movement through a main-line

switch that is in an improper position.”¹¹⁴

AMTRAK’S ANSWER: Amtrak admits it used Collins Aerospace’s ARINC RailwayNetSM System/AIM System in certain locations (not the PSCC) and such system speaks for itself. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 233 as to the Collins Aerospace document cited and, on that basis, denies them.

234. The “ARINC RailwayNetSM integrations server and software provides connectivity between the railroad IT systems and the hosted back-office components.”¹¹⁵ The integration server provides an interface with various system components.



¹¹⁴ White Paper at 3 (emphasis added).

¹¹⁵ See White Paper at 8 (illustrating “AIM® integration server”).

AMTRAK’S ANSWER: Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 234 and, on that basis, denies them.

235. Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system, implemented by Amtrak, provides the network connections and office applications required to exchange critical information among Class I railroads and their partner short line commuter railroads. It is available on a subscription basis as hosted SaaS (software as a service) and IaaS (infrastructure as a service) solutions, and PTC messaging from the back office to the locomotive through VHF, cellular, and Wi-Fi is also available.¹¹⁶

AMTRAK’S ANSWER: Paragraph 235 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 235 and, on that basis, denies them.

236. The ARINC RailwayNetSM/AIM system, as implemented by Amtrak, further controls plural railways and a plurality of railway traffic interlocks. Specifically, Centralized Train Control systems, such as that employed by Amtrak and its implementation of ARINC RailwayNetSM/AIM and/or other similar system “consists of a centralized train dispatcher’s office that controls railroad interlocking and traffic flows in portions of the rail system designated as CTC territory.”¹¹⁷

AMTRAK’S ANSWER: Paragraph 236 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief

¹¹⁶ *New from Rockwell Collins: Shared-network PTC platform*, RAILWAY AGE 14 (July 2016), https://issuu.com/railwayage/docs/july_2016_railway_age.

¹¹⁷ CTC, WIKIPEDIA, https://en.wikipedia.org/wiki/Centralized_traffic_control.

regarding the truth of the allegations of Paragraph 236 and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 236.

237. Collins Aerospace implemented the ARINC RailwayNetSM/AIM system and/or other similar system service—a hosted network, messaging and application platform as amended—on Amtrak’s 19 different railroads, including commuter and freight routes that host Amtrak services.

AMTRAK’S ANSWER: Paragraph 237 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. To the extent a response is required, Amtrak admits it used Collins Aerospace’s ARINC RailwayNetSM System/AIM System in certain locations. Otherwise, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 237 and, on that basis, denies them.

238. Amtrak budgeted an additional \$224,007 as FY19 Proposed Budget for implementing a system to enhance railway worker protection when working on track under foul time or track out of service. The system will provide railway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the railway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to railway workers. The deliverable included modification to each CETC System to provide EEPs functionality in at least Wilmington CETC (Mid-Atlantic Division); Boston CETC (NH to Boston, Springfield Line and MBTA Lines); NY CETC West; PSCC (Pennsylvania Station Central Control); and CETC Hudson-Albany Line. The deliverables also included EEPs mobile devices for railway workers; EEPs operating practices documentation; training program for railway workers and dispatchers; and operations management plans and

procedures to be used after system acceptance.¹¹⁸

AMTRAK’S ANSWER: Paragraph 238 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 238 speaks for itself and Amtrak denies the allegations in Paragraph 238 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 238. Notably, Amtrak did not implement EEPS in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System.

239. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system.”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after svstem acceptance: 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 239 speaks for itself and Amtrak denies the allegations in Paragraph 239 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 239.

¹¹⁸ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

240. Collins Aerospace’s ARINC RailwayNetSMAIM system, implemented by Amtrak, that places track sections in “foul time” is an example of a “processor controlling, by said centralized control operation one or more interlocks dispersed in said plural railways of said railway network, to block railway traffic to one or more specified track sections” as recited in this claim element. Specifically, FRA regulations 49 C.F.R. § 214.323 defines “foul time” as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that *no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track.*” Because Amtrak, through its implementation of ARINC RailwayNetSM/AIM, has the ability to place tracks in foul time, it includes the capability to “block railway traffic to one or more specified track sections.” Moreover, in order to place a track segment in “foul time,” the system must contain “a processor for controlling a plurality of track sections in the railway network, wherein each track section is associated with a corresponding interlock and is disposed in any of said plural railways of said railway network that is managed by centralized control operation from the railway control apparatus, the processor controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway interlocks dispersed in said plural railways of said railway network” to permit the dispatcher to establish the blocking protection.

AMTRAK’S ANSWER: Paragraph 240 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 240.

241. Collins Aerospace advertises that its AIM system provides “train monitoring and control,” automatic route setting/automatic routing,” “automatic traffic regulation,” and “bulletins,

authorities, and restrictions management.”¹¹⁹ One or more of these functionalities encompasses the claimed “block railway traffic” part.

Centralized Traffic Control and SCADA

Collins designs and integrates state-of-the-art rail control solutions using our ARINC Advanced Information Management (AIM®) platform. AIM serves as an end-to-end solution for all rail control requirements, including SCADA, Centralized Traffic Control, Positive Train Control (PTC) and control center integration. Highly flexible and feature-rich, AIM enables railroads to maximize operational efficiency, cost-effectiveness and safety, all while providing an environment protected by the latest tools and techniques in cybersecurity.

KEY AREAS OF EXPERTISE

- | | |
|---|--|
| • Train monitoring and control | • Bulletins, authorities and restrictions management |
| • Automatic train tracking | • Employee in Charge (EIC) terminals |
| • Automatic route setting/automatic routing | • Emergency Operating Procedures (EOP) |
| • Automatic traffic regulation and schedule deviation | • Power planning |
| • Schedule management | • Playback and simulation |
| • Integrated yard management | • Data acquisition |
| | • Interface integration |

AMTRAK’S ANSWER: Paragraph 241 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 241 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 241.

242. Collins Aerospace’s ARINC RailwayNetSM/AIM system, implemented by Amtrak, is a SaaS and IaaS product that provides “full-featured network management and infrastructure,

¹¹⁹ *Intelligence-Based Rail Solutions*, Collins Aerospace, <https://www.collinsaerospace.com/-/media/project/collinsaerospace/collinsaerospace-website/product-assets/marketing/r/rail/arinc-rail-solutions-for-passengers.pdf?rev=e7e5ddbff2de4154ba265f03e27f14d3>.

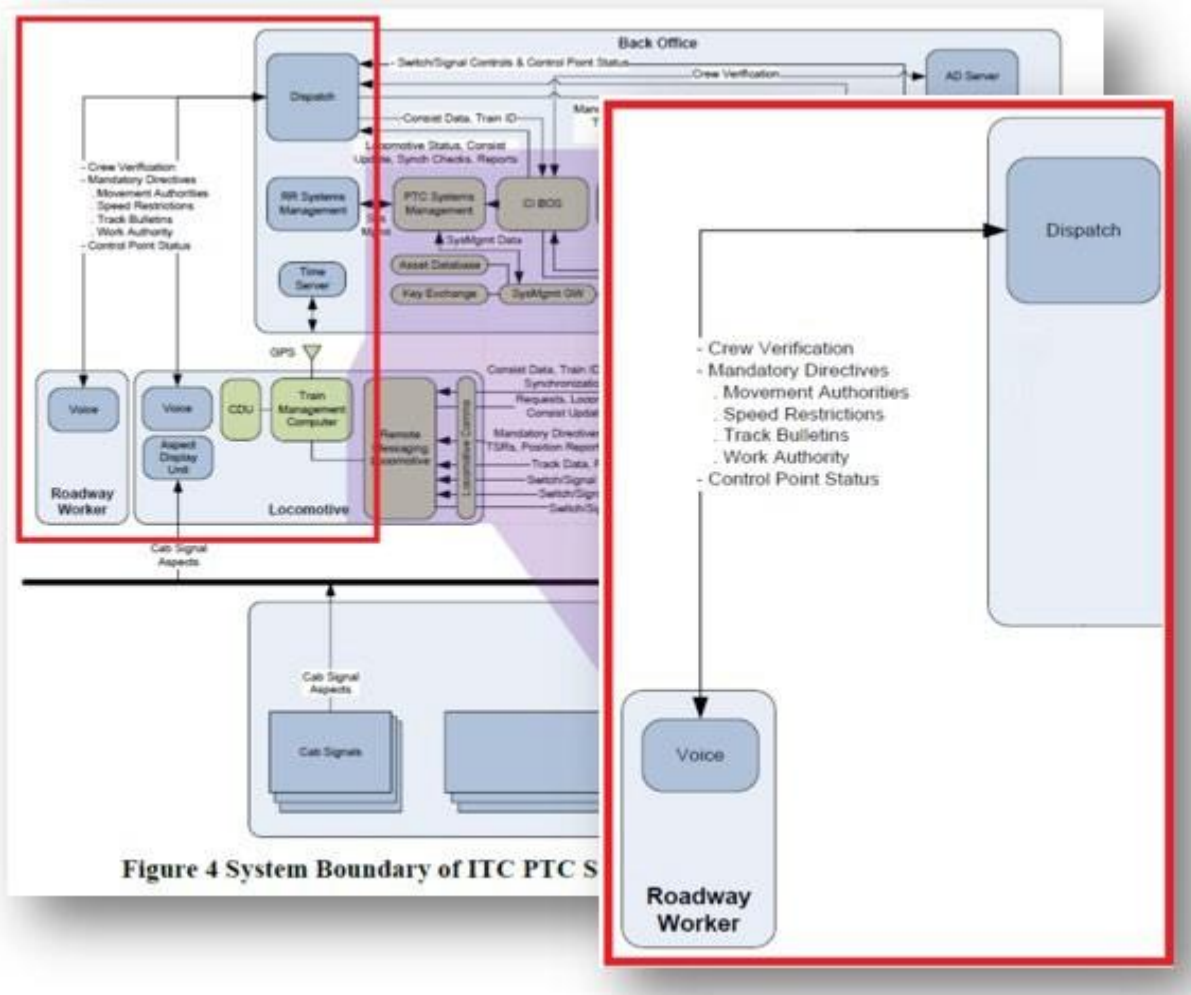
hardware, network, operating systems, and applications for fault, performance, security and configuration management.”¹²⁰ Additionally, RailwayNetSM is “designed to help meet the availability standards required for PTC operations.”¹²¹ Because RailwayNetSM is designed to support railroads to meet the PTC requirements, RailwayNetSM should be configured to manage train movements, including placing blocks on one or more sections of railway track to prevent trains from traversing the one or more sections of railway track.

AMTRAK’S ANSWER: Paragraph 242 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak admits it implemented Collins Aerospace’s ARINC RailwayNetSM System/AIM System in certain locations (not the PSCC) and such system speaks for itself. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 242 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 242. Otherwise, Amtrak denies the allegations and statements in Paragraph 242.

243. In order to comply with and implement FRA’s regulations (communication-based/processor-based train control technology designed to address a number of railway safety issues including train-to-train collisions, over-speed derailments, incursions into established work-zone limits, and train movement through a main-line switch that is in an improper position), RailwayNetSM/AIM system and/or other similar system is configured to place a block on one or more specified sections of railway track to prevent trains from traversing the one or more sections of railway track.

¹²⁰ White Paper at 6.

¹²¹ *Id.*



AMTRAK’S ANSWER: Paragraph 243 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 243 relating to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 243.

244. Accordingly, Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system includes “a processor for controlling a plurality of track sections in the railway network, wherein each track section is associated with a corresponding interlock and is disposed in any of said plural railways of said railway network that

is managed by centralized control operation from the railway control apparatus, the processor controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway interlocks dispersed in said plural railways of said railway network, to block railway traffic to one or more specified track sections.”

AMTRAK’S ANSWER: Paragraph 244 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 244.

245. Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system further includes “a memory device storing computer-executable instructions.”

AMTRAK’S ANSWER: Paragraph 245 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 245.

246. Collins Aerospace advertises that RailwayNetSM, which Amtrak uses, improves rail safety. “This system refers to communication-based/processor-based train control technology designed to address a number of rail safety issues, including train-to-train collisions, over-speed derailments, incursions into established work-zone limits, and train movement through a main-line switch that is in an improper position.”¹²²

¹²² White Paper at 3.



AMTRAK'S ANSWER: Amtrak admits it used Collins Aerospace's ARINC RailwayNetSM System/AIM System in certain locations (not the PSCC) and such system speaks for itself. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 246 as to the Collins Aerospace document cited and, on that basis, denies them.

247. Amtrak budgeted an additional \$224,007 in FY19 for implementing a system to enhance railway worker protection when working on track under foul time or track out of service. The system provides railway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system via their mobile devices. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the railway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to railway workers.

AMTRAK'S ANSWER: Paragraph 247 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To

the extent a response is required, and a document is referenced in Paragraph 247, the document speaks for itself, and Amtrak denies the allegations in Paragraph 247 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 247.

248. The deliverables included modification to each CETC System to provide EEPS functionality in at least Wilmington CETC (Mid-Atlantic Division); Boston CETC (NH to Boston, Springfield Line and MBTA Lines); NY CETC West; PSCC (Pennsylvania Station Central Control); and CETC Hudson-Albany Line. The deliverables also included EEPS mobile devices for railway workers; EEPS operating practices documentation; training program for railway workers and dispatchers; and operations management plans and procedures to be used after system acceptance.¹²³

AMTRAK'S ANSWER: The document referenced in Paragraph 248 speaks for itself and Amtrak denies the allegations in Paragraph 248 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 248.

249. In a report authored by Collins Aerospace and submitted to the U.S. Department of Transportation, Collins Aerospace illustrates the claimed railway control apparatus as the "back office" in the below diagram.

¹²³ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

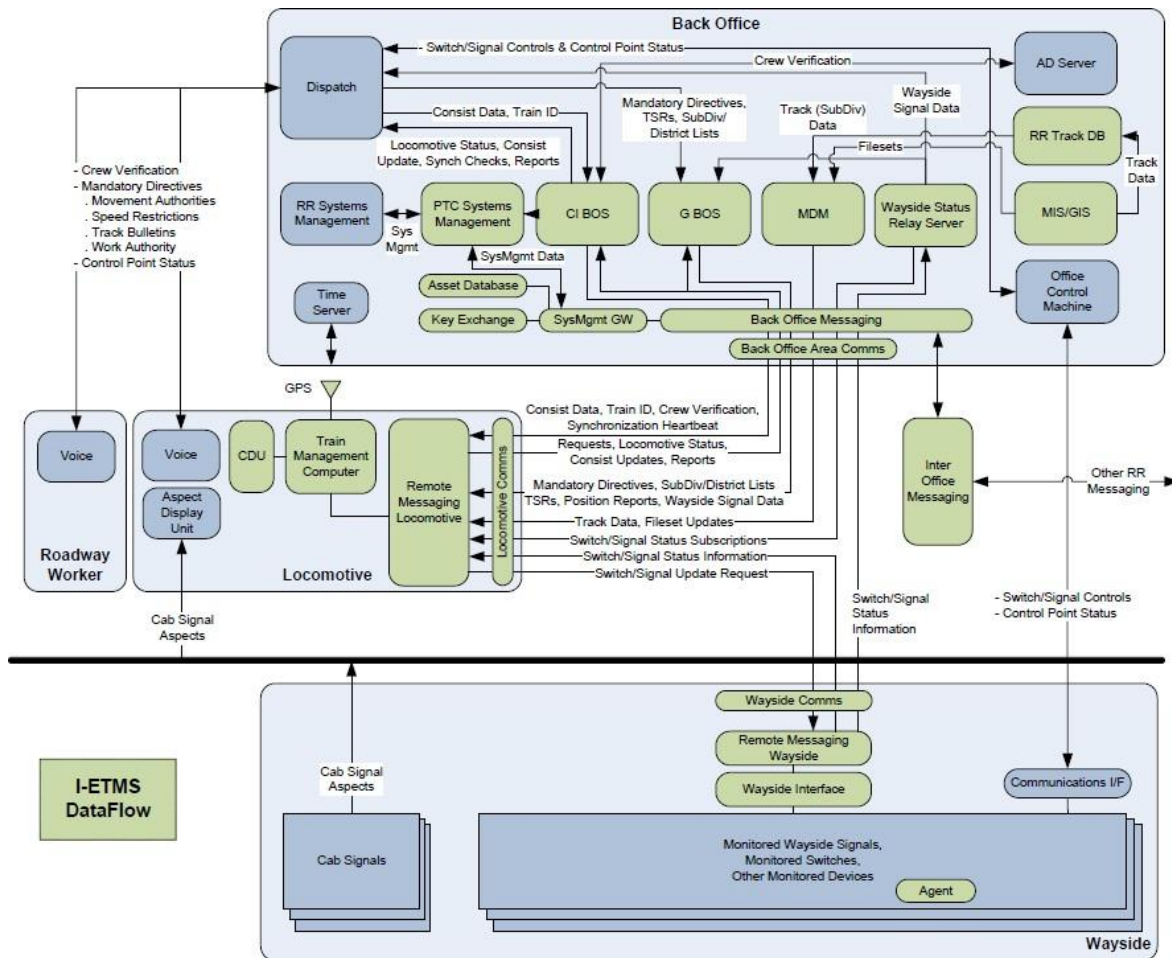


Figure 2 I-ETMS PTC Message Flows

AMTRAK'S ANSWER: Paragraph 249 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 249 and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 249.

250. Amtrak, for its implementation of Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system or method, has purchased mobile devices for its railway workers and implemented a system whereby its CETC system sends authorization codes to the railway workers. In order to know which mobile device to send the authorization code to, the

RailwayNetSM/AIM system, as implemented by Amtrak, must have a memory device capable of storing computer-executable instructions.¹²⁴

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 250 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 250 speaks for itself and Amtrak denies the allegations in Paragraph 250 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 250.

251. According to Amtrak’s Northeast Corridor Annual Report for fiscal year 2017, Amtrak allocated more than \$420,000 in implementing the Enhanced Employee Protection System (EEPS) in the Northeast Corridor through its implementation of Collins Aerospace’s ARINC RailwayNetSM.¹²⁵ It also specifies providing back-office infrastructure and messaging, including

¹²⁴ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf> [hereinafter referred to as “NEC One-Year Plan 2019”].

¹²⁵ *Northeast Corridor Annual Report: Operations and Infrastructure*, NEC COMMISSION 1, 49 (April 2018), <https://nec-commission.com/app/uploads/2018/04/NEC-Annual-Report-FY17.pdf>.

“[s]torage and delivery of crew and consist information, train IDs and clearances.”¹²⁶

AMTRAK’S ANSWER: The document referenced in Paragraph 251 speaks for itself and Amtrak denies the allegations in Paragraph 251 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 251.

252. Collins Aerospace has stated that the ARINC RailwayNetSM system implemented by Amtrak is a SaaS and IaaS product that provides “full-featured network management and infrastructure, hardware, network, operating systems, and applications for fault, performance, security and configuration management.”¹²⁷ It additionally specifies enabling ITC PTC interoperability and compliance with I-ETMS systems.¹²⁸

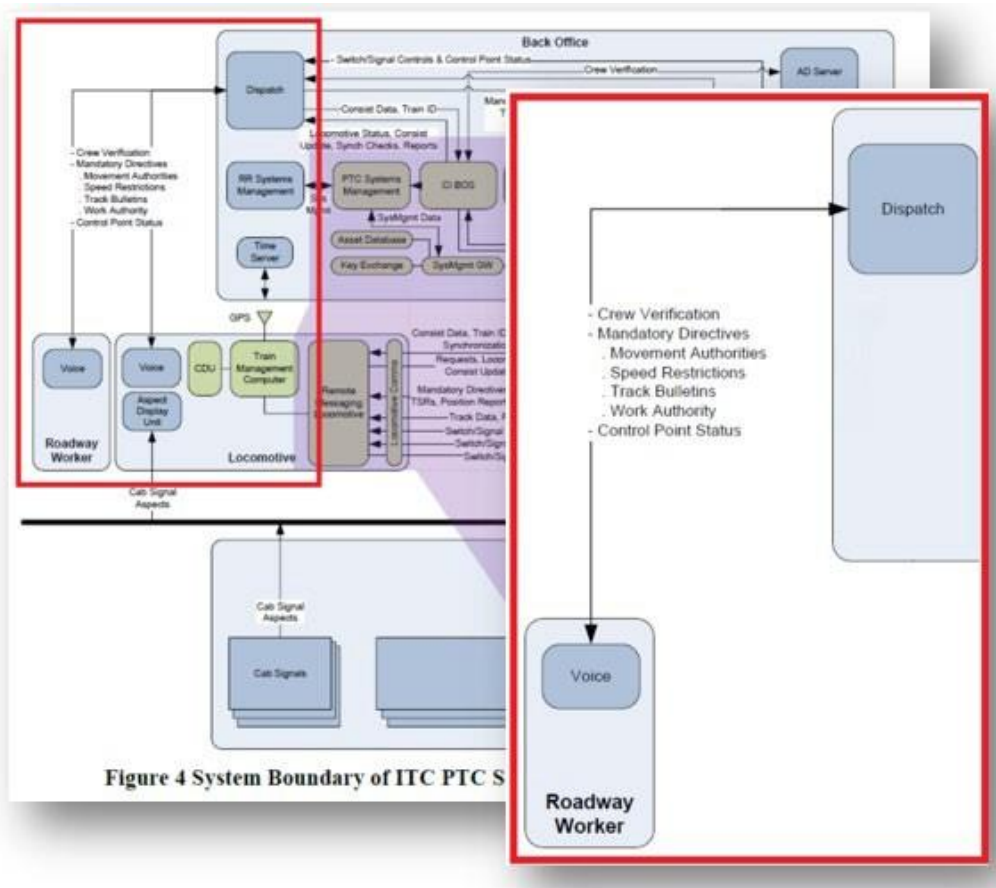
AMTRAK’S ANSWER: Amtrak admits it implemented Collins Aerospace’s ARINC RailwayNetSM System/AIM System in certain locations (not the PSCC) and such system speaks for itself. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 252 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 252.

253. According to Collins Aerospace, its RailwayNetSM system supports I-ETMS message flows, including communications with railway workers to communicate crew verification and mandatory directives.

¹²⁶ White Paper at 7.

¹²⁷ White Paper at 6.

¹²⁸ Report at 43.



AMTRAK’S ANSWER: Amtrak lacks knowledge or information sufficient to form a belief as to the truth or falsity of the allegations in Paragraph 253, and therefore denies the allegations on that basis.

254. According to Amtrak’s 2019 FY plan, it has implemented or is in the process of implementing an enhanced employee protection system (EEPS) that operates by “provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code to be provided by the roadway worker.”¹²⁹ In order to provide the railway

¹²⁹ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

workers with an authorization code, the system must have a memory device capable of storing computer-executable instructions.

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 254 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the document referenced in Paragraph 254 speaks for itself and Amtrak denies the allegations in Paragraph 254 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 254. Notably, Amtrak did not implement EEPS in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System.

255. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system” that will “provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system.”¹³⁰

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system; Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 255 speaks for itself and Amtrak denies the allegations in Paragraph 255 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 255.

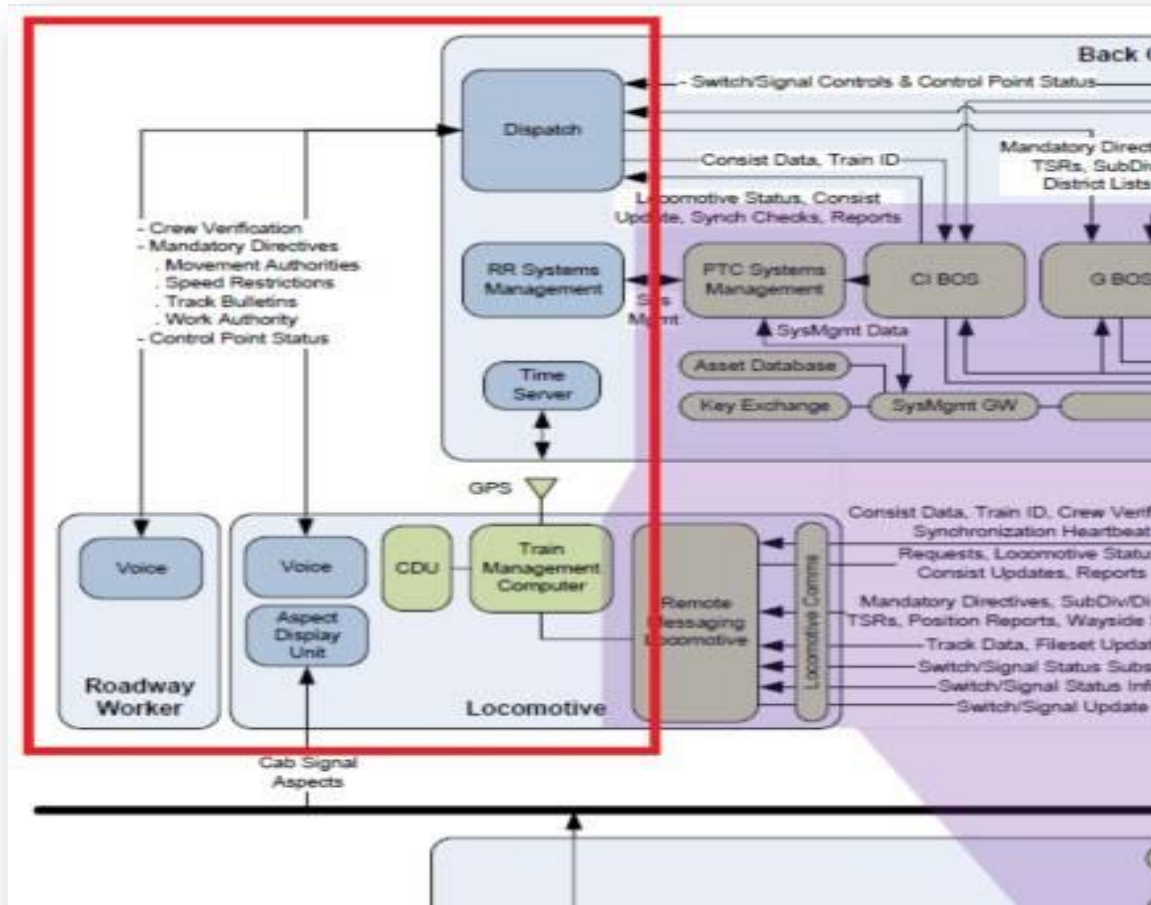
256. Collins Aerospace provides that the ARINC RailwayNetSM/AIM system implemented by Amtrak specifies providing back office infrastructure and messaging, including “[s]torage and delivery of crew and consist information, train IDs and clearances.”¹³¹ It further specifies enabling ITC PTC interoperability and compliance with I-ETMS systems.¹³² Because I-ETMS systems require communication of crew verification and employee authentication, Amtrak maintains electronic contact addresses of the railway field workers from a rail personnel contact

¹³⁰ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

¹³¹ See White Paper at 7.

¹³² See Report at 43.

database. RailwayNetSM messaging functions also include: “[k]ey exchange server,” described as “[s]ecurity keys with data store.”¹³³



AMTRAK’S ANSWER: Paragraph 256 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 256 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 256.

257. Additionally, RailwayNetSM serves as a node on a network of Class I railroads,

¹³³ White Paper at 7.

enabling interoperability and electronic communications connectivity to the network.¹³⁴

AMTRAK’S ANSWER: Paragraph 257 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 257 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 257.

258. Accordingly, Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system includes “a memory device storing computer-executable instructions.”

AMTRAK’S ANSWER: Paragraph 258 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 258.

259. Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “receive a selection of at least one track section amongst the plurality of track sections.”

AMTRAK’S ANSWER: Paragraph 259 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 259.

260. Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM

¹³⁴ *Id.* at 4.

system and/or other similar system is a CETC system which, by definition, is configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in the plural railways and controls access to the railway tracks.¹³⁵ Further, Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system can place tracks in "foul time:"

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK'S ANSWER: Paragraph 260 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the document in Paragraph 260 speaks for itself and Amtrak denies the allegations in Paragraph 260 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 260.

261. Foul time is defined as "a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that no trains will operate within a specific segment of controlled track until the roadway worker reports

¹³⁵ See *A Guide to Key Railroad Terminology for the Northeast Corridor*, AMTRAK, <https://media.amtrak.com/wp-content/uploads/2017/07/NEC-Terms-primer-v1.pdf> (last visited April 3, 2022) ("Dispatchers use computerized Centralized Traffic & Electrification Control (CTEC) systems to [centrally] control train movement over most of the NEC.").

clear of the track.” 49 C.F.R. Part 214.7. The “specified segments” referred to in the rule are the “selection of at least one track section amongst the plurality of track sections” referred to in this claim element.

AMTRAK’S ANSWER: Paragraph 261 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 261.

262. In a report authored by Collins Aerospace and submitted to the U.S. Department of Transportation, Collins Aerospace illustrates the claimed railway control apparatus as the “back office” in the below diagram.

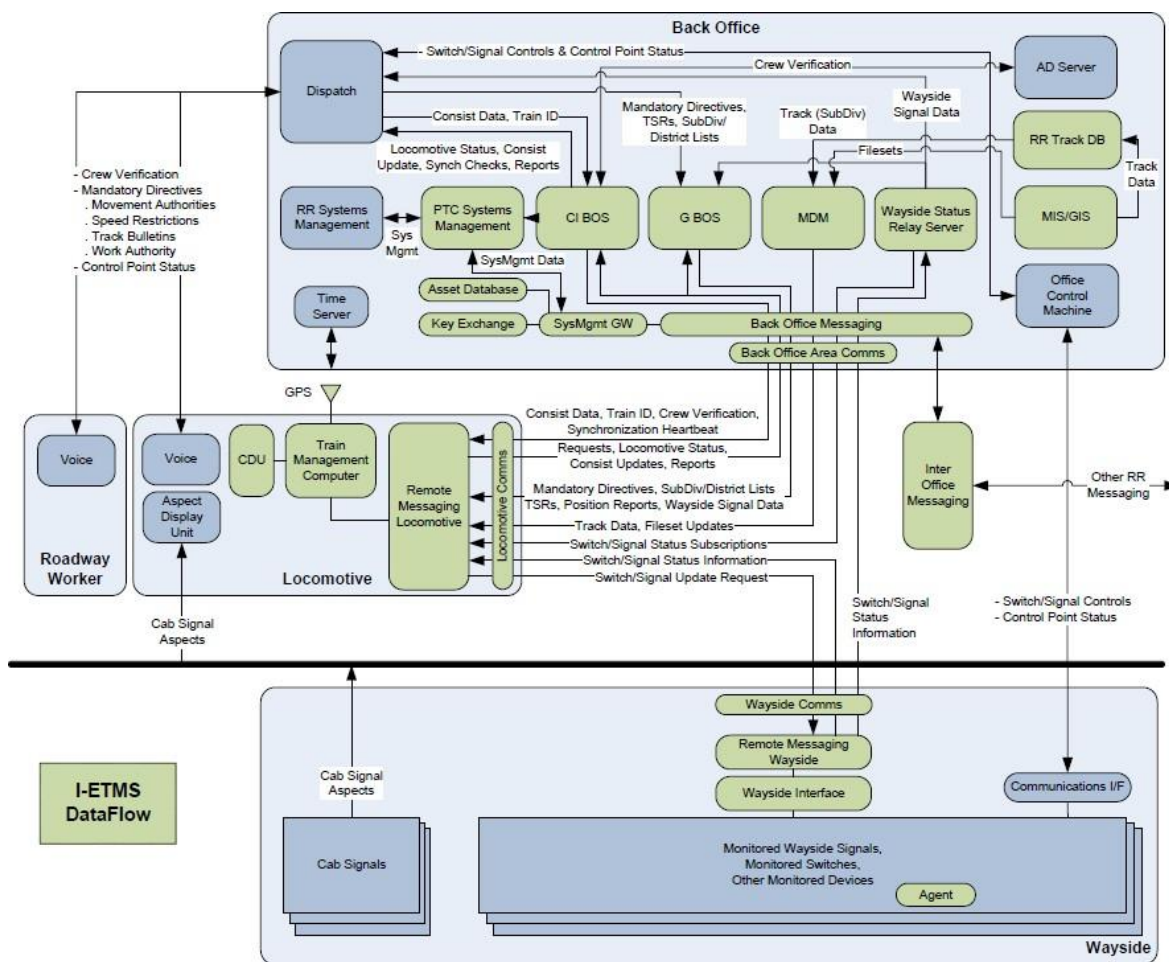


Figure 2 I-ETMS PTC Message Flows

AMTRAK'S ANSWER: Paragraph 262 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 262 and, on that basis, denies them. Otherwise, Amtrak denies the statements and allegations in Paragraph 262.

263. According to Amtrak's Northeast Corridor Annual Report for fiscal year 2017, Amtrak allocated more than \$420,000 in implementing the Enhanced Employee Protection System (EEPS) in the Northeast Corridor through its implementation of Collins Aerospace's ARINC

RailwayNetSM.¹³⁶ It also specifies providing back office infrastructure and messaging, including “[s]torage and delivery of crew and consist information, train IDs and clearances.”¹³⁷

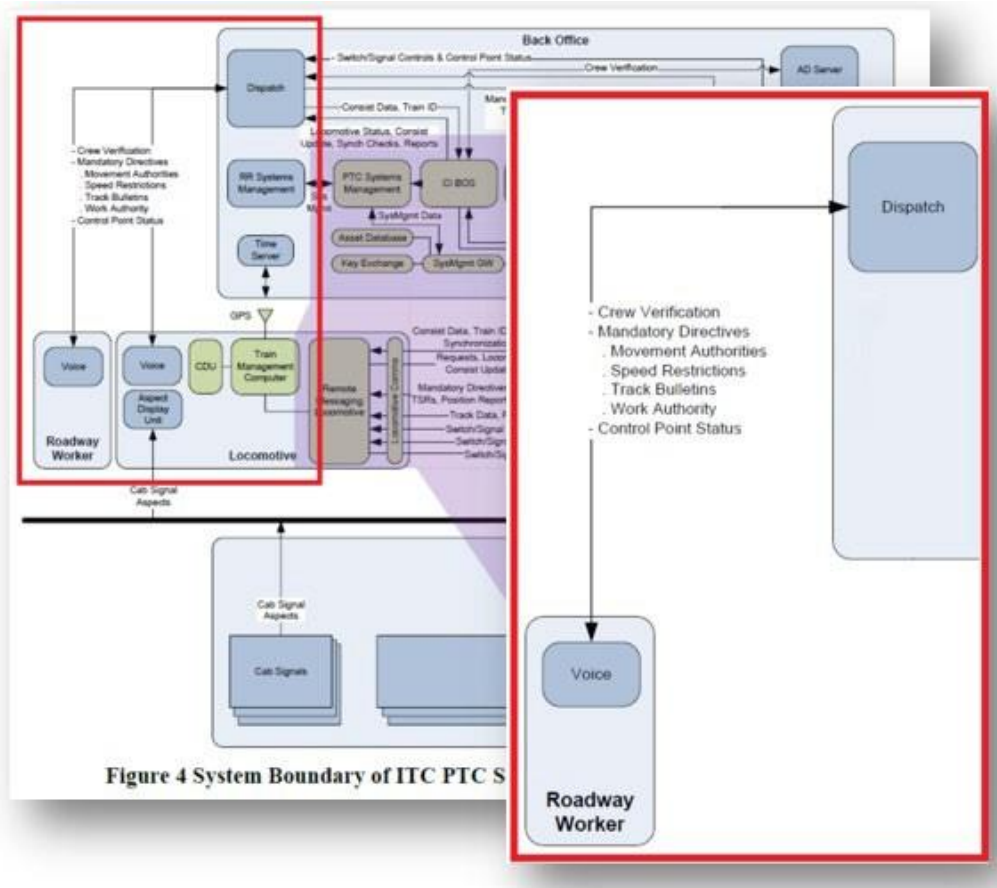
Northeast Corridor Commission 49	C.EN.101711	FEN AMTRAK NEC - FENCE UPGRADES	3,082,806	1,446,696		
	C.EN.101713	RAIL AMTRAK NEC - INSULATED JOINT REPLACEMENT PROGRAM	2,577,715	1,168,866	38,720	
	C.EN.101714	CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM	421,503	409,692		
	C.EN.101732	RAD AMTRAK NEC - RADIO SYSTEM UPGRADES	-	-		
	C.EN.101737	STA PENN STATION NY - STATION CHILLED WATER SYSTEM UPGRADE	-	-		
	C.EN.201034	ACSE AMTRAK OWNED-POSITIVE TRAIN CONTROL PTC INSTALLATION	3,150,755	3,023,578		
	C.EN.201264	POLE ZOO TO PAOLI - CATENARY STRUCTURE REPLACEMENT DESIGN	71,846	12,551		
	C.TR.100074	STA NEW ENGLAND DIV - INSTALL TRAIN APPROACH MESSAGE SYS	286,337	133,789	152,547	

AMTRAK’S ANSWER: The document referenced in Paragraph 263 speaks for itself and Amtrak denies the allegations in Paragraph 263 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 263.

264. According to Collins Aerospace, its RailwayNetSM system supports I-ETMS message flows, including communications with railway workers to communicate crew verification and mandatory directives.

¹³⁶ *Northeast Corridor Annual Report: Operations and Infrastructure*, NEC COMMISSION 1, 49 (April 2018), <https://nec-commission.com/app/uploads/2018/04/NEC-Annual-Report-FY17.pdf>.

¹³⁷ White Paper at 7.



AMTRAK’S ANSWER: Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 264 and, on that basis, denies them.

265. In order for the “back office” to communicate with the rail workers to block railway traffic to one or more specified track sections, the system must be able to receive a selection of at least one track section amongst the plurality of track sections.

AMTRAK’S ANSWER: Paragraph 265 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 265.

266. Accordingly, Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “receive a selection of at least one track section

amongst the plurality of track sections.”

AMTRAK’S ANSWER: Paragraph 266 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 266.

267. Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “transmit a block signal to the corresponding interlock associated with the at least one selected track section, to place a block on the selected track section by said centralized control operation from the railway control apparatus.”

AMTRAK’S ANSWER: Paragraph 267 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 267.

268. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system.”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	<p>\$224,007</p>

AMTRAK’S ANSWER: The document referenced in Paragraph 268 speaks for itself and Amtrak denies the allegations in Paragraph 268 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 268.

269. Collins Aerospace’s ARINC RailwayNetSMAIM system, implemented by Amtrak, that places track sections in “foul time” “transmit[s] a block signal to the corresponding interlock associated with the at least one selected track section, to place a block on the selected track section by said centralized control operation from the railway control apparatus.” as recited in this claim element. Specifically, FRA regulations 49 C.F.R. § 214.323 defines “foul time” as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that *no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track.*” Because Amtrak, through its implementation of ARINC RailwayNetSM/AIM, has the ability to place tracks in foul time, it includes an ability to place blocks.

AMTRAK’S ANSWER: Paragraph 269 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 269.

270. Collins Aerospace advertises that its AIM system provides “train monitoring and control,” automatic route setting/automatic routing,” “automatic traffic regulation,” and “bulletins, authorities, and restrictions management.”¹³⁸ One or more of these functionalities encompasses the

¹³⁸ *Intelligence-Based Rail Solutions*, Collins Aerospace, <https://www.collinsaerospace.com/-/media/project/collinsaerospace/collinsaerospace-website/product-assets/marketing/r/rail/arinc-rail-solutions-for-passengers.pdf?rev=e7e5ddbff2de4154ba265f03e27f14d3>.

claimed ability to place blocks.

Centralized Traffic Control and SCADA

Collins designs and integrates state-of-the-art rail control solutions using our ARINC Advanced Information Management (AIM®) platform. AIM serves as an end-to-end solution for all rail control requirements, including SCADA, Centralized Traffic Control, Positive Train Control (PTC) and control center integration. Highly flexible and feature-rich, AIM enables railroads to maximize operational efficiency, cost-effectiveness and safety, all while providing an environment protected by the latest tools and techniques in cybersecurity.

KEY AREAS OF EXPERTISE

- | | |
|---|--|
| • Train monitoring and control | • Bulletins, authorities and restrictions management |
| • Automatic train tracking | • Employee in Charge (EIC) terminals |
| • Automatic route setting/automatic routing | • Emergency Operating Procedures (EOP) |
| • Automatic traffic regulation and schedule deviation | • Power planning |
| • Schedule management | • Playback and simulation |
| • Integrated yard management | • Data acquisition |
| | • Interface integration |

AMTRAK’S ANSWER: Paragraph 270 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 270 and, on that basis, denies them. Otherwise, Amtrak denies the statements and allegations in Paragraph 270.

271. Collins Aerospace’s ARINC RailwayNetSM/AIM system, implemented by Amtrak, is a SaaS and IaaS product that provides “full-featured network management and infrastructure, hardware, network, operating systems, and applications for fault, performance, security and configuration management.”¹³⁹ Additionally, RailwayNetSM is “designed to help meet the availability standards required for PTC operations.”¹⁴⁰ Because RailwayNetSM is designed to

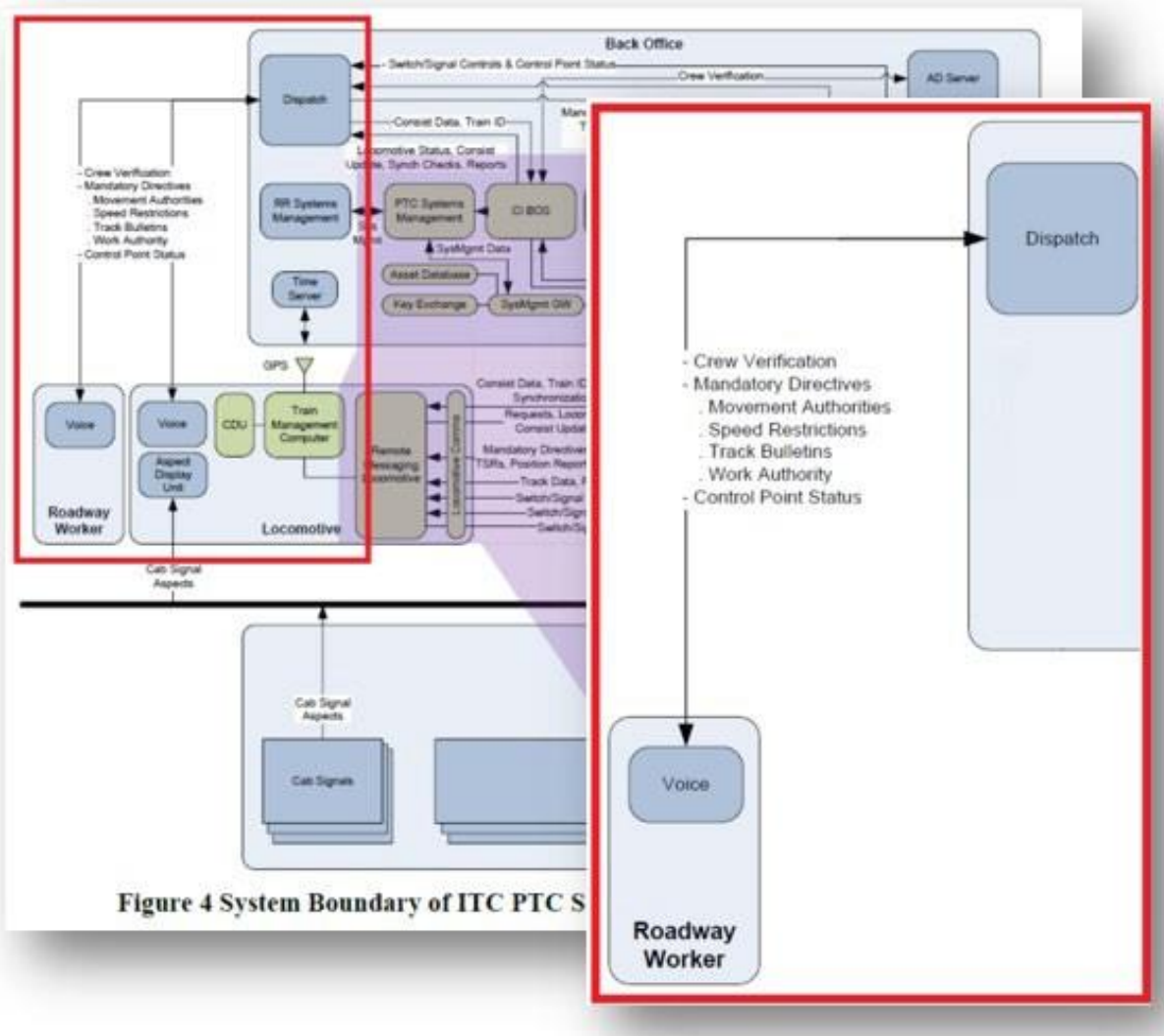
¹³⁹ White Paper at 6.

¹⁴⁰ *Id.*

support railroads to meet the PTC requirements, RailwayNetSM should be configured to manage train movements, including placing blocks on one or more sections of railway track to prevent trains from traversing the one or more sections of railway track.

AMTRAK'S ANSWER: Paragraph 271 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak admits it implemented Collins Aerospace's ARINC RailwayNetSM System/AIM System in certain locations (not the PSCC) and such system speaks for itself. To the extent a response is required, Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 271 as to the Collins Aerospace document and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 271.

272. In order to comply with and implement FRA's regulations (communication-based/processor-based train control technology designed to address a number of railway safety issues including train-to-train collisions, over-speed derailments, incursions into established work-zone limits, and train movement through a main-line switch that is in an improper position), RailwayNetSM/AIM system and/or other similar system is configured to place a block on one or more sections of railway track to prevent trains from traversing the one or more sections of railway track.



AMTRAK’S ANSWER: Paragraph 272 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 272 as to the Collins Aerospace document and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 272.

273. Accordingly, Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “transmit a block signal to the corresponding interlock associated with the at least one selected track section, to place a block on the selected

track section by said centralized control operation from the railway control apparatus.”

AMTRAK’S ANSWER: Paragraph 273 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 273.

274. Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “generate a secret code associated with the at least one selected track section.”

AMTRAK’S ANSWER: Paragraph 274 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 274.

275. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system” that will “provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system.”¹⁴¹

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPs operating practices documentation; • Modification to each CETC System to provide EEPs functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPs mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

¹⁴¹ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018),

AMTRAK’S ANSWER: The document referenced in Paragraph 275 speaks for itself and Amtrak denies the allegations in Paragraph 275 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 275. Notably, Amtrak did not implement EEPS in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System.

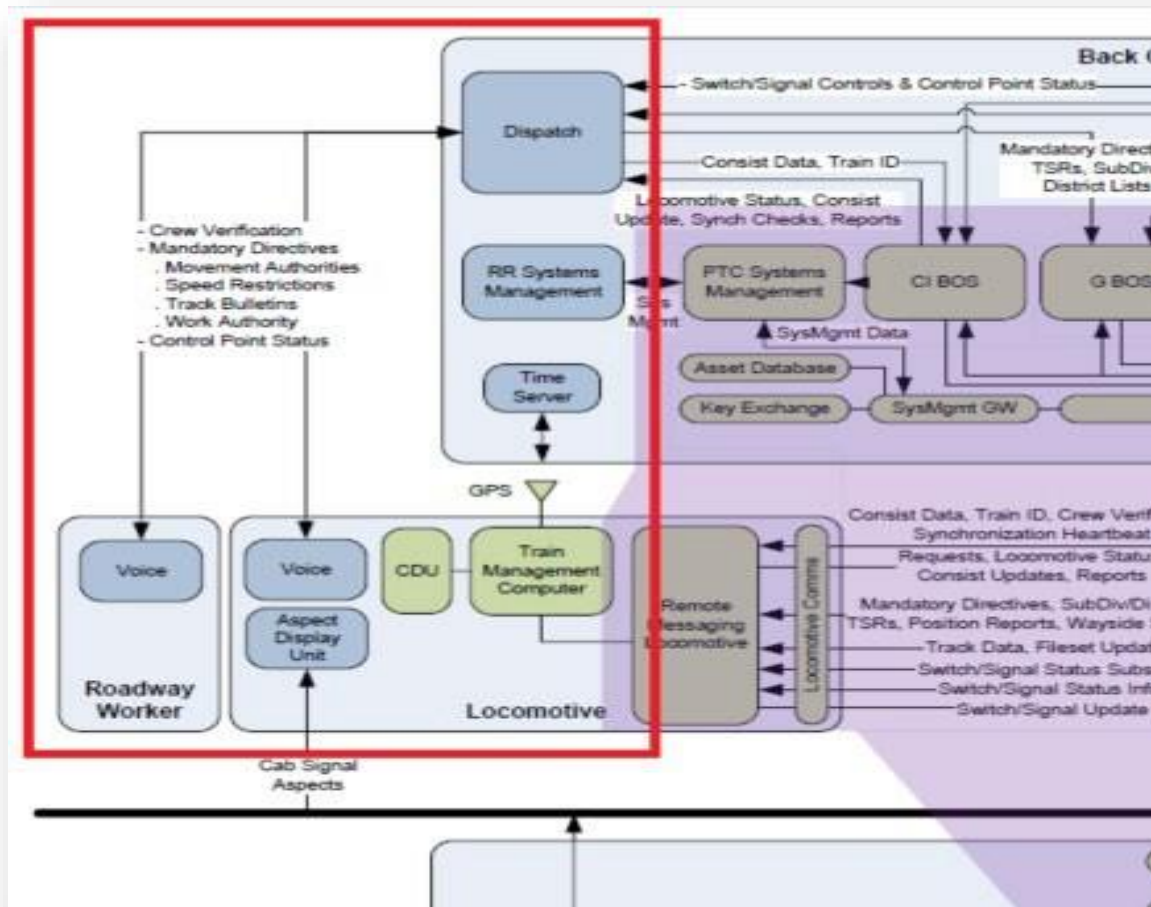
276. Collins Aerospace provides that the ARINC RailwayNetSM/AIM system implemented by Amtrak specifies providing back office infrastructure and messaging, including “[s]torage and delivery of crew and consist information, train IDs and clearances.”¹⁴² It further specifies enabling ITC PTC interoperability and compliance with I-ETMS systems.¹⁴³ Because I-ETMS systems require communication of crew verification and employee authentication, Amtrak maintains electronic contact addresses of the railway field workers from a rail personnel contact database. RailwayNetSM messaging functions also include: “[k]ey exchange server,” described as “[s]ecurity keys with data store.”¹⁴⁴

<https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

¹⁴² See White Paper at 7.

¹⁴³ See Report at 43.

¹⁴⁴ White Paper at 7.



AMTRAK'S ANSWER: Paragraph 276 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 276 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 276.

277. Accordingly, Amtrak's implementation of Collins Aerospace's ARINC RailwayNetSM/AIM system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to "generate a secret code associated with the at least one selected track section."

AMTRAK’S ANSWER: Paragraph 277 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 277.

278. Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “transmit the secret code to a remote user terminal.”

AMTRAK’S ANSWER: Paragraph 278 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 278.

279. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system” that will “provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system.”¹⁴⁵

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 279 speaks for itself and

¹⁴⁵ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

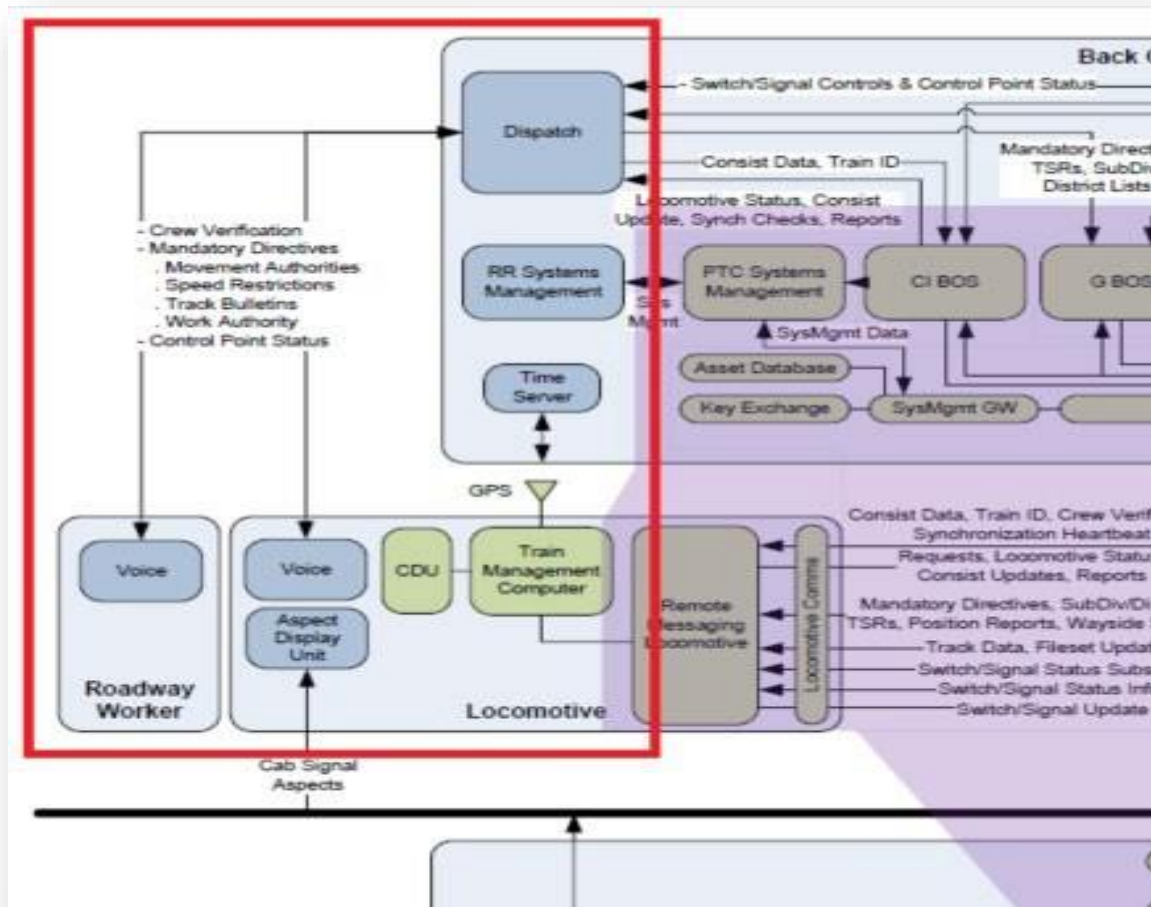
Amtrak denies the allegations in Paragraph 279 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 279.

280. Collins Aerospace provides that the ARINC RailwayNetSM/AIM system implemented by Amtrak specifies providing back office infrastructure and messaging, including “[s]torage and delivery of crew and consist information, train IDs and clearances.”¹⁴⁶ It further specifies enabling ITC PTC interoperability and compliance with I-ETMS systems.¹⁴⁷ Because I-ETMS systems require communication of crew verification and employee authentication, Amtrak maintains electronic contact addresses of the railway field workers from a rail personnel contact database. RailwayNetSM messaging functions also include: “[k]ey exchange server,” described as “[s]ecurity keys with data store.”¹⁴⁸

¹⁴⁶ See White Paper at 7.

¹⁴⁷ See Report at 43.

¹⁴⁸ White Paper at 7.



AMTRAK’S ANSWER: Paragraph 280 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak lacks sufficient knowledge or information to form a belief regarding the truth of the allegations of Paragraph 280 as to the Collins Aerospace document cited and, on that basis, denies them. Otherwise, Amtrak denies the allegations and statements in Paragraph 280.

281. Accordingly, Amtrak’s implementation of Collins Aerospace’s ARINC RailwayNetSM/AIM system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “transmit the secret code to a remote user terminal.”

AMTRAK’S ANSWER: Paragraph 281 contains legal arguments and conclusions based

on claim language (cited in-part) from the '115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 281.

282. Therefore, Amtrak, through its implementation of Collins Aerospace's ARINC RailwayNetSM/AIM systems and/or other similar system or method has infringed and continues to infringe at least claim 20 of the '115 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 282. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses. Notably, Amtrak did not implement EEPs in the accused Collins Aerospace's ARINC RailwayNetSM System/AIM System.

B. Infringement Based on Amtrak's Implementation of AMTEC System

283. In violation of 35 U.S.C. § 271(a), Amtrak has infringed and continues to infringe one or more claims of the '115 patent by making, using, offering for sale, selling, and/or importing in or into the United States a system or method covered by the '115 patent, including, but not limited to, at least Amtrak's implementation of its AMTEC system and/or other similar system.¹⁴⁹

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 283. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth Defenses.

284. Amtrak, through its implementation AMTEC system and/or other similar system or method, infringes at least claim 20 of the '115 patent.

AMTRAK'S ANSWER: Amtrak denies the statements and allegations in Paragraph 284. For instance, Amtrak denies any infringement as shown, for instance, in the Fourth and Sixth

¹⁴⁹ Further investigation may reveal that others of Amtrak's products and systems also directly or indirectly infringe at least claim 19 or other claims of the '835 patent.

Defenses.

285. Amtrak’s AMTEC system and/or other similar system is a “railway control apparatus for centralized control of a centrally controllable railway network including plural railways and a plurality of railway interlocks dispersed in said plural railways.”

AMTRAK’S ANSWER: Paragraph 285 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 285.

286. AMTEC stands for Amtrak Train and Electrification Control. AMTEC is Amtrak’s proprietary train dispatch system that implements Amtrak’s CETC (Centralized Electrification and Train Control). Amtrak uses the AMTEC train dispatching system to improve central train control functionality across Amtrak’s tracks.¹⁵⁰

AMTRAK’S ANSWER: The document referenced in Paragraph 286 speaks for itself. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Amtrak admits that AMTEC is known as “Amtrak Train and Electrification Control” and admits AMTEC is proprietary and was developed by Amtrak prior to this lawsuit. Otherwise, Amtrak denies the allegations and statements in Paragraph 286.

287. In 2018, Amtrak budgeted \$2,405,319 as Northeast Corridor (NEC)-wide expenditure for implementing the SEPTA (Southeastern Pennsylvania Transportation Authority)

¹⁵⁰ See *Management Trainee Program*, AMTRAK, https://careers.amtrak.com/content/Management-Trainee-Program/?locale=en_US (last visited April 7, 2022) (“Work to support the Amtrak Train and Electrification Control (AMTEC) system... [and] work to support the expansion of the AMTEC train dispatching system to improve train control functionality across the Northeast and Southeast Divisions.”); see also *Director, IT, Train Control Systems*, AMTRAK, <https://careers.amtrak.com/job/Philadelphia-PA-19104/689937700/> (last visited April 7, 2022) (“Provide leadership, direction, and oversight to the IT group responsible for Amtrak’s proprietary train dispatch system (AMTEC – Amtrak Centralized Electrification and Train Control).”).

and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC (Centralized Electrification and Traffic Control) systems on the NEC in October 2017 for the fiscal year 2018.¹⁵¹

C.EN.101714. CETC Amtrak System - MOFW Enhanced Employee Protection System (Segment 31). CETC - Enhanced Employee Protection System. This project will implement the SEPTA and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC systems on the NEC.	\$2,405,319
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AMTRAK’S ANSWER: The document referenced in Paragraph 287 speaks for itself. Amtrak admits the document states in-part, “C.EN. 101714. CETC Amtrak System - MOFW Enhanced Employee Protection System (Segment 31). CETC – Enhanced Employee Protection System. This project will implement the SEPTA and Metro North Enhanced Employee Protection System (EEPS) into the Amtrak CETC systems on the NEC. \$2,405,319” Amtrak also admits that Railware pleads it is the “SEPTA and Metro North Enhanced Protection System (EEPS)” not Railware’s EEPS system. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 287.

288. In February 2019, Amtrak’s Five-Year Infrastructure Asset Line Plan for FY 2019-2024 allocated \$3,650,000 for FY 2019 and \$5,194,913 for FY 2020 to convert the ARINC system to the AMTEC system and replace the Mid-Atlantic Division (“MAD”) and Northeast Division (“NED”) CETC primary and backup system with the AMTEC system in the Washington to Boston line.¹⁵²

¹⁵¹ *Northeast Corridor One-Year Implementation Plan*, NEC COMMISSION 1, 16 (Oct. 2017), <http://nec-commission.com/app/uploads/2018/03/NEC-One-Year-Implementation-Plan- FY18.pdf>.

¹⁵² *Amtrak Five Year Infrastructure Asset Line Plan FY 2019-2024*, AMTRAK 1, 320, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Infrastructure-Asset-Line-Plan-FY20-24.pdf> (last visited April 7, 2022).

C.EN.101767 - WAS-BOS CETC ARINC TO AMTEC SOFTWARE The Washington to Boston ARINC to AMTEC Software Upgrade Project will replace the MAD and NED CETC primary and backup system with the AMTEC system. The project will be design, implement and test the new MAD and NED AMTEC systems by in-house PSCC staff as well as maintenance of all system interfaces. Transportation personnel in Wilmington, Boston and Remote locations will be able to transfer their operations to the new system. Power Director and Load Dispatcher operations will continue, either by a newly selected system by Electric Traction (E/T) personnel or by the existing system. The project will provide training on the new system to both Transportation and CETC specialists. Location: NEC wide.				FAST Act Category: - Improvements Also Supports: - Normalized Capital Replacement - Strategic Initiatives that improve operational performance, lower cost or improve efficiency - Statutory, regulatory, or other legal mandates	Construction Program Priority: N/A Project Benefits: - Safety - SOGR - Resilience	
FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	C.EN.101767 Total
\$3,650,000	\$5,194,913	\$0	\$0	\$0	\$0	\$8,844,193

AMTRAK’S ANSWER: The document referenced in Paragraph 288 speaks for itself and Amtrak denies the allegations in Paragraph 288 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context.

289. Six months earlier, in October 2018, Amtrak had estimated a total project cost of \$6,593,463—with a fiscal year 2019 planned expenditure of \$6,212,732—to convert ARINC system to AMTEC Software and replace the MAD and NED CETC primary and backup system with the AMTEC system in the Washington to Boston line.¹⁵³

Washington to Boston ARINC to AMTEC Software Upgrade Project. CETC WASHINGTON TO BOSTON. C.EN.101767. FY19 scope includes completion of installation and testing of all software and hardware on the MAD-Harrisburg line and MAD-Mid-Atlantic Divisions. The project anticipates installation and testing on the NED-Springfield Line in FY19. The remaining work that is needed NED-Mainline will be start and complete in Early FY20.		\$6,593,463	\$6,212,732
<u>FY19 Phases</u>	<u>Schedule</u>		
MAD-Harrisburg line Phase 1	10/01/18 - 02/28/19		
MAD- Mid-Atlantic Phase 2	01/01/19 - 05/20/19		
NED-Springfield line Phase 3	06/01/19 - 10/01/19		
For project details, see Appendix A.			

¹⁵³ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 108 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

AMTRAK’S ANSWER: The document referenced in Paragraph 289 speaks for itself and Amtrak denies the allegations in Paragraph 289 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context.

290. In early 2021, as part of Amtrak’s new train control systems, Amtrak announced the “initiative to standardize dispatch systems on the Amtrak-developed AMTEC platform to replace the legacy Collins dispatch system [that] will provide a common dispatch platform for the NEC and the Central division that is more reliable and resilient and will reduce maintenance cost.”¹⁵⁴ The EEPs system described in Amtrak’s 2019 FY plan has been or will be implemented as part of the AMTEC system upgrade.

AMTRAK’S ANSWER: The document referenced in Paragraph 290 speaks for itself and Amtrak denies the allegations in Paragraph 290 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Amtrak admits it introduced the accused EEPs feature in AMTEC prior to this lawsuit. Otherwise, Amtrak denies the allegations and statements in Paragraph 290.

291. Accordingly, Amtrak’s AMTEC system and/or other similar system is “a railway control apparatus for centralized control of a centrally controllable railway network including plural railways and a plurality of railway interlocks dispersed in said plural railways.”

AMTRAK’S ANSWER: Paragraph 291 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 291.

¹⁵⁴ *Five-Year Plans | Service And Asset Line Plans | FY 2021-2026*, AMTRAK 1, 149, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Service-Line-Asset-Line-Plans-FY21-26.pdf> (last visited April 7, 2022).

292. Amtrak's AMTEC system and/or other similar system includes "a processor for controlling a plurality of track sections in the railway network, wherein each track section is associated with a corresponding interlock and is disposed in any of said plural railways of said railway network that is managed by centralized control operation from the railway control apparatus, the processor controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway interlocks dispersed in said plural railways of said railway network, to block railway traffic to one or more specified track sections."

AMTRAK'S ANSWER: Paragraph 292 contains legal arguments and conclusions based on claim language (cited in-part) from the '115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 292.

293. AMTEC is a CETC system which, by definition, is configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in the plural railways and controls access to the railway tracks.¹⁵⁵ Further, the AMTEC system can place tracks in "foul time:"

¹⁵⁵ See *A Guide to Key Railroad Terminology for the Northeast Corridor*, AMTRAK, <https://media.amtrak.com/wp-content/uploads/2017/07/NEC-Terms-primer-v1.pdf> (last visited April 3, 2022) ("Dispatchers use computerized Centralized Traffic & Electrification Control (CETC) systems to [centrally] control train movement over most of the NEC.").

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 293 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the document in Paragraph 293 speaks for itself and Amtrak denies the allegations in Paragraph 293 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 293.

294. Foul time is defined as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track.” 49 C.F.R. Part 214.7. The “specified segments” referred to in the rule are the “plural railways” referred to in this claim element.

AMTRAK’S ANSWER: Paragraph 294 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 294.

295. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an

“enhanced employee protection system.”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance: 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 295 speaks for itself and Amtrak denies the allegations in Paragraph 295 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 295.

296. The portion of Amtrak’s AMTEC system that places track sections in “foul time” is the ability “to block railway traffic” as recited in this claim element. Specifically, FRA regulations 49 C.F.R. § 214.323 defines “foul time” as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that *no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track.*” Because Amtrak, through its implementation of AMTEC, has the ability to place tracks in foul time, it includes “a processor for controlling a plurality of track sections in the railway network, wherein each track section is associated with a corresponding interlock and is disposed in any of said plural railways of said railway network that is managed by centralized control operation from the railway control apparatus, the processor controlling, by said centralized

control operation, one or more interlocks amongst the plurality of railway interlocks dispersed in said plural railways of said railway network, to block railway traffic to one or more specified track sections.”

AMTRAK’S ANSWER: Paragraph 296 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 296.

297. According to Amtrak’s 2019 FY plan, it has implemented an enhanced employee protection system (EEPS) that operates by “provid[ing] roadway workers with an authorization code that corresponds to the **blocking protection** applied in the CETC control system.”¹⁵⁶ The referenced “blocking protection applied in the CETC control system [AMTEC]” is a reference to the claimed ability to “to block railway traffic to one or more specified track .”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 297 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. The document referenced in Paragraph 297 speaks for itself and Amtrak denies the allegations in

¹⁵⁶ 2019 NEC One-Year Plan at 233 (emphasis added).

Paragraph 297 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 297.

298. The AMTEC system can place tracks in "foul time" which is defined as "a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track." 49 C.F.R. Part 214.7. The "specified segments" referred to in the rule are the "plural railways" referred to in this claim element. In order to provide "blocking protection" to the railway workers and place tracks in "foul time," the system must have the ability to block railway traffic to one or more specified track sections in any of said plural railways constituting said railway network.

AMTRAK'S ANSWER: Paragraph 298 contains legal arguments and conclusions based on claim language (cited in-part) from the '115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 298.

299. Accordingly, Amtrak's AMTEC system and/or other similar system includes "a processor for controlling a plurality of track sections in the railway network, wherein each track section is associated with a corresponding interlock and is disposed in any of said plural railways of said railway network that is managed by centralized control operation from the railway control apparatus, the processor controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway interlocks dispersed in said plural railways of said railway network, to block railway traffic to one or more specified track sections."

AMTRAK'S ANSWER: Paragraph 299 contains legal arguments and conclusions based

on claim language (cited in-part) from the '115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 299.

300. Amtrak's AMTEC system and/or other similar system includes "a memory device storing computer-executable instructions."

AMTRAK'S ANSWER: Paragraph 300 contains legal arguments and conclusions based on claim language (cited in-part) from the '115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 300.

301. According to Amtrak's 2019 FY plan, it has implemented an enhanced employee protection system (EEPS) that operates by "provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system."¹⁵⁷ The 2019 FY plan further specifies purchasing "EEPS mobile devices for roadway workers."¹⁵⁸

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK'S ANSWER: The document referenced in Paragraph 301 speaks for itself

¹⁵⁷ 2019 NEC One-Year Plan at 233.

¹⁵⁸ *Id.*

and Amtrak denies the allegations in Paragraph 301 to the extent that the portion cited above from the document does not accurately represent the document's full content and context.

Otherwise, Amtrak denies the allegations and statements in Paragraph 301.

302. In order to provide the railway workers with an authorization code to their EEPS mobile devices, Amtrak's AMTEC system must include a memory device with the ability to store computer-executable instructions.

AMTRAK'S ANSWER: Paragraph 302 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Otherwise, Amtrak denies the allegations and statements in Paragraph 302.

303. Amtrak budgeted an additional \$224,007 as FY19 Proposed Budget for implementing a system to enhance railway worker protection:

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK'S ANSWER: Paragraph 303 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the document referenced in Paragraph 303 speaks for itself and Amtrak denies the allegations in Paragraph 303 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Otherwise,

Amtrak denies the allegations and statements in Paragraph 303.

304. The EEPS mobile devices for railway workers are part of the deliverables that Amtrak has budgeted an additional \$224,007 as FY19 Proposed Budget for implementing a system to enhance railway worker protection when working on track under foul time or track out of service. Moreover, with the advent in mobile technology, these EEPS mobile devices contain memory device capable of storing computer-executable instructions.¹⁵⁹

AMTRAK’S ANSWER: Paragraph 304 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the document referenced in Paragraph 304 speaks for itself and Amtrak denies the allegations in Paragraph 304 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 304.

305. Accordingly, Amtrak’s AMTEC system and/or other similar system includes “a memory device storing computer-executable instructions.”

AMTRAK’S ANSWER: Paragraph 305 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 305.

306. Amtrak’s AMTEC system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “receive a selection of at least one track section amongst the plurality of track sections.”

AMTRAK’S ANSWER: Paragraph 306 contains legal arguments and conclusions based

¹⁵⁹ See 2019 NEC One-Year Plan at 233.

on claim language (cited in-part) from the '115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 306.

307. According to Amtrak's 2019 FY plan, it has implemented or is in the process of implementing an enhanced employee protection system (EEPS) that operates by "provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code to be provided by the roadway worker."¹⁶⁰

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK'S ANSWER: The document referenced in Paragraph 307 speaks for itself and Amtrak denies the allegations in Paragraph 307 to the extent that the portion cited above from the document does not accurately represent the document's full content and context. Amtrak admits it introduced the accused EEPS feature in AMTEC prior to this lawsuit. Otherwise, Amtrak denies the allegations and statements in Paragraph 307.

308. The EEPS system described in Amtrak's 2019 FY plan has been or will be

¹⁶⁰ *Northeast Corridor One-Year Implementation Plan Fiscal Year 2019*, NEC COMMISSION 1, 233 (Oct. 2018), <https://nec-commission.com/app/uploads/2018/10/NEC-One-Year-Plan- FY19.pdf>.

implemented as part of the AMTEC system upgrade.

AMTRAK’S ANSWER: The document referenced in Paragraph 308 speaks for itself. Amtrak denies the allegations to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Amtrak admits it introduced the accused EEPS feature in AMTEC prior to this lawsuit. Otherwise, Amtrak denies the allegations and statements in Paragraph 308.

309. In order for the system to block railway traffic to one or more specified track sections, the system must be able to receive a selection of at least one track section amongst the plurality of track sections.

AMTRAK’S ANSWER: Paragraph 309 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Otherwise, Amtrak denies the allegations and statements in Paragraph 309.

310. Accordingly, Amtrak’s AMTEC system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “receive a selection of at least one track section amongst the plurality of track sections.”

AMTRAK’S ANSWER: Paragraph 310 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 310.

311. Amtrak’s AMTEC system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “transmit a block signal to the corresponding interlock associated with the at least one selected track section, to place a block on the selected track section by said centralized control operation from the railway control apparatus.”

AMTRAK’S ANSWER: Paragraph 311 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 311.

312. AMTEC is a CETC system which, by definition, is configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks dispersed in the plural railways and controls access to the railway tracks.¹⁶¹ Further, the AMTEC system can place tracks in “foul time:”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 312 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. To the extent a response is required, the document in Paragraph 312 speaks for itself and Amtrak denies the allegations in Paragraph 312 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies

¹⁶¹ See *A Guide to Key Railroad Terminology for the Northeast Corridor*, AMTRAK, <https://media.amtrak.com/wp-content/uploads/2017/07/NEC-Terms-primer-v1.pdf> (last visited April 3, 2022) (“Dispatchers use computerized Centralized Traffic & Electrification Control (CETC) systems to [centrally] control train movement over most of the NEC.”).

the allegations and statements in Paragraph 312.

313. Foul time is defined as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track.” 49 C.F.R. Part 214.7. The “specified segments” referred to in the rule is the “selected track section” referred to in this claim element.

AMTRAK’S ANSWER: Paragraph 313 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 313.

314. Amtrak budgeted \$224,007 as FY19 Proposed Budget for implementing an “enhanced employee protection system.”

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: The document referenced in Paragraph 314 speaks for itself and Amtrak denies the allegations in Paragraph 314 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise,

Amtrak denies the allegations and statements in Paragraph 314.

315. The portion of Amtrak’s AMTEC system that places track sections in “foul time” is the ability “place a block on the selected track section” as recited in this claim element. Specifically, FRA regulations 49 C.F.R. § 214.323 defines “foul time” as “a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that *no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track.*” Because Amtrak, through its implementation of AMTEC, has the ability to place tracks in foul time, it must include the ability to “transmit a block signal to the corresponding interlock associated with the at least one selected track section, to place a block on the selected track section by said centralized control operation from the railway control apparatus.”

AMTRAK’S ANSWER: Paragraph 315 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 315.

316. According to Amtrak’s 2019 FY plan, it has implemented an enhanced employee protection system (EEPS) that operates by “provid[ing] roadway workers with an authorization code that corresponds to the **blocking protection** applied in the CETC control system.”¹⁶² The referenced “blocking protection applied in the CETC control system [AMTEC]” is a reference to the claimed ability to “place a block on the selected track section.”

¹⁶² 2019 NEC One-Year Plan at 233 (emphasis added).

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPs operating practices documentation; • Modification to each CETC System to provide EEPs functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPs mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 316 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak states the document referenced in Paragraph 316 speaks for itself and Amtrak denies the allegations in Paragraph 316 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 316.

317. Accordingly, Amtrak’s AMTEC system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “transmit a block signal to the corresponding interlock associated with the at least one selected track section, to place a block on the selected track section by said centralized control operation from the railway control apparatus.”

AMTRAK’S ANSWER: Paragraph 317 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 317.

318. Amtrak’s AMTEC system and/or other similar system includes a railway control

apparatus that executes computer-executable instructions to “generate a secret code associated with the at least one selected track section.”

AMTRAK’S ANSWER: Paragraph 318 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 318.

319. Amtrak’s AMTEC system implements an enhanced employee protection system (EEPS) that operates by “provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system.”¹⁶³ In order to provide the railway workers with an authorization code, Amtrak’s AMTEC system must first generate the code.

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Paragraph 319 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak states the document referenced in Paragraph 319 speaks for itself and Amtrak denies the allegations in Paragraph 319 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the

¹⁶³ 2019 NEC One-Year Plan at 233.

allegations and statements in Paragraph 319.

320. Further, the *2019 NEC One-year-Plan* specifically notes that the AMTEC system “will provide roadway workers with an authorization code” which demonstrates that the AMTEC system “transmit[s] the removal code to the electronic contact address of the railway field worker.”¹⁶⁴

AMTRAK’S ANSWER: Paragraph 320 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 320.

321. Accordingly, Amtrak’s AMTEC system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “generate a secret code associated with the at least one selected track section.”

AMTRAK’S ANSWER: Paragraph 321 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 321.

322. Amtrak’s AMTEC system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “transmit the secret code to a remote user terminal.”

AMTRAK’S ANSWER: Paragraph 322 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 322.

¹⁶⁴ *Id.*

323. According to Amtrak’s 2019 FY plan, it has implemented an enhanced employee protection system (EEPS) that operates by “provid[ing] roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system.”¹⁶⁵ The system notes that “removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker.”¹⁶⁶

All Other Amtrak Programs/Projects – Scopes	FY19 Proposed Budget
<p>C.EN.101714. CETC AMTRAK SYSTEM-MOFW ENHANCED EMPLOYEE PROTECTION SYSTEM. Implement a system to enhance roadway worker protection when working on track under foul time or track out of service. The system will provide roadway workers with an authorization code that corresponds to the blocking protection applied in the CETC control system. Removal of the protection by the CETC train dispatcher will require the authorization code be provided by the roadway worker. The system will utilize modifications to the CETC System platform functionality and mobile devices assigned to roadway workers.</p> <p>Deliverables:</p> <ul style="list-style-type: none"> • EEPS operating practices documentation; • Modification to each CETC System to provide EEPS functionality: <ul style="list-style-type: none"> - Wilmington CETC (Mid-Atlantic Division) - Boston CETC (NH to Boston, Springfield Line and MBTA Lines) - NY CETC West - PSCC - CETC Hudson-Albany Line • EEPS mobile devices for roadway workers; • Training program for roadway workers and dispatchers; • Operations management plans and procedures to be used after system acceptance; 	\$224,007

AMTRAK’S ANSWER: Amtrak states the document referenced in Paragraph 323 speaks for itself and Amtrak denies the allegations in Paragraph 323 to the extent that the portion cited above from the document does not accurately represent the document’s full content and context. Otherwise, Amtrak denies the allegations and statements in Paragraph 323.

324. In order to ensure that removal of the protection by the CETC train dispatcher is not done prematurely, the AMTEC system requires the authorization code provided by the railway worker; the AMTEC system will then remove the block only upon entry of the removal code from the railway worker. To accomplish this, the system must be able to transmit the secret code to a remote user terminal, i.e., the EEPS mobile devices of the remote roadway worker.

¹⁶⁵ 2019 NEC One-Year Plan at 233.

¹⁶⁶ *Id.*

AMTRAK’S ANSWER: Paragraph 324 contains legal arguments and conclusions as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Otherwise, Amtrak denies the allegations and statements in Paragraph 324.

325. Accordingly, Amtrak’s AMTEC system and/or other similar system includes a railway control apparatus that executes computer-executable instructions to “transmit the secret code to a remote user terminal.”

AMTRAK’S ANSWER: Paragraph 325 contains legal arguments and conclusions based on claim language (cited in-part) from the ’115 patent as opposed to allegations of fact and no response is required. Amtrak denies any infringement. Amtrak denies the allegations and statements in Paragraph 325.

326. As direct and proximate result of Amtrak’s infringement of the ’115 patent, Railware has been injured and has been caused significant harm and financial damages.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 326.

327. On information and belief, Amtrak has also induced and continues to induce infringement of at least claim 20 of the ’115 patent in violation of 35 U.S.C. § 271(b).

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 327.

328. Amtrak induces its users, and/or developers of its systems to infringe at least claim 20 of the ’115 patent, and does so with the specific intent, by providing instructions, directions, information, and/or knowledge on how to use its systems and/or incorporate its systems into other products (including both the Collins Aerospace RailwayNet/AIM systems and the AMTEC systems or similar systems or methods). For example, Amtrak provides a “Management Trainee Program” through which trainees “work to support the Amtrak Train and Electrification Control

(AMTEC) system by updating the track model software design and configuration work supporting new interlocking construction and reconfiguration of existing interlockings, as well as similar technical work to support the expansion of the AMTEC train dispatching system to improve train control functionality across the Northeast and Southeast Divisions.”¹⁶⁷

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 328.

329. As a direct and proximate result of Amtrak’s infringement of the ’115 patent, Railware has been injured and has been caused significant harm and financial damages.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 329.

330. Upon information and belief, Amtrak, without Railware’s permission, has been and is presently infringing at least claim 20 of the ’115 patent in violation of 35 U.S.C. § 271(c), by selling or offering to sell an apparatus for use in practicing the ’115 patent that is a material part of the invention to its customers, purchasers, users, and/or developers.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 330.

331. The apparatuses and systems sold or offered for sale by Amtrak have no substantial noninfringing uses. Further, they are not staple articles of commerce and constitute a material part of the invention. Thus, Amtrak knew or should have known that the combination for which their apparatuses and systems were made was protected by the ’115 patent.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 331.

332. As such, Amtrak has contributorily infringed and continue to infringe the ’115 patent, as set forth herein, knowing that the apparatuses or systems would be made or adapted for use in an infringing manner.

¹⁶⁷ https://careers.amtrak.com/content/Management-Trainee-Program/?locale=en_US (last visited May 6, 2022).

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 332.

333. Railware has suffered and continues to suffer damages and irreparable harm as a result of Amtrak’s past and ongoing infringement. Unless and until Amtrak’s infringement is enjoined, Railware will continue to be damaged and irreparably harmed.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 333.

334. Railware is entitled to all remedies at law and equity including, but not limited to, an injunction against Amtrak’s infringement of the ’115 patent pursuant to 35 U.S.C. § 283.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 334.

335. Railware is entitled to damages for Amtrak’s infringement of the ’115 patent including, but not limited to, damages pursuant to 35 U.S.C. §§ 284 and 285.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations in Paragraph 335.

JURY DEMAND

Railware respectfully requests a jury trial on all triable issues.

AMTRAK’S ANSWER: Amtrak denies the statements and allegations insofar as they contain opinions and legal argument rather than factual assertions, and therefore, require no response.

REQUEST FOR RELIEF

Railware respectfully asks that the Court enter judgment in its favor as follows:

- A. Judgment in favor of Railware and against Amtrak on each cause of action alleged herein;
- B. Finding that Amtrak has infringed and is infringing the Asserted Patents;
- C. Finding that Amtrak’s infringement of the Asserted Patents has been and continues to be willful;

- D. Awarding Railware damages adequate to compensate it for Amtrak's past and present infringement, but in no event less than a reasonable royalty;
- E. Awarding an accounting and supplemental damages for those acts of infringement committed by Amtrak subsequent to the discovery cut-off date in this action through the date Final Judgment is entered;
- F. Ordering that damages for infringement of the Asserted patents be trebled as provided for by 35 U.S.C. § 284 for Amtrak's willful infringement of the Asserted Patents;
- G. Finding that this case is exceptional;
- H. Awarding Railware its attorneys' fees and costs, together with prejudgment and post-judgment interest;
- I. A preliminary and permanent injunction against Amtrak's continued direct and indirect infringement;
- J. To the extent injunctive relief is not awarded, awarding Railware damages adequate to compensate Railware for Amtrak's future infringement, but in no event less than a reasonable royalty; and
- K. Any further relief that this Court deems just and proper.

AMTRAK'S ANSWER: Amtrak denies that Railware is entitled to any Request for Relief.

GENERAL DENIAL

Amtrak denies each and every allegation contained in the Amended Complaint to which

Amtrak has not specifically responded or expressly admitted.

AFFIRMATIVE DEFENSES

Amtrak pleads the following as affirmative and other defenses to the Amended Complaint. In asserting such defenses, Amtrak does not concede that it bears the burden of proof as to any of them. Discovery has yet to begin, and therefore Amtrak has not yet fully considered all information and materials that may be relevant to the matters and issues raised herein.

Accordingly, Amtrak reserves the right to amend, modify or expand these defenses, including but not limited to those defenses revealed during discovery.

FIRST DEFENSE **(Failure to State a Claim)**

336. Railware fails to state a claim against Amtrak upon which relief can be granted.

SECOND DEFENSE **(Lack of Standing/Failure to Join Necessary Party)**

337. Railware lacks standing to bring a patent infringement action based on U.S. Pat. No. 9,517,782 (the “’782 Patent”), U.S. Reissue Pat. No. RE47,835 (the “RE’835 Patent”), and U.S. Reissue Pat. No. RE49,115 (the “RE’115 Patent”) (collectively, the “Patents-in-Suit”) and/or have failed to join a necessary party under Federal Rule of Civil Procedure 19.

338. The three patents name Ross Pirtle as the only purported inventor.

339. Railware alleges that the Enhanced Employee Protection System (“EEPS”) purportedly practices the Patents-in-Suit. Amended Complaint, Dkt. No. 11, ¶ 2.

340. Railware claims it “developed EEPS.” *Id.*, ¶ 15.

341. Railware further alleges that Metro North Railroad (“Metro North”) and the Long Island Railroad (“LIRR”) implemented EEPS. *Id.*, ¶ 6.

342. On information and belief, LIRR is a related entity to Metro North.

343. On information and belief, Metro North and LIRR are subsidiary entities of the Metropolitan Transportation Authority (“MTA”).

344. As shown in Table 1 below, several public documents, including by Metro North, state (with emphasis added): “**MTA Metro-North Railroad-designed** Enhanced Employee Protection System (‘EEPS’)”; “Metro-North won the American Public Transportation Association’s Gold Award for Safety **for creating the Enhanced Employee Protection System (EEPS), a system developed in-house** President Giulietti thanked **all who were involved in the creation and implementation of EEPS**”; EEPS “**developed in-house**”; and “**Metro-North’s** award winning Enhanced Employee Protection System (EEPS).”

Publisher	Date	EEPS Statement	Website Available
On information and belief, Metro North	On information and belief, December 17, 2013	“Metro-North is developing an automated system This Enhanced Employee Protection System (EEPS) is being tested and is expected to be operational in January 2014.” Exhibit 1, 3.	http://www.governor.ct.gov/malloy/lib/malloy/2013.12.17_Metro-North-Transportation_Committee.pdf
Testimony of Joseph J. Giulietti, President of Metro-North Railroad	February 27, 2014	“Also, Tom talked briefly about the new system we developed to protect employees working on the tracks. This new system--the Enhanced Employee Protection System, or EEPS--” Exhibit 2, 2.	https://www.cga.ct.gov/2014/TRAdat/OD/Metro-North%20Railroad-%20February%2027,%202014.pdf
Joseph J. Giulietti of Metro-North to Commissioner James Redeker, Bureau of Public Transportation	March 3, 2014	“Complete implementation of the Enhanced Employee Protection System (EEPS). This industry-leading system developed in-house significantly increases the safety of workers on the tracks.” Exhibit 3, 100-Day Action Plan, 2.	http://www.governor.ct.gov/malloy/lib/malloy/2014.03.03_mra_100_day_plan.pdf
MTA	July 2016	“President Giulietti welcomed the new Board members. He announced that Metro-North won the American Public Transportation Association’s Gold Award for Safety for creating the Enhanced Employee Protection System (EEPS), a system developed in-house to provide a redundant safety mechanism which places the key to removing tracks from service and restoring tracks to service in the hands of the trackworker.	See https://kipdf.com/meeting-of-the-metro-north-railroad-committee-july-2016_5afb74f08ead0ea79a8b464d.html See also https://www.rtands.com/passenger/commuter-regional/metro-north-recognized-for-

		President Giulietti thanked all who were involved in the creation and implementation of EEPS.” Exhibit 4, 6.	employee-safety-program/#:~:text=EEPS%20is%20a%20technol%20ogy%2Dbased,via%20a%20smartphone%20or%20pager (“EEPS is a technology-based system created by Metro-North . . .”)
MTA	2017 Combined Continuing Disclosure Filings	“. . . implementing a MTA Metro-North Railroad-designed Enhanced Employee Protection System (‘EEPS’) to provide redundant signal protection to workers in the field . . .” Exhibit 5, 161.	https://new.mta.info/sites/default/files/2021-08/Part_I-MTA_Annual_Disclosure_Statement_dated_April_28_2017_as_supplemented_June_22_and_July_5_2017.pdf <i>See also</i> https://new.mta.info/sites/default/files/2021-09/Part_I-MTA_Annual_Disclosure_Statement_April_29_2016_as_supplemented_May_10_2016.pdf
President Catherine A. Rinaldi of Metro-North Railroad to The Honorable Richard Blumenthal	April 10, 2018	“. . . Metro-North’s award winning Enhanced Employee Protection System (EEPS). EEPS, which was developed and rolled out in 2014, . . .” Exhibit 6, 3.	https://www.blumenthal.senate.gov/imo/media/doc/2018%204%2010%20MNR%20Response%20re%20PTC.pdf <i>see also</i> https://nypost.com/2017/10/29/schumer-says-mta-is-close-to-deadline-in-crucial-rail-fix/ (“ . . . Metro-North’s award-winning enhanced employee protection system,’ the agency said in a statement.”)
Metropolitan Transportation Authority	2022 Combined Continuing	“Enhanced Employee Protection System: This in-house developed system provides protection for	https://new.mta.info/document/91081

	Disclosure Filings	Maintenance of Way employees” Exhibit 7, 163.	
--	--------------------	--	--

Table 1: EEPS Statements

345. Additionally, on information and belief, MTA and Metro North created a document entitled “Metro-North Railroad Safety Program Report 2013” including with an “Enhanced Employee Protection System” slide below:



* * * * *

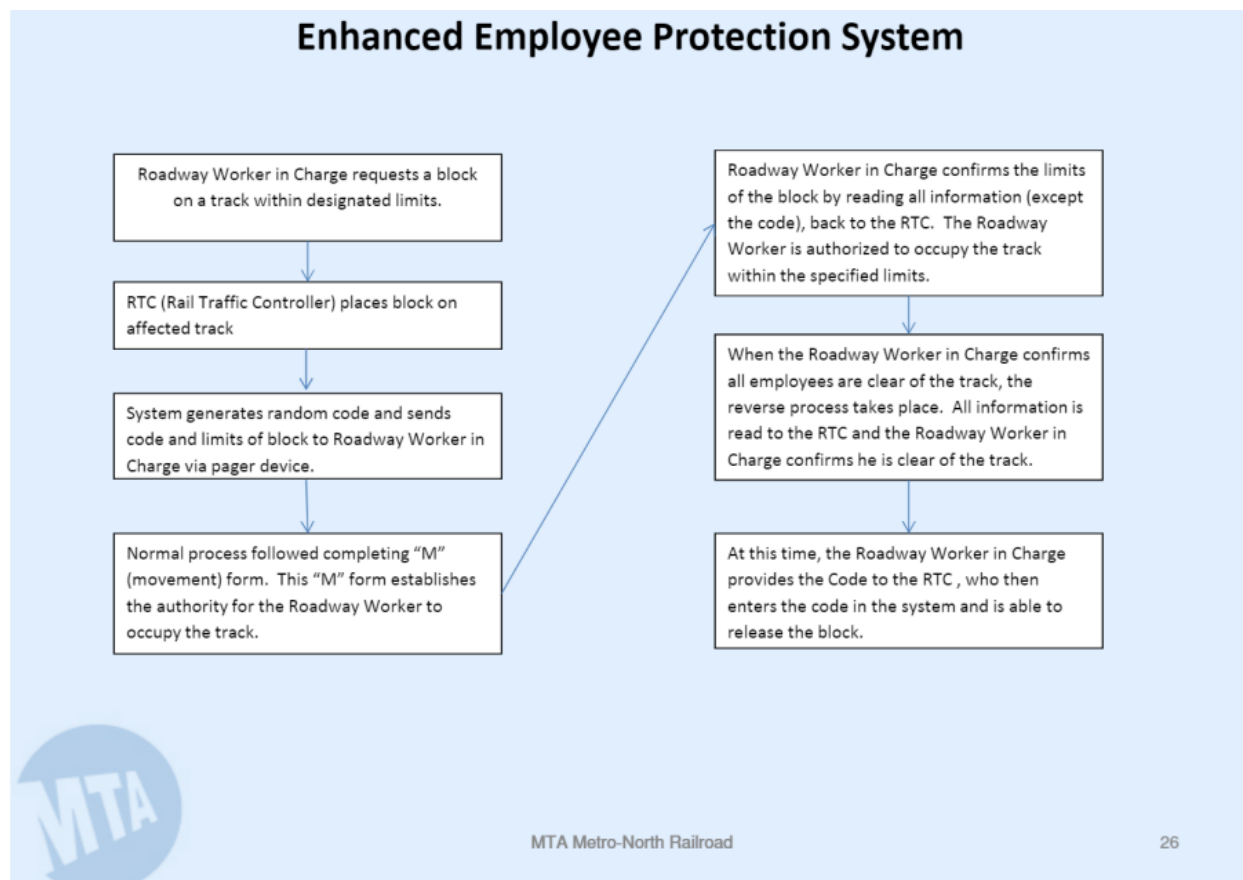


Exhibit 8, 1, 26, available at https://kipdf.com/metro-north-railroad-safety-program-report-2013_5aac62cf1723dd4c5a647497.html; see also <https://www.nts.gov/safety/safety-studies/Documents/SIR1403.pdf> (“Metro-North developed the Enhanced Employee Protection System (EEPS).”).

346. Even Railware pleads in Paragraph 42, among others, that “[t]his project will implement **the SEPTA and Metro North Enhanced Protection System (EEPS)**” Amended Complaint, ¶ 42 (emphasis added). It does not state the Railware EEPS.

347. On information and belief, Metro North, LIRR, and MTA would provide truthful statements relating to EEPS given the types of documents and/or recipients above in Table 1.

348. On information and belief, one or more of the documents above were publicly available before Railware filed its lawsuit on June 15, 2022 against Amtrak, and thus Railware had

knowledge or should have had knowledge that other(s) claim to have created its so-called patented EEPS invention.

349. The above statements that another or others created EEPS call into question that Mr. Pirtle solely invented EEPS as allegedly claimed in the Patents-in-Suit (and during prosecution of them), Complaint, and Amended Complaint.

350. Based on the failure to correctly name all inventors on the Patents-in-Suit and/or obtain assignments from all inventors of the Patents-in-Suit, Railware's claims of infringement as to the Patents-in-Suit are barred because Railware lacks standing to bring this action.

351. Additionally, Railware has failed to join necessary party (or parties) Metro North, LIRR, and/or MTA given their claimed creation of the purported patented technology EEPS.

THIRD DEFENSE
(Waiver, Acquiescence, Estoppel)

352. Upon information and belief, Railware's claims for relief are barred in whole or in part by waiver, acquiescence and/or estoppel.

353. The Patents-in-Suit assert to claim priority to a provisional application filed on October 21, 2013.

354. As stated above in Table 1, Metro North, LIRR, and/or MTA claimed to have created EEPS and held themselves out to the public as having created EEPS.

355. On information and belief, Railware never advised the Northeast Corridor Commission that EEPS was allegedly patented, including by the Patents-in-Suit. Railware has not claimed otherwise.

356. Railware claims in Paragraph 16 of the First Amended Complaint that "[a]s a result of Railware's hard work and innovations, its software won the Federal Railroad Administration ('FRA') President's Award and is recommended by the FRA for use in every railroad in the

country.” Amended Complaint, ¶ 16.

357. Railware further claims that FRA’s EEPS is covered by the Patents-in-Suit. *Id.*, ¶ 28.

358. On information and belief, Railware never advised the FRA that EEPS was allegedly patented, including by the Patents-in-Suit, before it allegedly recommended EEPS, and Railware in Paragraphs 22-29 of the Amended Complaint never claims otherwise. *See also* 35 U.S.C. § 202(c).

359. Nor does the regulation Railware cites (79 Fed. Reg. 70268, at 70269 (Nov. 25, 2014)) indicate that EEPS is purportedly patented given, for instance, the word “patent” and Railware do not appear in the regulation, and Railware has not claimed otherwise.

360. On information and belief, Railware was aware that EEPS was recommended by the FRA prior to this lawsuit.

361. Railware’s silence (alone or in combination with Metro North, LIRR, and/or MTA)—particularly in view of Metro North, LIRR, and/or MTA’s statements in Table 1—was misleading and improper because it provided the appearance, acquiescence, and consent that EEPS was available to the public for use.

362. Even Railware pleads in Paragraph 42, among others, the SEPTA and Metro North EEPS: “[t]his project will implement the SEPTA and Metro North Enhanced Protection System (EEPS)” Amended Complaint, ¶ 42. It does not state the Railware EEPS.

363. On information and belief, one or more of the documents in Table 1 were publicly available to Railware before it filed this lawsuit.

364. Before implementing EEPS, Amtrak visited with Metro North (or LIRR) once to discuss their EEPS.

365. Amtrak suffered prejudice by introducing AMTEC with the accused EEPS feature prior to this lawsuit, including devoting resources, *e.g.*, financial resources and time.

366. Amtrak would be harmed materially if Railware is now permitted to assert any claim inconsistent with its earlier silence and particularly the public statements that other(s) created EEPS and then to invoke the FRA's alleged EEPS recommendation in Paragraphs 22-29 of the Amended Complaint when Railware and others were silent.

367. Additionally, and on information and belief, Railware unreasonably delayed in filing this suit against Amtrak.

368. Railware in its Amended Complaint cites publicly available documents dated September 2017 (*e.g.*, fn. 27, 65, 67); October 2017 (*e.g.*, fn. 17, 46, 90); April 2018 (*e.g.*, fn. 16, 30, 125); and October 2018 (*e.g.*, fn. 20, 23, 29).

369. Railware, despite being aware, or should have been aware, of and familiar with the September 2017, October 2017, April 2018, and October 2018 documents it cited, Railware did not file lawsuit until June 2022.

FOURTH DEFENSE
(28 U.S.C. § 1498)

370. “Whenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same, the owner’s remedy shall be by action against the United States in the United States Court of Federal Claims for the recovery of his reasonable and entire compensation for such use and manufacture.” 28 U.S.C. § 1498(a).

371. Railware pleads that the FRA recommended EEPS in Paragraphs 22-29 of the Amended Complaint, including citing federal regulations.

372. On information and belief, any Amtrak alleged use of EEPS is “for the United

States” to comply with the FRA.

373. Under 28 U.S.C. § 1498, Railware’s claims are barred against Amtrak and any remedy should be against the United States.

374. Accordingly, Amtrak should not be held liable for alleged patent infringement.

FIFTH DEFENSE

(Invalidity Under 35 U.S.C. § 251/Improper Reissue: No Error and Original Patent Requirement)

375. The claims of the RE’835 Patent and RE’115 Patent are invalid because the claims fail to satisfy one or more of the statutory requirements of 35 U.S.C. § 251, including but not limited to: (a) failing to meet the error requirement; and (b) claiming subject matter that is not the same invention that was disclosed in the original U.S. Patent No. 9,403,545 (the “’545 Patent”).

No “Error”

376. Section 251 states, “Whenever any patent is, **through error**, deemed wholly or partly inoperative or invalid, by reason of a defective specification or drawing, or by reason of the patentee claiming more or less than he had a right to claim in the patent, the Director shall, on the surrender of such patent and the payment of the fee required by law, reissue the patent for the invention disclosed in the original patent, and in accordance with a new and amended application, for the unexpired part of the term of the original patent. No new matter shall be introduced into the application for reissue.” (emphasis added).

377. “Notably, the reissue statute’s error requirement contemplates ‘inadvertence or mistake.’ . . . ‘Deliberate withdrawal or amendment of claims to obtain a patent cannot be said to involve the inadvertence or mistake contemplated by 35 U.S.C. § 251’” *In re McDonald*, 43 F.4th 1340, 1347 (Fed. Cir. 2022) (citations and quotations omitted).

378. During reissue prosecution of RE’835 Patent, Mr. Pirtle submitted a reissue

application declaration on March 22, 2018 as shown below.

REISSUE APPLICATION DECLARATION BY THE ASSIGNEE		Docket Number (optional) 7552/85663-Reissue	
<p>I hereby declare that:</p> <p>The residence and mailing address of the inventor or joint inventors are stated below.</p> <p>Name of the Assignee:</p> <p>Railware, Inc.</p> <p>I am authorized to act on behalf of the assignee (if the assignee is a juristic entity).</p> <p>The entire title to the patent identified below is vested in said assignee, or if there are multiple assignees/owners, all assignees/owners have executed a Reissue Application Declaration to account for the entire title of the patent identified below.</p>			
Inventor Ross Pirtle			
Residence: City Commack	State NY	Country USA	
Mailing Address c/o RAILWARE, INC., 750 Veterans Memorial Hwy, Suite 200			
City Hauppauge	State NY	Zip 11788	Country USA
☐ Additional Inventors are named on separately numbered sheets attached hereto.			
Patent Number 9,403,545		Patent Issue Date 08-02-2016	
<p>I believe said inventor(s) to be the original inventor or original joint inventors of the subject matter which is described and claimed in said patent, for which a reissue patent is sought on the invention titled:</p> <p>TOOLS FOR RAILWAY TRAFFIC CONTROL</p> <p>the specification of which</p> <p>☒ is attached hereto.</p> <p>☐ was filed on _____ as reissue application number _____.</p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.</p> <p>I believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (Check all boxes that apply.)</p> <p>☐ by reason of a defective specification or drawing.</p> <p>☒ by reason of the patentee claiming more or less than he had the right to claim in the patent.</p> <p>☐ by reason of other errors.</p>			

[Page 1 of 2]

This collection of information is required by 37 CFR 1.175. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

REISSUE APPLICATION DECLARATION BY THE ASSIGNEE		Docket Number (Optional) 7552/85663-										
<p>At least one error upon which reissue is based is described below. If the reissue is a broadening reissue, a claim that the application seeks to broaden must be identified and the box below must be checked:</p> <p>The patent should have a broader claim such as new claim 20.</p> <p style="text-align: center; margin-top: 20px;">[Attach additional sheets, if needed.]</p> <p>☐ The application for the original patent was filed under 37 CFR 1.46 by the assignee of the entire interest.</p>												
<p>I hereby appoint:</p> <p>☒ Practitioners associated with Customer Number: 23432</p> <p style="text-align: center; margin: 5px 0;">OR</p> <p>☐ Practitioner(s) named below:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="width: 50%; text-align: center;">Name</th> <th style="width: 50%; text-align: center;">Registration Number</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>			Name	Registration Number								
Name	Registration Number											
<p>as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.</p>												
<p>Correspondence Address: Direct all communications about the application to:</p> <p>☒ The address associated with Customer Number: 23432</p> <p style="text-align: center; margin: 5px 0;">OR</p>												
☐ Firm or Individual Name												
Address												
City	State	Zip										
Country												
Telephone	Email											
<p style="text-align: center;">WARNING:</p> <p>Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.</p>												
Signature	Date (Optional)											
<p>Legal name of person signing Ross Pirtle, President, Railware, Inc.</p>												
<p>Address of Assignee 750 Veterans Memorial Hwy, Suite 200, Hauppauge, New York 11788</p>												

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Exhibit 9.

379. In a January 23, 2019 non-final office action rejection, the Examiner outlined that the purported inventor must file an oath outlining an error for the reissue, as shown below.

Reissue Oath/Declaration

6. The reissue oath/declaration filed on March 22, 2018 is defective because it fails to specifically identify at least one error which is relied upon to support the reissue application. See 37 CFR 1.175 and MPEP 1414-1414.01. As required by 37 CFR 1.175(a), the reissue oath/declaration must *specifically* identify at least one error pursuant to 35 U.S.C. 251 being relied upon as the basis for reissue. In identifying the error, it is sufficient that the reissue oath/declaration identify a single word, phrase, or expression in the specification or in an original claim, and how it renders the original patent wholly or partly inoperative or invalid.

In the present case, the reissue declaration only states that “[the] patent should have a broader claim such as new claim 20”. However, no specific error is identified, and no explanation is provided as to how the error relied upon renders the original patent wholly or partly inoperative or invalid.

Application/Control Number: 15/928,955
Art Unit: 3993

Page 4

Any error in the original patent claims must be identified by reference to *at least one specific claim* and *the specific claim language wherein lies the error*. It is not sufficient to merely state that applicant seeks to broaden or narrow the scope of a patent claim. Further, a statement in the reissue oath/declaration of “...failure to include a claim directed to...” and then reciting all the limitations of a newly added claim would not be considered a sufficient error statement because applicant has not pointed out what the other claims lacked that the newly added claim has, or vice versa.

7. The reissue declaration filed on March 22, 2018 is defective because it fails to identify an original patent claim that the instant broadening reissue application seeks to broaden. See 37 CFR 1.175(b) and MPEP 1414-1414.01. As required by 37 CFR 1.175(b), for an application that seeks to enlarge the scope of the claims of the patent, the reissue oath or declaration must identify a claim that the application seeks to broaden. A general statement, e.g., that all claims are broadened, is not sufficient to satisfy this requirement.

In the present case, the reissue declaration only states that “[the] patent should have a broader claim such as new claim 20”. However, the reissue declaration does not identify a claim that the application seeks to broaden, i.e., does not state that the new claims broaden a specific one of the patent claims.

Exhibit 9 (excerpt).

380. In an April 4, 2019 summary of the Examiner interview, the Examiner again explained to the attorney representing Railware that he was required to identify an error.

Continuation Sheet (PTOL-413)

Application No. 15/928,955

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Portions of the interview agenda and proposed amendments (see attachment) were discussed. With respect to claims 23 and 33, applicant's representative argued that the proposed amendment to these claims is supported by the original disclosure and overcomes objection/rejections for new matter. The examiner indicated that the proposed language still does not appear to be fully consistent with col. 6, ll. 65-67 of the disclosure.

With respect to Rahn et al., applicant's representative argued that the reference fails to teach the "centralized" control required, for example, by new claim 20. The disclosure of Rahn et al. was reviewed at length, but the examiner and applicant's representative did not come to an agreement on this issue. The examiner indicated that it would appear that specific language needs to be added to the claims to support/define the distinction argued for by applicant's representative.

With respect to the reissue declaration, the USPTO personnel explained the requirement to identify an original patent claim that is broadened, and to identify a specific error in the original patent claims. The USPTO personnel also explained the need to comply with 37 CFR 1.173 in amending the claims, i.e., using single brackets for deletions and underlining for additions when amending the patent claims, and underlining new claims in their entirety (even when amended during reissue).

Exhibit 9 (excerpt).

381. On April 23, 2019, Railware outlined the purported error, including with a declaration executed by Mr. Pirtle on April 22, 2019.

Reissue Declaration

The Office Action (section 6 thereof) states that the reissue oath/declaration filed on March 22, 2018 is defective because it allegedly fails to specifically identify at least one error which is relied upon to support the reissue application. The Office Action (section 7 thereof) states that said reissue oath/declaration filed on March 22, 2018 is defective because it allegedly fails to identify an original patent claim that the broadening reissue application seeks to broaden. Consequently, in the Office Action (section 9 thereof), claims 1-41 were rejected under 35 U.S.C. 251 as based on a purportedly defective reissue oath/declaration. The Office Action (section 11 thereof) states that claims 20-41 were rejected under 35 U.S.C. 251 for the additional reason that such claims 20-41 which are broader in scope than original patent claims 1-19 cannot be supported by the sworn statement of the assignee in the reissue oath/declaration filed on

Reissue Application No. 15/928,955, filed March 22, 2018
Page 39

Dkt. 7552/85663-Reissue

March 22, 2018.

Accordingly, a Reissue Application Declaration By The Inventor, which indicates that the reissue application seeks, by way of added claim 40, to broaden patent claim 1 which unnecessarily limits the claimed system to include "a rail personnel contact database registering, for each railway personnel, an electronic contact address of the railway personnel ..." is submitted concurrently herewith.

Exhibit 9 (excerpt).

REISSUE APPLICATION DECLARATION BY THE INVENTOR	Docket Number (Optional) 7552/85663-Reissue
--	---

I hereby declare that:
Each inventor's residence and mailing address are stated below next to their name.
I believe I am the original inventor or an original joint inventor of the subject matter which is described and claimed
in patent number 9,403,545, granted 08-02-2016 and for which a
reissue patent is sought on the invention titled TOOLS FOR RAILWAY TRAFFIC CONTROL,

the specification of which

☐ is attached hereto.

☒ was filed on March 22, 2018 as reissue application number 15/928,955.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

I believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (Check all boxes that apply.)

☐ by reason of a defective specification or drawing.

☒ by reason of the patentee claiming more or less than he had the right to claim in the patent.

☐ by reason of other errors.

At least one error upon which reissue is based is described below. If the reissue is a broadening reissue, a claim that the application seeks to broaden must be identified:

The reissue application seeks, by way of added claim 40, to broaden patent claim 1 which unnecessarily limits the system to include "a rail personnel contact database registering, for each railway personnel, an electronic contact address of the railway personnel ..."

IPage 1 of 21

(REISSUE APPLICATION DECLARATION BY THE INVENTOR, page 2)		Docket Number (Optional) 7552/85663-Reissue	
<p>Note: To appoint a power of attorney, use form PTO/AIA/81.</p> <p>Correspondence Address: Direct all communications about the application to:</p> <p>☒ The address associated with Customer Number: 23432</p> <p>OR</p> <p>☐ Firm or Individual Name</p> <p>Address</p> <p>City State Zip</p> <p>Country</p> <p>Telephone Email</p>			
<p style="text-align: center;">WARNING:</p> <p>Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.</p>			
<p>Legal name of sole or first inventor (E.g., Given Name (first and middle (if any) and Family Name or Surname)</p> <p>Ross Pirtle</p>			
<p>Inventor's Signature</p> 		<p>Date (Optional)</p> <p>4/22/2019</p>	
<p>Residence: City</p> <p>Commack</p>	<p>State</p> <p>NY</p>	<p>Country</p> <p>USA</p>	
<p>Mailing Address</p> <p>c/o Railware, Inc., 750 Veterans Memorial Hwy, Suite 200</p>			
<p>City</p> <p>Hauppauge</p>	<p>State</p> <p>NY</p>	<p>Zip</p> <p>11788</p>	<p>Country</p> <p>USA</p>
<p> Additional joint inventors are named on the _____ supplemental sheet(s) PTO/AIA/10 attached hereto.</p>			

[Page 2 of 2]

Exhibit 9.

382. On information and belief, there is no explanation in the prosecution history for how Mr. Pirtle discovered the so-called error. It is also unclear how he possibly could have discovered it before filing the application leading to the RE'835 Patent reissue when the Examiner

twice had to explain the error requirement during prosecution.

383. Nor does Mr. Pirtle specifically explain on April 22, 2019 why he “believe[d] the original patent [’545 Patent] to be wholly or partly inoperative or invalid” because of this error other than generically “by reason of the patentee claiming more or less than he had the right to claim in the patent.”

384. Additionally, during reissue prosecution of RE’115 Patent, Railware claimed there was another error in the ’545 Patent.

REISSUE APPLICATION DECLARATION BY THE INVENTOR	Docket Number (Optional) 7552/85663-Reissue-A
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I hereby declare that:
Each inventor's residence and mailing address are stated below next to their name.
I believe I am the original inventor or an original joint inventor of the subject matter which is described and claimed
in patent number 9,403,545, granted 08-02-2016 and for which a
reissue patent is sought on the invention titled TOOLS FOR RAILWAY TRAFFIC CONTROL,

the specification of which

☒ is attached hereto.

☐ was filed on _____ as reissue application number _____

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

I believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (Check all boxes that apply.)

☐ by reason of a defective specification or drawing.

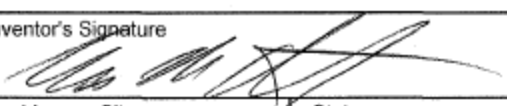
☒ by reason of the patentee claiming more or less than he had the right to claim in the patent.

☐ by reason of other errors.

At least one error upon which reissue is based is described below. If the reissue is a broadening reissue, a claim that the application seeks to broaden must be identified:

The reissue application seeks, by way of added method claim 33, to broaden patent claim 19 which unnecessarily limits the method to include "providing a user interface ..."

[Page 1 of 2]

(REISSUE APPLICATION DECLARATION BY THE INVENTOR, page 2)		Docket Number (Optional) 7552/85663-Reissue	
<p>Note: To appoint a power of attorney, use form PTO/AIA/81.</p> <p>Correspondence Address: Direct all communications about the application to:</p> <p>☒ The address associated with Customer Number: 23432</p> <p>OR</p> <p>☐ Firm or Individual Name</p> <p>Address</p> <p>City State Zip</p> <p>Country</p> <p>Telephone Email</p>			
<p align="center">WARNING:</p> <p>Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.</p>			
<p>Legal name of sole or first inventor (E.g., Given Name (first and middle (if any) and Family Name or Surname)</p> <p>Ross Pirtle</p>			
<p>Inventor's Signature</p> 		<p>Date (Optional)</p>	
<p>Residence: City</p> <p>Commack</p>	<p>State</p> <p>NY</p>	<p>Country</p> <p>USA</p>	
<p>Mailing Address</p> <p>c/o Railware, Inc., 750 Veterans Memorial Hwy, Suite 200</p>			
<p>City</p> <p>Hauppauge</p>	<p>State</p> <p>NY</p>	<p>Zip</p> <p>11788</p>	<p>Country</p> <p>USA</p>
<p>Additional joint inventors are named on the _____ supplemental sheet(s) PTO/AIA/10 attached hereto.</p>			

[Page 2 of 2]

Exhibit 10.

385. On information and belief, there is no explanation in the prosecution history for how Mr. Pirtle discovered the so-called error.

386. Nor does Mr. Pirtle specifically explain why he “believe[d] the original patent [’545 Patent] to be wholly or partly inoperative or invalid” because of this error other than generically “by reason of the patentee claiming more or less than he had the right to claim in the patent.”

387. On information and belief, the repeated use of reissues from the ’545 Patent, including the RE’115 Patent and RE’835 Patent, indicate that there was no error and in fact, it was intentional to file the reissues.

388. Railware in its Amended Complaint cites publicly available documents dated September 2017 (*e.g.*, fn. 27, 65, 67); October 2017 (*e.g.*, fn. 17, 46, 90); April 2018 (*e.g.*, fn. 16, 30, 125); and October 2018 (*e.g.*, fn. 20, 23, 29), and as discussed above, Railware unreasonably delayed filing this lawsuit.

389. On information and belief, the dates of such documents and delay in filing this lawsuit further indicate that Railware intentionally waited to file reissue patents.

390. As such, RE’835 Patent and RE’115 Patent are invalid.

Failing the Original Patent Requirement

391. “[W]e have interpreted the original patent requirement to require that the **exact embodiment claimed on reissue be expressly disclosed in the specification.**” *Cioffi v. Google LLC*, No. 2018-1049, 2023 U.S. App. LEXIS 9142, *12-13 (Fed. Cir. Apr. 18, 2023) (citation, quotations omitted, and emphasis added).

392. RE’835 Patent and RE’115 Patent are invalid for failing the original patent requirements.

393. For example, asserted claim 19 of RE’835 Patent recites “controlling railway access,” and “a plurality of railway traffic interlocks dispersed in said plural railways constituting said railway network” while asserted claim 20 of RE’115 Patent recites, “A railway control

apparatus for centralized control of a centrally controllable railway network including plural railways and a plurality of railway interlocks dispersed in said plural railways.”

394. Yet, the exact embodiment does not appear in the specification as recited in the claim language.

395. Thus, for instance, asserted claim 19 of RE’835 Patent and claim 20 of RE’115 Patent are invalid under the original patent requirement of 35 U.S.C. § 251.

SIXTH DEFENSE

(Non-Infringement of the ’782 Patent, RE’835 Patent, and RE’115 Patent)

396. Amtrak does not infringe and has not infringed, literally, willfully, jointly, or otherwise, or contribute to the infringement of, or actively induce others to infringe, either literally or by application of the doctrine of equivalents, any valid and enforceable claim of the ’782 Patent, RE’835 Patent, and RE’115 Patent as to Collins Aerospace’s ARINC RailwayNetSM System/AIM System, AMTEC, and any other accused product.

Collins Aerospace’s ARINC RailwayNetSM System/AIM System with EEPS

397. Amtrak does not infringe because it did not implement EEPS in the accused Collins Aerospace’s ARINC RailwayNetSM System/AIM System.

AMTEC with EEPS

’782 Patent

398. For example, the accused product(s) do not infringe claim 5 of the ’782 Patent at least because they do not perform the following:

- a. “permitting the block to said one or more track sections to be removed by the railway control apparatus only upon receiving the release code from the user terminal in return.”

399. Railware stated in its opposition to the motion to dismiss that the ’782 Patent requires an accused system in which “[t]he block that was placed on the selected track section by

the railway control apparatus can be ‘removed by the railway control apparatus **only** upon receiving the release code **from the user terminal** in return.’ *Id.* (emphasis added); Am. Compl., ¶ 18.” Dkt. No. 31, 8 (emphasis in original); *id.*, 8 (“[A]nd only permitting release of that block upon receiving the release code back from the user terminal. ’782 patent at 12:15-35.”)

400. For instance, the track does not have to be released “only upon receiving the release code from the user terminal.”

- b. “configuring a mobile user device of a railway field worker to provide a device user interface to display information received via a network from a railway control apparatus and to permit the railway field worker to respond to prompts displayed thereon”

401. Railware argued this limitation in its opposition to the motion to dismiss. Dkt. No. 31, 7.

402. For instance, the field worker does not respond to prompts on the mobile interface for releasing the track.

- c. “providing a terminal user interface on a terminal to permit a terminal user of the terminal request the railway control apparatus to place a block on one or more specified track sections”

403. For instance, the field worker does not request the block using the mobile interface.

- d. “generating by the railway control apparatus a release code and transmitting the release code to an electronic contact address accessible by the railway field worker via operation of the user interface of the user terminal.”

404. For instance, the accused product(s) do not practice “generating by the railway control apparatus a release code and transmitting the release code to an electronic contact address accessible by the railway field worker via operation of the user interface of the user terminal.”

RE’835 Patent

405. For example, the accused product(s) do not infringe claim 19 of RE’835 Patent at least because they do not perform the following:

- a. “generating a removal code, determining an electronic contact address of the railway field worker by accessing a rail personnel contact database registering, for each railway personnel, electronic contact information of the railway personnel, and transmitting the removal code to the electronic contact address of the railway field worker”

406. For instance, accused product(s) do not practice “generating a removal code, determining an electronic contact address of the railway field worker by accessing a rail personnel contact database registering, for each railway personnel, electronic contact information of the railway personnel, and transmitting the removal code to the electronic contact address of the railway field worker.”

- b. “permitting the block to said one or more track sections to be removed only upon entry of the removal code [in the centralized railway control system] *by said centralized control operation from the railway traffic control apparatus.*”

407. Railware stated in the opposition to the motion to dismiss that RE’835 Patent requires that “generating and transmitting a unique removal code from the railway control apparatus to an electronic contact address of a railway field worker, and removing the block only upon receiving the removal code from the railway worker. *See* ’835 patent at 15:5-30” Dkt. No. 31, 9.

408. For instance, the accused product(s) do not practice this claim limitation as discussed above.

RE’115 Patent

409. For example, the accused product(s) do not infringe claim 20 of RE’115 Patent at least because they do not “generate a secret code associated with the at least one selected track section; and transmit the secret code to a remote user terminal.”

No Willfulness/Indirect Infringement

410. The Court found that Amtrak did not have pre-suit notice of the Patents-in-Suit.

Dkt. No. 39, 28-29.

411. Thus, Railware cannot prove pre-suit willfulness and indirect infringement.

412. Additionally, Railware never plead willful infringement of RE'115 Patent, as outlined in Amtrak's Motion to Dismiss. Dkt. No. 29, 2 n.2 ("Railware does not allege willful infringement of RE'115 Patent.")

413. Amtrak lacked specific intent for others to infringe and a reckless disregard for infringement of the Patents-in-Suit for inducement and willful infringement. *See also* Dkt. No. 39, 31 ("Plaintiff may ultimately fail to persuade a jury that Defendant's post-suit conduct was so egregious as to merit an enhanced sanction.")

414. Further, as outlined in Amtrak's opening and reply briefs, "For contributory infringement, Railware cites no facts from the Am. Compl. for 'no substantial noninfringing uses' and 'adapted for use in an infringing manner.'" Dkt. No. 34, 10 (citation omitted); Dkt. No. 29, 25. The AMTEC system, for instance, has substantial non-infringing uses including many non-EEPS features.

415. Accordingly, the Patents-in-Suit are not infringed.

SEVENTH DEFENSE
(Invalidity of the '782 Patent, RE'835 Patent, and RE'115 Patent)

416. The claims of the Patents-in-Suit are invalid because they fail to satisfy one or more of the requirements of patentability specified in 35 U.S.C. § 1, *et seq.*, including, without limitation, the requirements of 35 U.S.C. §§ 100, 101, 102, 103, 112, and/or 116, or other judicially created bases for invalidity or unenforceability.

417. Please see the below non-limiting examples of invalidity at Paragraphs 418-430 below.

35 U.S.C. § 101 – Patent Ineligibility

418. Amtrak contends the Patents-in-Suit claim ineligible subject matter. *See* Dkt. Nos. 29, 34, 38.

35 U.S.C. §§ 102-103 – Prior Art

419. For instance, Amtrak refers to its filed *Inter Partes* Review (“IPR”) that the Patents-in-Suit are invalid under 35 U.S.C. §§ 102-103. *See* Exhibits 11-13 (IPR Petitions without exhibits).

420. To the extent Metro North, LIRR, and/or MTA (or another party) published EEPS more than one year before the proper priority date, the patents would be invalid given the priority date of the patents has not been adjudicated.

35 U.S.C. §112 – Indefiniteness / Lack of Written Description and Enablement

421. The ’782 Patent, RE’835 Patent, and RE’115 Patent are invalid for indefiniteness, lack of written description, and/or lack of enablement.

’782 Patent

422. For example, claim 5 of the ’782 Patent recites, “enhance railway control,” but it is unknown when such “enhance” railway control would occur or not.

423. As another example, claim 5 of the ’782 Patent recites, “configuring a mobile user device of a railway field worker to provide a device user interface to display information . . . generating by the railway control apparatus a release code and transmitting the release code to an electronic contact address accessible by the railway field worker via operation of the user interface of the user terminal”

424. However, “user terminal” is not previously recited for the field worker. Moreover, the scope of “user terminal” is undefined. *See* ’782 Patent, 4:47–51 (“[S]ubject matter of this disclosure can be utilized by any computing device including but not limited to PDAs, cell phones,

personal, notebook and workstation computers kiosks, other information terminals., WIC (or another) pager **etc.**”) (emphasis added).

425. Further, claim 5 of the ’782 Patent recites a “release code,” yet it does not describe the “release code,” its contents, or how it is created.

RE’835 Patent

426. For example, claim 19 of RE’835 Patent recites a “removal code,” yet it does not describe the “removal code,” its contents, or how it is created.

RE’115 Patent

427. For example, claim 20 of RE’115 Patent recites “secret code,” but the claim language does not describe the “secret code” and what makes a code “secret,” including failing to detail any specific level of security.

35 U.S.C. §§ 100, 101, and 106

428. Upon information and belief, the claims of the Patents-in-Suit are invalid under 35 U.S.C. §§ 100, 101, and/or 116 for failure to name all inventors.

429. Amtrak incorporates its statements as if fully set forth herein from the Second Defense, including from Paragraphs 337-351 outlining that Metro North, LIRR, and/or MTA claimed to have created the purported patented EEPS feature.

430. Accordingly, the Patents-in-Suit are invalid.

EIGHTH DEFENSE
(Intervening Rights)

431. Railware’s claims are barred, in whole or in part, by statutory and equitable intervening rights, including under 35 U.S.C. §§ 252 and 307(b).

432. By way of example, RE’835 Patent and RE’115 Patent are barred by absolute and/or equitable intervening rights.

433. “[T]he defense of absolute intervening rights provides an accused infringer with the absolute right to use or sell a product that was made, used, or purchased before the grant of the reissue patent as long as this activity does not infringe a claim of the reissue patent that was in the original patent.” *Capella Photonics, Inc. v. Ciena Corp.*, 546 F. Supp. 3d 977, 982 (N.D. Cal. 2021) (quotations omitted).

434. “When a defendant is accused of infringing a reissued patent, she may raise the affirmative defense of equitable intervening rights. *See* 35 U.S.C. § 252. . . . Under this section [252], an infringer may continue what would otherwise be infringing activity after a reissue or reexamination.” *John Bean Techs. Corp. v. Morris & Assocs.*, 988 F.3d 1334, 1338 (Fed. Cir. 2021).

435. As discussed above for the application leading to the RE’835 Patent, Mr. Pirtle stated on April 22, 2019 that he “believe[d] the original patent [’545 Patent] to be wholly or partly inoperative or invalid”

436. RE’835 Patent issued on February 4, 2020.

437. As discussed above for the application leading to the RE’115 Patent, Mr. Pirtle stated on April 22, 2019 that he “believe[d] the original patent [’545 Patent] to be wholly or partly inoperative or invalid”

438. RE’115 Patent on June 28, 2022.

439. Railware alleges the AMTEC existed prior to filing its lawsuit. Amended Complaint, ¶ 44.

440. Amtrak developed and implemented the accused AMTEC, including EEPs, before the issue dates of RE’835 Patent and RE’115 Patent.

441. Thus, Amtrak should be entitled to both absolute and equitable intervening rights.

NINTH DEFENSE
(Limitation on Damages and Costs)

442. Railware's claims for any damages are limited or unavailable pursuant to 35 U.S.C. §§ 271, 286, 287, and/or 288.

443. The Court found that Amtrak did not have pre-suit notice of the Patents-in-Suit pre-suit. Dkt. No. 39, 28-29.

444. Railware contends that EEPS practices the Patents-in-Suit. Amended Complaint, ¶ 4.

445. Railware further alleges that Metro North and LIRR implement EEPS. *Id.*, ¶ 6.

446. On information and belief, Railware's claims for damages prior to the filing of this lawsuit are barred to the extent Railware (or their predecessors-in-interest) was required to mark under 35 U.S.C. § 287 and Railware, its prior assignees, and/or its licensees failed to mark its purported patented.

447. To the extent any claim of the '782 Patent, RE'835 Patent, and RE'115 Patent is invalid, Railware is barred from recovering costs by 35 U.S.C. § 288.

448. Railware's purported damages are limited given it has failed to apportion to the so-called patented EEPS feature.

449. For instance, Railware has failed to apportion in view of AMTEC's numerous other features.

450. Even Railware alleges that its "train traffic control systems" Dispatch X has a "suite of tools in or for its train traffic control systems" including EEPS. Amended Complaint, ¶ 2.

451. Further, Railware has failed to connect any alleged usage of EEPS to revenue given Amtrak customers purchase train tickets to ride trains, not use EEPS.

TENTH DEFENSE
(Inequitable Conduct)

452. The Patents-in-Suit are unenforceable due to inequitable conduct.

453. During prosecution of the Patents-in-Suit before the United States Patent Trademark Office (“USPTO”), the named inventor and other (unknown) Railware representatives committed inequitable conduct by knowingly failing to disclose material information (other(s) claim to have created EEPS which was not disclosed during prosecution).

454. The purported inventor Mr. Pirtle had a duty of candor and good faith in dealing with the Patent Office during the prosecution of the Patents-in-Suit, which included a duty to disclose to the Patent Office all information known to be material to the patentability of any pending claim of the applications leading to the Patents-in-Suit.

455. On June 9, 2016, the application leading to the ’782 Patent was filed naming Mr. Pirtle as an inventor.

456. The ’782 Patent issued on December 13, 2016.

457. Mr. Pirtle executed the below declaration that he alone was the inventor of the ’782 Patent.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)	
Title of Invention	TOOLS FOR RAILWAY TRAFFIC CONTROL
<p>As the below named inventor, I hereby declare that:</p> <p>This declaration is directed to: ☒ The attached application, or ☐ United States application or PCT international application number _____ filed on _____</p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.</p> <p style="text-align: center;">WARNING:</p> <p>Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.</p>	
<p>LEGAL NAME OF INVENTOR</p> <p>Inventor: <u>Ross Pirtle</u> Date (Optional): _____</p> <p>Signature: </p>	
<p><small>Note: An application data sheet (PTO/AIA/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional PTO/SB/AIA01 form for each additional inventor.</small></p>	

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Exhibit 14.

458. On March 22, 2018, the application leading to the RE'835 Patent was filed naming Mr. Pirtle as an inventor.

459. The RE'835 Patent issued on February 4, 2020.

460. As discussed above, Mr. Pirtle filed a declaration that he alone was the inventor of the RE'835 Patent. See Paragraphs 378-383.

461. On December 10, 2019, the application leading to the RE'115 Patent was filed naming Mr. Pirtle as an inventor.

462. The RE'115 Patent issued on June 28, 2022.

463. As discussed above, Mr. Pirtle filed a declaration that he alone was the inventor of the RE'115 Patent. *See* Paragraph 384-386.

464. Mr. Pirtle was substantively involved in prosecution of the Patents-in-Suit.

The Failure to Disclose Another or Others Claimed to Have Created EEPS

465. 35 U.S.C. 116 requires that, “When an invention is made by two or more persons jointly, they shall apply for patent jointly and each make the required oath”

466. “As a critical requirement for obtaining a patent, inventorship is material.” *Advanced Magnetic Closures, Inc. v. Rome Fastener Corp.*, 607 F.3d 817, 830 (Fed. Cir. 2010) (citation and quotations omitted).

467. The evidence adduced in Table 1 and never disclosed to the USPTO is that Metro North (and possibly others) claim to have created the alleged patented EEPS.

468. These statements indicate that one or more individuals from Metro North (or otherwise) should have been disclosed to the USPTO as an inventor during prosecution of the Patents-in-Suit.

469. On information and belief, given Metro North is a customer of Railware, Mr. Pirtle knew or should have known about one or more of the statements in Table 1.

470. Mr. Pirtle had a duty to name the proper inventors to the USPTO, making his failure to do so but-for material.

471. On information and belief, the USPTO would not have issued one or more claims of the Patents-in-Suit if it found that Mr. Pirtle improperly and inaccurately disclosed the inventors

of one or more claims of the Patents-in-Suit.

472. Mr. Pirtle was an individual participating in the prosecution of the Patents-in-Suit and had a duty of disclosure before the USPTO.

473. The Metro North statements and documents in Table 1 were not provided to the USPTO, indicating an intent to deceive.

474. On information and belief, given Metro North is a customer of Railware, Mr. Pirtle knew or should have known about one or more of the statements in Table 1.

475. Mr. Pirtle over several years filed declarations before the USPTO claiming to be the only inventor.

476. The omission of the foregoing statements and/or documents in Table 1 cannot be a good-faith omission given the several public statements and documents, and given the numerous opportunities Mr. Pirtle had available to disclose the statements in Table 1 from the original provisional filing in October 21, 2013 to the RE'115 Patent issue date on June 28, 2022.

477. This all indicates an intent to deceive.

478. Railware was required to either add the other inventor(s) or alter the scope of the claims to fit Mr. Pirtle's purported contribution.

479. The single most reasonable inference is an intent to deceive the USPTO.

Reservation of Rights

480. Amtrak reserves the right to amend its inequitable conduct grounds as discovery proceeds.

ELEVENTH DEFENSE **(Unclean Hands/Patent Misuse)**

Unclean Hands

481. First, Railware's claims are barred based on unclean hands based on Railware's

inequitable conduct. Amtrak incorporates by reference as set forth herein the Tenth Defense (Paragraphs 452-480).

482. Second, Railware's claims are barred based on unclean hands because it permitted the FRA to allegedly recommend EEPS without advising, for instance, the FRA that EEPS was allegedly patented. Amtrak incorporates its allegations as set forth herein the Third Defense (Paragraphs 352-369).

483. Third, the Court accepted certain statements by Railware in denying the motion to dismiss, such as: "And **according to Plaintiff**, the **addition of a user terminal** to achieve this end '**had never before** been a part of centralized railway control systems.' (Pl. Opp. 7)" (Dkt. No. 39, 19 (emphasis added)) and "**Plaintiff alleges** that the EEPS system does what no other centralized railroad control system **had done before.**" *Id.*, 26 (citations omitted, emphasis added); *see also* Dkt. No. 31, 7 ("Rather, **all control in prior systems** rested solely and exclusively with the remote dispatcher located far from railway workers. Am. Compl., ¶ 14.") (emphasis added), 8 ("This user terminal is explicitly included in the claims and **had never before been a part of centralized railway control systems.**") (emphasis added).

484. Amtrak does not believe those were accurate statements to the Court and thus subject Railware to unclean hands.

485. For instance, as discussed further below Mr. Pirtle admitted that cell phones were well-known and could be used with his purported invention.

486. Moreover, Amtrak's filed IPRs show, for example, that a user terminal was used before the alleged priority of the Patents-in-Suit in a centralized railway control system to control of blocking and unblocking a track by the railway worker. Exhibits 11-13.

Patent Misuse

487. Railware alleges that its “train traffic control systems” Dispatch X has a “suite of tools in or for its train traffic control systems” including EEPS. Amended Complaint, ¶ 2.

488. Railware further alleges that Metro North and LIRR implement EEPS. *Id.*, ¶ 6.

489. To the extent Metro North and LIRR (or another customer or other of Railware)—as a condition of licensing the alleged EEPS patented technology—had to license the “train traffic control systems” Dispatch X, that would be patent misuse.

490. Thus, Railware’s claims are barred based on patent misuse.

TWELFTH DEFENSE
(Prosecution History Estoppel and Disclaimer)

491. Railware’s claims are barred in whole or in part by the doctrines of prosecution history estoppel and/or prosecution disclaimer due to admissions, amendments, arguments, and/or other representations made to the United States Patent and Trademark Office during the prosecution of the applications leading to the issuance of, or related to, for instance, the ’782 Patent, RE’835 Patent, and RE’115 Patent.

492. For instance, Mr. Pirtle acknowledged to the USPTO in the application leading to the RE’115 Patent that mobile phones, text messages, and email were known and could be used with his alleged invention.

Dkt. 7552/85663-Reissue-A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Ross Pirtle

Applicant: RAILWARE, INC.

Reissue Application No.: 16/709,126 filed December 10, 2019 Art Unit: 3993

Original Patent No.: 9,403,545 granted on August 2, 2016 Examiner: Peter English

For: TOOLS FOR RAILWAY TRAFFIC CONTROL

Confirmation No.: 1509

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.132 OF ROSS PIRTLE

Sir:

I, Ross Pirtle, hereby declare as follows:

1. I am the inventor of the invention for which reissue of a patent is sought in the above-identified United States Reissue Patent Application. I have been active in the computer software or programming profession for over thirty years.
2. It is my understanding that each of claims 23, 24, 26 and 36 of the above-identified Reissue Patent Application has been rejected by the United States Patent and Trademark Office (USPTO) for the reason that the specification of the patent for which reissue is sought allegedly does not adequately describe components of, and an algorithm for, a voice interface part.
3. Based on my experience, a person skilled in the art looking to implement the claimed railway control apparatus would not have needed to engage in undue experimentation to implement an algorithm for a voice or speech interface because numerous ready-made voice or speech interface code were available at the time of filing via a DLL (Dynamic Link Library) or

Reissue Application No. 16/709,126
Page 2 of 2 of: DECLARATION UNDER 37 C.F.R. § 1.132

library of routines.

4. For example, as shown in the attached document entitled "C# -Voice/Speech to text -Stack Overflow" (January 2011), the mindset of a programmer when developing or writing code for a software application more than ten years ago was to seek existing code via an API (application programming interface) or library when there is a need for converting voice/speech into text (and for converting text to speech).
5. Further, the attached document entitled ".NET – What is the difference between System.Speech.Recognition and Microsoft.Speech.Recognition?" (June 2010) shows that such DLLs were available and employed both for server code development as well as client code development.
6. In addition, the attached document entitled "Speech Input API for Android" (March 2010) shows that such approach was employed for non-Microsoft platforms as well.
7. Thus, persons skilled in the art, such as application developers, were aware of, and routinely resorted to, DLLs and libraries of routines, via an SDK (software development kit) or otherwise, for implementing the disclosed voice interface part regardless of the platform for which the application was being developed.

I hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: October 8, 2021

/Ross Pirtle/
Ross Pirtle

Exhibit 10, October 8, 2021 Pirtle Decl., ¶¶ 5, 7.

<https://android-developers.googleblog.com/2010/03/speech-input-api-for-android.html>

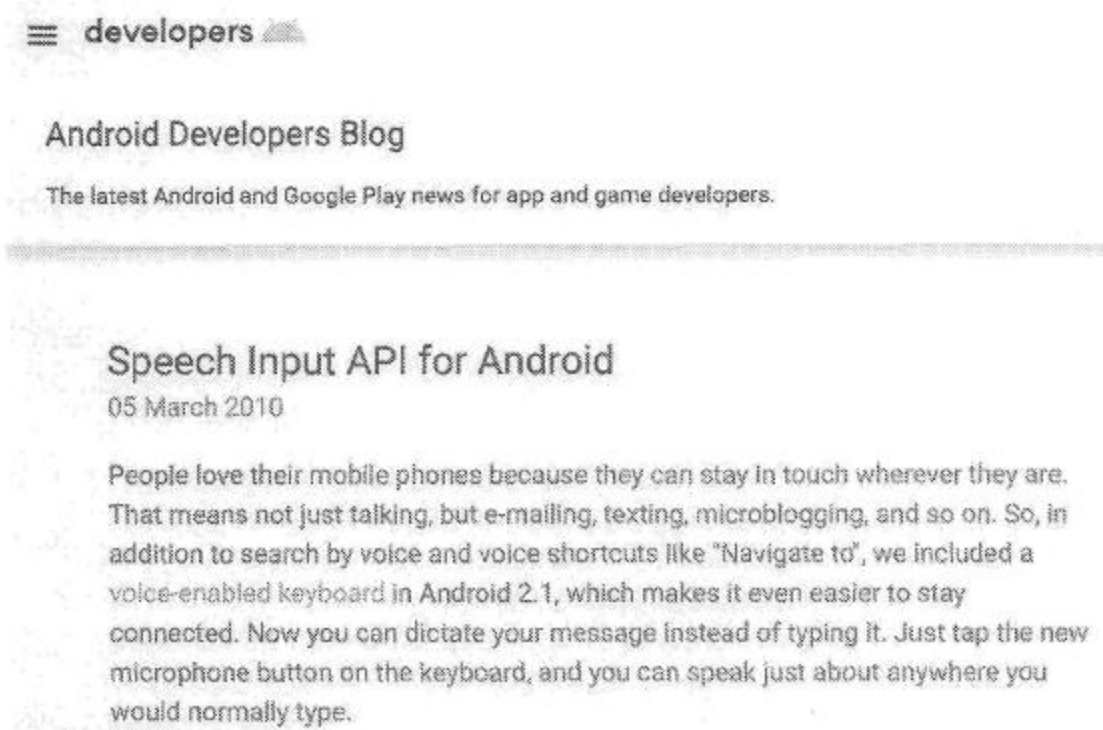


Exhibit 10, October 8, 2021 Pirtle Decl., Speech Input API for Android enclosure (excerpt).

THIRTIETH DEFENSE
(License)

493. To the extent that any of Railware's customers have a license to EEPS and have a contract with Amtrak, Railware's claims for relief against Amtrak are barred by an express and/or implied license.

FORTIETH DEFENSE
(Indemnification / Contribution)

494. To the extent any party owes Amtrak indemnification, contribution, and/or otherwise for the accused products (or otherwise), Amtrak is not liable (in whole or part) for any purported damages.

FIFTIETH DEFENSE
(Unavailability of Injunctive Relief)

495. Railware is not entitled to injunctive relief, as a matter of law, and cannot satisfy the requirements applicable to injunctive relief in any form.

496. Railware is not entitled to any injunctive relief because any alleged injury to Railware is not immediate or irreparable as shown by Railware failing to move for a preliminary injunction, and Railware has an adequate remedy at law.

SIXTIETH DEFENSE
(No Attorney Fees)

497. Railware's claims for costs and attorney fees in this action do not meet the requirements of 35 U.S.C. § 285.

SEVENTIETH DEFENSE
(Reservation of Other Defenses)

498. Amtrak reserves all affirmative defenses under Rule 8(c) of the Federal Rules of Civil Procedure, the Patent Laws of the United States, and any other defenses at law or in equity that may exist now or that may be available in the future based on discovery and further factual investigation in this action.

499. Amtrak provides notice that it intends to rely upon any additional defenses that become available or apparent during discovery, and reserve its right to amend this pleading and to assert such additional defenses or, if appropriate, remove any of the above delineated defenses as discovery proceeds.

AMTRAK’S COUNTERCLAIMS

1. Defendant National Railroad Passenger Corporation d/b/a Amtrak (“Amtrak”) asserts the following Counterclaims against Plaintiff Railware, Inc. (“Railware”) as follows: Amtrak counterclaims for a declaratory judgment that it has not and does not infringe any valid and enforceable claim of the U.S. Pat. No. 9,517,782 (the “’782 Patent”), U.S. Reissue Pat. No. RE47,835 (the “RE’835 Patent”), and U.S. Reissue Pat. No. RE49,115 (the “RE’115 Patent”) (collectively, the “Patents-in-Suit”) and for a declaratory judgment that the asserted claims of the ’782 Patent, RE’835 Patent, and RE’115 Patent are invalid for violation of one or more of the provisions of Title 35 of the United States Code, including 35 U.S.C. §§ 100, 101, 102, 103, 112, and/or 116, and/or are unenforceable or invalid under any judicially-created bases.

THE PARTIES

2. Amtrak is a corporation incorporated under the laws of the District of Columbia, with its principal place of business in the District of Columbia.

3. Upon information and belief, and based on Railware’s allegations in its Amended Complaint, Railware claims it is a corporation organized and existing under the laws of New York with its principal place of business located in Hauppauge, New York.

JURISDICTION AND VENUE

4. These counterclaims arise under the patent laws of the United States, Title 35, United States Code.

5. The jurisdiction of this Court is proper under at least 35 U.S.C. § 271 *et seq.*, and 28 U.S.C. §§ 1331, 1338, 1367, and 2201-02.

6. This Court has jurisdiction over this action pursuant to 28 U.S.C. § 1331 and 28 U.S.C. § 1349, as Amtrak was created by Congress (*see* 49 U.S.C. §§ 24101, *et seq.*)

7. This Court has subject matter jurisdiction—with the limitation as discussed in the Second Defense that Railware lacks standing—over these counterclaims for declaratory judgment

pursuant to 28 U.S.C. §§ 1331, 1338(a), 2201, 2202 based on an actual controversy between Amtrak and Railware, arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

8. Railware has consented to the personal jurisdiction of this Court by commencing its action for alleged patent infringement in this judicial district as set forth by its Amended Complaint.

9. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391 and 1400(b), for purposes of this action only.

10. Railware has sued Amtrak for alleged infringement of claim 5 of the '782 Patent, claim 19 of the RE'835 Patent, and claim 20 of the RE'115 Patent.

11. Accordingly, there is an actual, continuing, and justiciable controversy between Railware, on the one hand, and Amtrak, on the other, concerning the alleged validity, infringement, and enforceability of the '782 Patent, RE'835 Patent, and RE'115 Patent.

FIRST COUNTERCLAIM – DECLARATION OF NON-INFRINGEMENT
('782 Patent, RE'835 Patent, and RE'115 Patent)

12. Amtrak incorporates by reference the allegations of Paragraphs 1-11 of its Counterclaims as if set forth herein.

13. Amtrak has not and is not now infringing any valid and enforceable claim of the Patents-in-Suit under any theory, including directly (either literally or under the doctrine of equivalents), indirectly (whether contributorily or by inducement), and willfully.

14. Amtrak incorporates by reference in its entirety herein its examples of non-infringement set forth in detail above in Amtrak's Sixth Defense (Paragraphs 396-415).

15. An actual controversy exists between Amtrak and Railware over the alleged infringement of the Patents-in-Suit.

16. Amtrak is entitled to a declaratory judgment that it is not now infringing any valid claim and enforceable claim of the Patents-in-Suit under any theory, including directly (either literally or under the doctrine of equivalents), indirectly (whether contributorily or by inducement), and willfully.

SECOND COUNTERCLAIM – DECLARATION OF INVALIDITY
(’782 Patent, RE’835 Patent, and RE’115 Patent)

17. The allegations of Paragraphs 1-16 of the Counterclaims are incorporated by reference as if fully set forth herein.

18. The claims of the Patents-in-Suit are invalid for failure to comply with the conditions for patentability specified in 35 U.S.C. § 101 et seq., including without limitation each requirement in 35 U.S.C. §§ 100, 101, 102, 103, 112, and/or 116.

19. Amtrak incorporates by reference in its entirety herein its examples of invalidity set forth in detail above in Amtrak’s Seventh Defense (Paragraphs 416-430).

20. An actual controversy exists between Amtrak and Railware over the invalidity of the Patents-in-Suit.

21. Accordingly, Amtrak is entitled to a declaratory judgment that the claims of the Patents-in-Suit are invalid.

THIRD COUNTERCLAIM – DECLARATION OF UNENFORCEABILITY
(’782 Patent, RE’835 Patent, and RE’115 Patent)

22. The allegations of Paragraphs 1-21 of the Counterclaims are incorporated by reference as if fully set forth herein.

23. The Patents-in-Suit are unenforceable due to inequitable conduct,

24. Amtrak incorporates by reference in its entirety herein its examples of inequitable conduct set forth in detail above in Amtrak’s Tenth Defense (Paragraphs 452-480).

25. An actual controversy exists between Amtrak and Railware over the enforceability of the Patents-in-Suit.

26. Accordingly, Amtrak is entitled to a declaratory judgment that the claims of the Patents-in-Suit are unenforceable.

DEMAND FOR JURY TRIAL

27. Amtrak respectfully demands a trial by jury as to all triable issues raised by the pleadings.

EXCEPTIONAL CASE

28. This case is an exceptional case under 35 U.S.C. § 285, and Amtrak is entitled to recover from Plaintiffs attorneys' fees and costs incurred in connection with this action.

RELIEF REQUESTED

WHEREFORE, Amtrak respectfully requests the following relief:

A. That all claims against Amtrak be dismissed with prejudice and that all relief requested by Railware be denied;

B. That a judgment be entered that Amtrak has not infringed, does not infringe, does not induce infringement of, and does not contribute to the infringement of, and does not willfully infringe, any valid and enforceable claim of the '782 Patent, RE'835 Patent, and RE'115 Patent;

C. That a judgment be entered declaring the claims of the '782 Patent, RE'835 Patent, and RE'115 Patent are invalid;

D. That a judgment be entered declaring the '782 Patent, RE'835 Patent, and RE'115 Patent are unenforceable due to inequitable conduct or otherwise;

E. That a judgment be entered that this action is an exceptional case within the meaning of 35 U.S.C. § 285 and that Amtrak is entitled to recover its reasonable attorneys' fees upon prevailing in this action;

F. That Amtrak be awarded costs, attorneys' fees and other relief, both legal and equitable, to which it is justly entitled; and

G. That Amtrak be awarded such other and further relief as is just and proper.

Respectfully submitted,

VENABLE LLP

Dated: September 13, 2023

/s/ Ralph A. Dengler

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CERTIFICATE OF SERVICE

The undersigned certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system on September 13, 2023.

/s/ Ralph A. Dengler
Ralph A. Dengler