4910-06-P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Emergency Order No. 34, Notice No. 1]

Docket No. FRA-2025-0885

Emergency Order Establishing Additional Requirements for Ensuring the Safe Operation of Southeastern Pennsylvania Transportation Authority Passenger Trains

SUMMARY: The Federal Railroad Administration (FRA) of the U.S. Department of Transportation has determined that public safety compels the issuance of an Emergency Order (Order) requiring the Southeastern Pennsylvania Transportation Authority (SEPTA) to take immediate action in accordance with this Order to abate the risk of fires and other thermal incidents, and resulting smoke and emergency situations, on SEPTA passenger trains, notably trains comprised of Silverliner IV electric multiple-unit locomotives (Silverliner IV EMUs). This Order establishes additional requirements that SEPTA must meet to continue the safe operation of its passenger trains and, specifically, Silverliner IV EMUs.

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SUPPLEMENTARY INFORMATION:

Introduction

SEPTA provides commuter passenger railroad service in five counties located in the southeastern portion of the Commonwealth of Pennsylvania. Its system extends south of Wilmington, Delaware, and Trenton, New Jersey, and serves a population of over 3.7 million people. SEPTA operates 13 commuter rail lines, covering approximately 300 route miles (and approximately 450 track miles) over rights-of-way owned by SEPTA, the National Railroad Passenger Corporation (Amtrak), and CSX Transportation, Inc. In addition to sharing the railroad right-of-way with freight and other passenger trains, SEPTA's commuter trains operate in tunnels and over viaducts and bridges. All of SEPTA's commuter trains are electrified, typically made up of EMU equipment, and draw electrical current from an overhead catenary system.

In 2025, there have been five instances of Silverliner IV EMUs in commuter service on SEPTA's system catching fire or otherwise experiencing an emergency situation from a thermal event such as an electrical component overheating and associated smoke. Year to date, these incidents occurred as follows:

- February 6, 2025: Car #132 caught fire as it departed Crum Lynne Station in a southbound train on the Wilmington/Newark Line, resulting in the evacuation of the train's approximately 325 passengers directly onto the ballasted right-of-way and the total loss of the car.
- June 3, 2025: Car #442 was found to be emitting smoke from its roof at Levittown Station, while operating in a westbound train on the Trenton Line, resulting in the train's evacuation at the station.

- July 22, 2025: Car #114 caught fire at Paoli Station, while operating in an eastbound train on the Paoli/Thorndale Line, resulting in the total loss of the car and the train's evacuation at the station. One crewmember and one firefighter were injured.
- September 23, 2025: Car #442 experienced a thermal event in the vicinity of Fort Washington Station, while operating in a train on the Lansdown/Doylestown Line, resulting in the train's evacuation at the station. This was the same car involved in the incident on June 3, 2025, and involved the same cause, discussed further below.
- September 25, 2025: Car #396 experienced a thermal event in the vicinity of Gravers Station, while operating in a train on the Chestnut Hill East Line, resulting in the train's evacuation at the station.

As provided below, FRA has determined that public safety compels the issuance of this Order requiring SEPTA to take certain immediate actions to abate the risk of additional fires and other thermal incidents and implement steps to ensure the safe operation of its passenger trains consistent with Federal railroad safety requirements, namely 49 U.S.C. ch. 207 and 49 CFR parts 229 and 238. This Order does not require SEPTA to discontinue operation of Silverline IV EMUs at this time, except to the extent cars shall be removed from service in order to comply with the emergency mechanical inspection required by this Order.

Authority

Authority to enforce Federal railroad safety laws has been delegated by the U.S. Secretary of Transportation (Secretary) to the Administrator of FRA. 49 U.S.C. 103; 49

CFR 1.89(e). Railroads are subject to FRA's safety jurisdiction under the Federal railroad safety laws. 49 U.S.C. 20101, 20103. FRA is authorized to issue emergency orders where "an unsafe condition or practice, or a combination of unsafe conditions and practices, causes an emergency situation involving a hazard of death, personal injury, or significant harm to the environment." 49 U.S.C. 20104. Emergency orders may immediately impose "restrictions and prohibitions . . . that may be necessary to abate the situation." *Id.*

Background

Silverliner IV EMUs and Passenger Train Safety Requirements

SEPTA operates approximately 225 Silverliner IV EMUs, which SEPTA acquired from General Electric between 1974 and 1976. EMUs are both locomotives and passenger cars, self-propelled by electric motors and also designed to be occupied by passengers. Accordingly, EMUs are subject to the requirements of the Locomotive Inspection Act (49 U.S.C. ch. 207), FRA's Locomotive Safety Standards (49 CFR part 229), and FRA's Passenger Equipment Safety Standards (49 CFR part 238). EMUs may operate individually but typically operate semi-permanently coupled together as a pair or triplet from a control cab. During peak commuting hours, multiple pairs or triplets of EMUs, or a combination of both, are typically operated together as a single passenger train, without a conventional locomotive as a primary means of motive power.

EMUs are subject to an inspection cycle under FRA's Locomotive Safety Standards (49 CFR part 229), including a daily inspection (§ 229.21), a 33-day inspection (§ 229.23), and a 92-day inspection (§ 229.23).

Locomotives that develop defects en route, such as EMUs with traction motor malfunctions, are non-compliant for passenger service. Such locomotives may be used in repair service.[1] Specifically, while utilizing its propelling motors, such a locomotive is permitted to move only until the earlier of: (1) the next calendar day inspection, or (2) the nearest forward point where the repairs necessary to bring it into compliance can be made, but only if a qualified person determines that it is safe to move the locomotive and the maximum speed and other restrictions necessary for safely conducting the movement and other conditions are met. Critically, when the locomotive is using its propelling motors, a railroad must repair the defective condition no later than the next day it is subject to a daily inspection, before being placed in service.

Under FRA's Passenger Equipment Safety Standards, an EMU must also receive a daily exterior mechanical inspection as passenger equipment (49 CFR 238.303) and a daily interior mechanical inspection as a passenger car (§ 238.305), in addition to undergoing periodic mechanical inspection (§ 238.307) and other inspection and maintenance requirements. These requirements cover electrical components. Each passenger railroad must also have an inspection, testing, and maintenance (ITM) plan that establishes inspection procedures, intervals, and criteria for the passenger equipment it operates (§ 238.107), and it must have developed and adopted a training, qualification, and designation program for its employees and contractors that perform any of the required inspections, tests, or maintenance (§ 238.109).

Factors Contributing to Fires and Other Thermal Incidents and SEPTA's Response

[1] Section 229.9 permits using a locomotive for the purpose of repairs if a qualified person determines that it can be moved safely with any necessary restrictions and a tag is properly prepared and shared.

While the investigation remains ongoing into the causes of these Silverliner IV EMU fires and thermal incidents, SEPTA has identified many of the factors that have allowed five serious incidents of a similar nature over a short period of time. SEPTA met with FRA and representatives of the National Transportation Safety Board (NTSB) on August 8, 2025, to address thermal incidents since February 2025.[2] FRA requested SEPTA submit an overview of SEPTA's rolling stock, background on the thermal incidents and fires, and a mitigation plan to address the issues and contributing factors identified by FRA and SEPTA as direct or contributing causes. SEPTA submitted a written response to FRA's request on August 22, 2025.

SEPTA's response focused on the three incidents it identified up to that date as requiring the evacuation of passengers. Those incidents occurred on February 26, June 3, and July 22, 2025. SEPTA determined that the root cause of the fire on February 26 was an arc between traction motor wires, though the reason for the insulation breakdown has not been determined.[3] SEPTA determined that the root cause of the incident on June 3 was a stuck pilot motor in dynamic brake mode, which caused a rooftop brake resistor to overheat and adjoining fiberglass air duct to overheat and emit smoke. However, SEPTA had not determined the root cause of the July 22, 2025 fire, as of its August 22, 2025 submission to FRA.[4]

SEPTA outlined a mitigation plan that included identification and removal of vehicles from service as soon as precursor events are identified; improving operational

[2] This meeting followed prior meetings with FRA, in addition to individual FRA Motive Power & Equipment and Operating Practices division inspections.

[3] NTSB is investigating this incident and will officially determine its probable cause.

[4] The fire originated under the car and remains under investigation by NTSB and FRA.

responses to failures and thermal events to reduce risk to passengers, the crew, and the equipment; determining the root cause of recent thermal events; and evaluating equipment to identify any deficiencies that could contribute to a thermal event. SEPTA's mitigation plan also included action items for relevant departments within SEPTA as well as action timelines, including immediate actions, short-term actions, and long-term actions. In addition, SEPTA submitted to FRA evidence of notices it has distributed to its employees, highlighting policies and procedures that employees are required to implement to mitigate the risk of future fires and other thermal incidents. FRA finds that SEPTA's proposed mitigation plan identifies many of the problems faced by the railroad. Nonetheless, after SEPTA's proposed strategies to address the identified needs, two more incidents occurred in one week in September 2025.

These two most recent incidents point to failures in the implementation of SEPTA's proposed mitigation plan, or the inadequacy of the mitigation plan itself, or both, and highlight additional concerns that SEPTA must address. The very same car that experienced a thermal event on June 3, 2025 (Car #442) experienced another thermal event on September 23, 2025. Based on preliminary information available to FRA, this car was evacuated on September 23 because an incorrect replacement part was installed after the June 3 incident.

The most recent Silverliner IV EMU thermal incident, on September 25, 2025, further demonstrates that SEPTA's efforts to mitigate fire safety risks are inadequate. Car #396 was evacuated following a traction motor fire. FRA investigators have found that multiple SEPTA train crews failed to report and respond to a known defect, as required under 49 CFR 229.9 and 238.17, when they observed a tractor motor indicator

light signifying a detected problem. Based on information available to FRA, the indicator light was first visible on September 24, the day before the incident, and train crews failed to report the defect. Overnight, when the car was inspected by SEPTA's mechanical department personnel, the light remained visible, yet the issue causing the indicator light to activate was not addressed. The next day, the crew on duty also failed to take any action to report or address the indicator light, and the traction motor subsequently caught fire while the car was in service. Fortunately, the train's passengers were safely evacuated at the station, but this and other incidents could have necessitated passenger evacuation directly onto the railroad right-of-way, as experienced on February 6, 2025, and under even less favorable or secure circumstances, such as in a tunnel or on an elevated structure, which present greater challenges for evacuation and rescue.

This September 25 incident was clearly preventable and, most concerning to FRA, it points to a potentially larger problem of SEPTA personnel showing disregard for the serious risks posed by defects on Silverliner IV EMUs, despite ample evidence that particular care is needed to inspect and maintain older equipment. SEPTA ultimately has responsibility for the safety of the passenger equipment on its system, and SEPTA's management is responsible for ensuring and overseeing proper repairs and inspections by a workforce it equips, trains, and supervises.

Finding and Order

Despite SEPTA's remedial actions to date, the recurrence of serious fires and other thermal events on Silverliner IV EMUs, as well as the gravity of the hazards presented, including cars destroyed by fire, passenger evacuations, and injuries to a crewmember and a firefighter this year, poses an imminent threat to safety, including the

threat of serious harm to SEPTA's passengers, SEPTA's trains crews and other personnel, and emergency responders. FRA has concluded that SEPTA's maintenance and operation of its passenger rail equipment requires additional oversight and corrective action. The pattern of failures persuades FRA that reliance alone upon the prior assurances and cooperation of SEPTA is not possible, nor in the interest of public safety. Therefore, as the Acting Administrator of FRA, I find that the unsafe conditions, as well as the practices discussed above, create an emergency situation involving a hazard of death or injury to persons.

Accordingly, pursuant to the authority of 49 U.S.C. 20104, delegated to me by the Secretary, it is **ORDERED** that SEPTA must immediately ensure that each train crew is provided and follows procedures specifying actions the crew shall take to identify and report any equipment defect or failure on a train the crew is operating in service (including, but not limited to, a propulsion system/traction motor fault indication light). The procedures shall require each train crew to provide notification to SEPTA's mechanical department, and SEPTA's mechanical department must obtain sufficient information from the crew when any defect or failure is reported, to determine if the car should be immediately removed from service. SEPTA shall remove any car from service in case of doubt. SEPTA must also immediately complete a stand-down with all mechanical and transportation department employees, including an explanation of the requirements of this Order and delivery of a written notice in person to each employee that provides the dates, locations, and consequences of the five fires and thermal incidents that have occurred in 2025.

It is further **ORDERED** that SEPTA shall take the following actions no later than seven calendar (7) days after the date of this Order, unless otherwise specified.

1. Develop a plan to determine the direct and contributing causes of each fire or thermal incident that has occurred in 2025 and identify the root causes, circumstances, personnel, funding, or other conditions that have caused the fires and thermal incidents to occur in this period. SEPTA shall implement this plan and provide FRA with a written report of its findings no later than October 30, 2025.

2. Prepare and submit to FRA for approval an emergency mechanical inspection schedule of each Silverliner IV EMU. The schedule shall require that each Silverliner IV EMU in SEPTA's fleet be removed from service to complete a comprehensive inspection including, but not limited to, high-voltage control systems, propulsion system, and dynamic brake system, HVAC system, components and elements of safety and warning systems, high- and low-voltage cables, harnesses and connectors, and the condition of terminals and lugs, as well as any associated peripheral systems. The schedule shall prioritize cars into a number of groups and remove the first group from service no later than the date the emergency mechanical inspection schedule is submitted to FRA. The scheduled inspections shall be completed within 30 calendar days of the date of this Order.

3. Review its inspection, testing, and maintenance (ITM) plan required under § 238.107 and submit the plan to FRA with proposed amendments sufficient to ensure that mechanical failures of the type leading to fires or thermal incidents will be detected and repaired.

4. Update, as needed, SEPTA Supplemental Division Notice Number 7-20C and any other relevant operating rule to implement the requirements of this Order.

5. Require by issuance of a written notice to train crews that every engineer report any sluggish or poor performance of braking or acceleration or any anomalous vehicle behavior to the dispatcher within 5 minutes of the event.

6. Complete a stand-down and debriefing with every mechanical employee involved with the inspection, troubleshooting, maintenance, or repair of Silverliner IV EMUs to include review of all fire and thermal incidents, the known direct and indirect causes, and to solicit feedback from the employees to identify improvements that SEPTA can make in its maintenance programs and practices.

7. Conduct random quality audits of the performance of the mechanical department's completion of repair and maintenance work items. Audits must occur every day and cover more than one shift each day.

It is further **ORDERED** that within 30 days of this Order, SEPTA must take the following actions:

8. Complete all actions under the emergency mechanical inspection schedule that has been approved by FRA, including inspection of all Silverliner IV EMUs for precursor conditions that increase the likelihood of a fire or thermal incident.

9. Install thermal protection circuits at all critical locations on every Silverliner IV EMU to shut down propulsion and auxiliary circuits if higher than normal operating temperatures are detected.

10. Document all inspections and repairs made to the Silverliner IV EMU fleet and present a graphical depiction of significant defects identified to the employees performing the work to clearly show to the employees leading and trailing indicators.

11. Review all technical documents such as repair procedures, part lists, bills of materials, maintenance and modification instructions, tooling, and inventory requirements, and revise as needed to ensure all are up to date.

12. Ensure that the mechanical department reviews and updates employee training requirements and proficiency tests to address any deficiency identified in the implementation of this Order.

13. Complete, or cause to be completed, a comprehensive update of all root cause analyses begun in response to fire or thermal incidents and develop a corrective action plan to prevent their recurrence and implement continuous monitoring of mechanical systems performance.

14. Comply with all requirements of the revised ITM plan submitted to and approved by FRA.

I direct that a copy of this Order be posted in a public location at the railroad's offices and a copy of the Order be provided to each employee of the railroad within 24 hours of the date of issuance. FRA investigation of SEPTA is ongoing, and FRA may take further steps to assure public safety. These steps may include additional notice(s) under this Order, civil penalties against SEPTA (individuals may be liable for civil penalties for willful violations of the Federal railroad safety laws and regulations); or disqualification of individuals from performing safety-sensitive functions.

Relief

SEPTA may only obtain full relief from this Order by obtaining approval from FRA that it has met one of the following conditions:

I. Document and certify completion of all the above actions required by this Order within the timeframes provided. If any action required by this Order is inconsistent with optimal safety under particular operating conditions or if any action is not possible for reasons outside of SEPTA's control, SEPTA may document why the particular action should not be required in lieu of completing that action when requesting relief from this Order. FRA will determine in its discretion if justification for not completing a required action, in conjunction with documentation of completed actions, is sufficient to approve SEPTA's request for relief.

OR

II. Remove Silverliner IV EMUs from service.

SEPTA shall submit all required information and certifications to FRARRSMPE@dot.gov and inform the Acting FRA Administrator in writing when it believes all of the requirements of this Order have been met. SEPTA must specifically obtain approval from the Acting FRA Administrator that it has either met all conditions of this Order, or certify that it has removed the Silverliner IV EMUs from service. FRA will conduct verification inspections and will inform SEPTA in writing if it finds SEPTA is not in compliance with this Order. If FRA does not lift the Order in response to SEPTA's request for relief, FRA's written response will specifically describe what additional measures need to be taken to meet all the requirements of this Order.

Partial Relief

For FRA to consider granting partial relief from this Order, SEPTA must submit a written plan for approval to FRARRSMPE@dot.gov that provides a detailed explanation of the partial relief sought, the specific measures that SEPTA proposes to ensure the safety of any operations to be permitted, and the period of time for which such partial relief is sought.

Any partial relief provided will remain subject to SEPTA's compliance with its approved written plan to provide safety measures, limitations on operations, and time periods for each component part of the partial relief. Failure to comply with any material provision of the approved plan will result in the partial relief being revoked.

Penalties

Any violation of this Order or the terms of any approved written plan pursuant to this Order subjects the person (railroad carrier) committing the violation to a civil penalty of up to $36,439 for ordinary violations and $145,754 for aggravated violations for each day the violation continues. 49 U.S.C. 21301; 88 FR 89551 (Dec. 30, 2024). Any individual (railroad personnel) who willfully violates a provision stated in this Order is subject to civil penalties under 49 U.S.C. 21301. In addition, such an individual (railroad personnel) whose violation of this Order demonstrates the individual's unfitness for safety-sensitive service may be removed from safety-sensitive service on the railroad under 49 U.S.C. 20111.

If appropriate, FRA may pursue criminal penalties under 49 U.S.C. 522(a) and 49 U.S.C. 21311(a), as well as 18 U.S.C. 1001, for the knowing and willful falsification of a report required by this Order. FRA may, through the Attorney General, also seek injunctive relief to enforce this Order. 49 U.S.C. 20112.

Effective Date and Notice to Affected Persons

This Order takes effect at 12:01 a.m., EDT, on October 2, 2025, and applies to all employees and agents of SEPTA and all operations and equipment on SEPTA's system. Notice of this Order will be provided by publishing it in the *Federal Register*. Copies of this Order will be sent by email prior to publication to Scott Sauer, General Manager, SEPTA, at ssauer@septa.org.

Review

Opportunity for formal review of this Order will be provided in accordance with 49 U.S.C. 20104(b) and 5 U.S.C. 554. Administrative procedures governing such review are found at 49 CFR part 211. *See* 49 CFR 211.47, 211.71, 211.73, 211.75, and 211.77.

Issued in Washington, DC, on October 1, 2025.

Robert Andrew Feeley

Robert Andrew Feeley,
Acting Administrator.