



# National Transportation Safety Board

Washington, D.C. 20594  
**Safety Recommendation**

Date: February 8, 1988

In reply refer to: R-88-1 through -9

Mr. Graham Claytor, Jr.  
 Chairman and President  
 National Railroad Passenger Corporation  
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 Washington, D.C. 20001

About 1:16 p.m., eastern standard time, on January 4, 1987, northbound Conrail train ENS-121 departed Bay View Yard at Baltimore, Maryland, on track 1. The train consisted of three diesel-electric freight locomotive units, all under power and manned by an engineer and a brakeman. Almost simultaneously, northbound Amtrak train 94 departed Pennsylvania Station in Baltimore. Train 94 consisted of two electric locomotive units, nine coaches, and three food service cars. In addition to an engineer, conductor, and three assistant conductors, there were seven Amtrak service employees and about 660 passengers on the train. <sup>1/</sup>

At this time, the Edgewood block station operator requested that switch 12 at Gunpow, a remote-controlled interlocking, be lined for straight through movement for train traffic on track 2, on which Amtrak train 94 was operating. The wayside signal aspects displayed for train 94 approaching Gunpow on track 2 were "clear" at both the distant (81-2) and home (2N) signal locations, and the wayside signal aspects displayed for train ENS-121 on track 1 was "approach" at distant signal 816-1 and "stop" at the home signal 1N. Automatic control systems in both trains should have displayed aspects corresponding to those of the wayside signals, except that the cab signals of train ENS-121 should have displayed a "restricting" aspect beginning 4,450 feet south of signal 1N.

About 1:30 p.m., Conrail train ENS-121 entered switch 12 onto track 2 causing the switch to realign for movement from track 1 to track 2. When train ENS-121 entered switch 12, the aspect of signal 2N for track 2 changed from "clear" to "stop." The engineer of train 94 apparently recognized that the aspect of signal 2N was "stop" and put his train into emergency braking. However, the train was traveling between 120 and 125 mph and could not be stopped before colliding with train ENS-121. The engineer and 15 passengers aboard train 94 were fatally injured; 174 other persons aboard the trains received minor to serious injuries. The rear Conrail locomotive unit, both Amtrak locomotive units, and the head three passenger cars were destroyed. The middle Conrail locomotive unit was heavily damaged, and the rear nine cars of the passenger train sustained varying degrees of damage.

<sup>1/</sup> For more detailed information, read Railroad Accident Report--"Rear-End Collision of Amtrak Passenger Train 94, The Colonial, and Conrail Train ENS-121, on the Northeast Corridor, Chase, Maryland, January 4, 1987" (NTSB/RAR-88/01).

Although classed by Amtrak as a conventional train, train 94 was ordinarily permitted to operate at maximum authorized speeds of up to 125 mph because it was powered by AEM-7 locomotives and consisted of Amfleet-type cars. On January 4, 1987, however, train 94 included more cars than usual to accommodate the heavy holiday weekend traffic. One of the extra cars was an older Heritage-type car that was restricted to 105 mph, a fact established in the timetable.

Amtrak officials testified that the 105-mph speed restriction on the Heritage-type cars was imposed only because of ride quality and maintenance considerations, and they asserted that these cars could be operated safely at 125 mph. However, at 125 mph the conventional trucks of these cars were beyond their lateral stability and curve performance limits; this could result in truck hunting and inadequate ability to negotiate curves--situations that could result in derailment. The National Transportation Safety Board believes that these safety-related performance limitations probably were a factor in Amtrak's decision to restrict the speed of trains with Heritage cars.

The conductor stated he understood his train was restricted to 105 mph and had so informed the engineer before train 94 left Washington. Amtrak's top corridor operating officers testified that the conductor was required to inform the dispatcher of the speed restriction. However, the conductor did not inform the dispatcher, and, therefore, the dispatcher was unaware of the fact that train 94 was restricted to a maximum of 105 mph. The Safety Board was unable to establish whether the conductor failed to perform an absolute and thoroughly-understood requirement or had simply followed a customary practice of assuming that the dispatchers already knew when trains were restricted. However, Amtrak has not provided the Safety Board with any written procedures establishing a process by which conductors notify dispatchers of such restrictions. Further, for the conductor to notify all six dispatchers on the corridor between Washington and New York, he would have had to telephone them before leaving Washington. If the dispatchers' shift changed while the train was en route, the information would have had to have been passed on to the dispatchers coming on duty.

This action places a substantial burden on the conductors. It would be preferable to have a supervisor at Washington or New York provide the conductor and the dispatcher with the train manifest detailing speed restrictions. To the extent that multiple dispatchers are responsible for the movement of a restricted train, a procedure should require that each dispatcher is informed before the train enters his assigned territory. Given the density of train operations and the stress placed on the on-time performance on the corridor, the Safety Board believes that Amtrak should have a formal procedure through which personnel involved in the operation of restricted trains are provided written notice of speed restrictions.

Unaware of train 94's restrictions, the dispatcher put the train out of Washington just ahead of the late 125-mph Metroliner 112, despite the fact that train 94 had to make a stop en route to Baltimore and the Metroliner did not. Both train 94 and Metroliner 112 were routed through on track 2 with the Metroliner running only 4 minutes behind train 94. This procedure was continued for at least 32 miles, to Perryville and probably beyond. The dispatcher and the block station operators at Edgewood and Perryville were concerned with "double-barrelling" the two southbound Amtrak trains down the 7.7-mile 2-track section

between Bush and Gunpow after the northbound passenger trains cleared that section. If trains 94 and 112 could maintain maximum speed and were not delayed, they would be past Bush well before the southbound trains arrived. With this strategy, the southbound trains would not be stopped or slowed, and they could continue to Baltimore.

In contrast, not much planning was done regarding train ENS-121. Based on the Edgewood operator's suggestion, the dispatcher decided to move train ENS-121 from Gunpow to Magnolia Siding, about midway along the 2-track section, after trains 94 and 112 passed. However, train ENS-121 could not leave Magnolia until the southbound train using track 2 passed that point. Since the Conrail train did not have automatic train control (ATC), running it to the converging interlocking ahead of the passenger trains created a potential conflict between the trains and set the stage for the accident. Nonetheless, the Conrail train was dispatched from Bay View as train 94 was leaving the Baltimore station, only 3.8 miles to the south.

Although the dispatcher's decision was not a violation of Amtrak rules, the Safety Board believes it was not as well planned as it might have been. Amtrak needs to provide sufficient procedures and training for its dispatchers to recognize the desirability of dispatching trains not equipped with safety backup devices to avoid their conflicting with high-speed passenger trains at interlockings.

Amtrak's timetable indicated that 70 mph was the maximum authorized speed for Conrail's 5000-5059 series locomotive units on the Northeast Corridor. For "light" multiple-unit diesel-electric locomotive units of this series without cars, the maximum speed was 60 mph. However, according to Amtrak's corridor timetable No. 4, the maximum track speed for freight trains on track 1 was 50 mph. The Amtrak general superintendent testified at the Safety Board's public hearing on March 30, 1987, that he considered the 60-mph light-locomotive restriction to supersede the 50-mph track speed, although he also testified that he considered train ENS-121 to be a freight train. This testimony was contradicted later by the statement of the Amtrak general manager of transportation that train ENS-121 was not a freight train and was subject to passenger train track speeds and could operate as fast as 60 mph. Because of the confusion and complexity of these rules, the Safety Board does not believe it is reasonable to expect engineers to determine the proper speed restrictions when two senior Amtrak operating officials cannot agree on their interpretation. The Safety Board believes that all rules, especially those of such importance as speed restrictions, must be understandable to those to whom they apply and must not be subject to differing interpretations.

Conrail's timetable rules also limited a light locomotive consist to 60 mph, but included a provision that maximum track speed "must not be exceeded;" Amtrak had no such provision in its timetable. Although the Conrail engineer apparently believed that the 60-mph limit applied on the corridor, he operated his train at 65 mph between Bay View Yard and Gunpow, a clear violation of the speed restriction according to the timetable and to Amtrak management.

As far as the Safety Board has been able to determine, the engineer of train 94 had not been given an order to exceed the train's 105-mph limit, and it was his responsibility to comply with the speed restrictions. It could not be established if the engineer decided deliberately to operate on the regular schedule because he assumed that the dispatcher had put his train ahead of the late Metroliner and

wanted him to operate at the maximum speeds, or if he had failed to notice that his train included a Heritage-class car which restricted his speed, or if he, indeed, had been informed of the speed restriction by the conductor. Once he left Baltimore, he again began exceeding the authorized speed for his train. Approaching Gunpow, the speed recorder tapes indicated that the train reached 128 mph and had already made up 4 minutes on his schedule. If the engineer had checked his indicated speed against the marked mile posts north of Washington, as required by Amtrak rules, he should have been aware of the actual speed of his train thereafter.

If train 94 had been where it actually was when signal 2N changed to "stop," but was moving at 105 mph instead of 120 to 125 mph, the collision could not have been avoided, but the impact speed would have been greatly reduced. As it was, train 94 struck train ENS-121 at about its maximum authorized speed of 105 mph.

The Safety Board's investigation revealed that Amtrak had only a very limited program of supervisory oversight of its Northeast Corridor train service employees. Nevertheless, Amtrak's vice president of operations and maintenance testified at the public hearing that Amtrak's conductors, not its supervisors, were responsible for checking employees' fitness for duty.

The Safety Board has repeatedly pointed out the deficiencies in a policy of relying on train crewmembers to police their performance and fitness, even when trains carry freight (not passengers), are operated at moderate speeds, and are separated by substantial distances. The Safety Board believes that this policy does not provide an acceptable level of protection for railroad employees and the public traveling on the corridor, where Amtrak trains are scheduled as frequently as every 1/2 hour, may be operated only a few minutes apart, are often crowded with people, and are operated at high speeds. Proper supervisory oversight is heightened by the fact that engineers on Amtrak corridor trains are alone on their locomotives and isolated from other crewmembers and can defeat the action of the safety backup systems. The Safety Board believes that Amtrak must provide more effective supervisory oversight of its employees.

The Amtrak vice president testified that transferring the responsibility for checking fitness from the conductors to the supervisors would require the addition of 150 supervisors "nationwide." If that were a valid argument, the cost of remedying the problem could be high. However, in the high-speed territory on the Northeast Corridor between New York and Washington over which Amtrak has complete responsibility, Amtrak traincrews report to fewer than 12 locations. To properly supervise these locations and the territory between them would require a fraction of the number of supervisors cited by the vice president. Moreover, the Safety Board is not satisfied that Amtrak lacks an adequate operational supervisory force to carry out the Safety Board's recommendation, but rather the Safety Board is convinced that deficiencies in Amtrak's oversight supervisory policies and procedures are the reason it has not done what the Safety Board has asked. This conclusion is supported by the large number of senior Amtrak supervisors who were on hand at Chase in a relatively short time after the accident, but failed to take a number of appropriate actions.

At the time of the accident, Amtrak had a safety department headed by a director of safety who reported to Amtrak's vice president of operations and maintenance. This organizational structure should have enabled Amtrak's safety department to be equal to and not subordinate (as it was) to Amtrak's line departments, including transportation, maintenance of way, and maintenance of equipment, which were also under the vice president of operations and maintenance.

Further, with such an arrangement, the safety department should have been able to provide safety input to the policies, methods, and procedures employed by the line departments and into all facets of Amtrak's operations including accident and injury prevention, job safety analysis, employee training, rules enforcement, train operations, equipment design and modification, and passenger safety. To be effective, safety department personnel should have appropriate backgrounds and expertise. They would also have authority at least equal to that of their counterparts in the other departments and would have to develop close working relationships with those individuals. Thus to succeed, a broad-based organization-wide approach to safety requires the establishment of firm policies by the vice president of operations and maintenance to whom the various departments were responsible.

According to the general superintendent of the Philadelphia division involved in this accident, the division had its own independent safety program. Safety supervisors from Amtrak's safety department were assigned to this program. He described the program as the whole safety "package" that covered everything from "A to Z." The safety supervisor assigned to the division, who was on site shortly after the accident, testified that before 1985, he had been a substation electrician. There was no evidence that he had received training or experience in safety work in general, or operational safety in particular. According to the safety supervisor, he had no involvement in train operations, efficiency testing, operating rules training, or observing the fitness of Conrail crews on the corridor. Subsequently, the division general superintendent testified that he thought that anything related to safety was the safety supervisor's responsibility and also that compliance with signals was a safety matter. However, he also stated that compliance with operating rules, speed restrictions, and signal aspects were the responsibility of the transportation department and not the safety department. The Safety Board believes that a safety department should be concerned with such aspects of the railroad and that its safety supervisors should be qualified to address such issues.

The Safety Board's investigation left little doubt that Amtrak's safety department was primarily involved in preventing employee injuries and implementing emergency response and other educational programs with outside organizations. Although these are important issues, Amtrak's safety department should have also been concerned with promoting operational safety. The Safety Board believes that the effectiveness of safety personnel can be greatly enhanced when they report to a director of safety and not to division transportation officers.

The Safety Board's experience with Amtrak since its formation, and again in connection with the investigation of this accident, suggests that safety has not had sufficient management support, and thus, it has not had the impact it should have on train operations, passenger safety, enforcement of operating rules and restrictions, or the purchase and maintenance of train equipment. The Safety Board believes that, if Amtrak management had been more sensitive to safety, it would have been more responsive to past Safety Board safety recommendations, particularly those that addressed the need for automatic safety backup devices on corridor trains and the elimination of the injury-producing features of its cars.

The Safety Board found little evidence that even Amtrak's transportation department supervisors actively monitored crew compliance with signal aspects and speed restrictions. There was no record that Amtrak performed operational efficiency checks on the engineer of train ENS-121. Despite the fact that the engineer of train 94 worked a round trip over the corridor daily, Amtrak's records

indicated he had been subjected to operational checks on the average of only four times annually during the 2 years preceding the accident; only half the checks included speed checks. In 1985, he had been checked twice on his compliance with a "clear" signal aspect, but during that year and 1986, he was never checked on his compliance with a restrictive signal aspect. The Safety Board believes that compliance with a "clear" signal aspect is not a meaningful signal check.

In its 1984 safety assessment of Northeast Corridor operations, <sup>2/</sup> the Federal Railroad Administration (FRA) found that operational efficiency checking appeared to be "non-existent" and that Amtrak imposed no efficiency checking requirements on its operating officers. The FRA report also stated that efficiency checks that would interfere with schedule requirements were not conducted, and some Amtrak supervisors stated they believed they would be disciplined if checks delayed a train. In 1985, Amtrak responded to this evaluation by stating that it intended to increase efficiency checks, but would not require that a specific number of checks be conducted in a fixed period of time. It was about this time, according to Conrail, that Amtrak relaxed its opposition to Conrail efficiency checks on the corridor. At the time of the Safety Board's public hearing, the Philadelphia division general superintendent stated that he was requiring his operating supervisors to perform one speed check and one signal check monthly. It is not known if this requirement was in force at the time of the accident. Since Amtrak continues to deny Conrail permission to make restrictive signal checks, the Safety Board believes that the required Amtrak supervisory signal checks are probably of the "clear" aspect type.

At the time of this accident, Federal regulations required all train crewmembers, dispatchers, operators, and other employees subject to the Federal Hours of Service Act to submit specimens for toxicological testing "as soon as possible" after a major accident that resulted in fatalities and in which they had direct involvement. The regulations required that the railroads make "every reasonable effort to assure that samples are provided" for testing. Amtrak had included this testing requirement in their operating rules and had instructed supervisors and employees on its provisions and the proper use of the testing equipment. All Amtrak crewmembers as well as the dispatcher and block station operators were required to be tested, and they stated that they expected to be tested.

Amtrak's safety supervisor and assistant vice president of transportation arrived at the site 30 minutes and 1 hour 25 minutes after the accident, respectively. Three Amtrak superintendents were there by 3:30 p.m. and the general superintendent arrived an hour later. Thus, within 3 hours of the accident, at least six Amtrak supervisors were on the scene. Amtrak officials testified at the public hearing that because the accident occurred on Amtrak and all involved were subject to Amtrak rules and supervision, it was Amtrak's responsibility to enforce the testing requirement. From the time the first supervisors arrived at the scene, each crewmember should have been monitored and taken promptly to provide specimens for testing.

<sup>2/</sup> Federal Railroad Administration, 1984 Safety Assessment, National Railroad Passenger Corporation, Northeast Corridor, December 1984.

Of the seven Amtrak employees who were subject to the testing requirements, only the Edgewood block station operator was taken to a hospital by a supervisor for testing. Amtrak officials did not accompany the other employees to hospitals to ensure that specimens were furnished. One Amtrak assistant conductor did have a urine specimen taken that was forwarded to the Federal Aviation Administration's Civil Aeromedical Institute for testing, although the stipulated procedures were not followed.

Although a fire department official testified that he detected a strong odor of alcohol on the breath of the flagman of train 94 not long after the accident, he observed nothing else about the flagman that might have indicated he was intoxicated. Further, no other crewmembers or passengers corroborated the fire department official's testimony. In the event the conductor was incapacitated, the flagman would have been in charge of the crew of train 94. In that position, he would have had the responsibility for the train's passengers. Because of the importance of the position the flagman may have held and because he was a crewmember aboard a train involved in an accident, the Safety Board believes that testing of the flagman was particularly important. Because specimens for testing were not taken until several days after the accident, it is not possible to prove or disprove the testimony of the fire official concerning the flagman's condition.

Similarly, the Safety Board could not establish if the other crewmembers of train 94 and the dispatcher were free of alcohol and drugs because Amtrak's ranking officials at the accident site decided their performance had no bearing on the accident. The Amtrak's assistant vice president of transportation circumvented his own company's rule and the Federal regulations when he decided not to have these persons submit to testing.

The Safety Board is deeply concerned about the failure of Amtrak supervisors to comply with the intent of the FRA regulations for postaccident toxicological testing and about FRA's inability to achieve timely compliance with its regulations. The Safety Board is pleased that Amtrak has now implemented all parts of the FRA's regulations, including reasonable cause testing. However, the Safety Board is not convinced that the compliance deficiencies that occurred in this accident will not reoccur.

The failures to obtain, on a timely basis, specimens for toxicological testing from all employees who may have had a role in this and in other recent accidents such as the derailment of the Norfolk and Western Railway Company passenger excursion steam train near Suffolk, Virginia, 3/ and the collision of the two Southern Pacific Transportation Company trains near Yuma, Arizona, on June 15, 1987, suggest there may be a need for improvements in the FRA alcohol and drug rules.

As a result, the Safety Board has undertaken an assessment of the implementation of the FRA rules on alcohol and drug use in the railroad industry. The Safety Board has been reviewing the results of the FRA program and the specific components of the rules that may need to be strengthened. Postaccident testing and reasonable cause testing is being monitored and evaluated. The Safety

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3/ Railroad Accident Report--"Derailment of Steam Excursion Train of the Norfolk and Western Railway Company, Train 611 West, Suffolk, Virginia, March 15, 1986" (NTSB/RAR-87/05).

Board believes that the reasonable cause testing provision, for example, may provide the greatest deterrence to illegal alcohol and drug use. Therefore, the Safety Board is evaluating the extent to which railroads are voluntarily implementing this section. Additionally, the Safety Board is reviewing the reporting criteria and the number of tests actually undertaken under the FRA rules. Further, the Safety Board is reviewing the programs of several major railroads to identify those that have been successful in combatting this serious safety issue.

Following this accident, the Safety Board issued recommendations to Amtrak recommending that it require the use of devices on all locomotives operating on the corridor to automatically control the train as required by the signal, and until this was accomplished, require operators of locomotives not so equipped to stop and receive permission before proceeding onto the high-speed passenger tracks of the corridor. Amtrak agreed, in general, that locomotives operating on the corridor should be so equipped and began the process of complying, in part, with the Safety Board's recommendation. However, Amtrak has not agreed with the Safety Board's recommendation to have all locomotives not so equipped to stop and receive permission before entering the high-speed tracks. Amtrak has indicated that it has restricted all freight train operations on the corridor to 30 mph between 6 a.m. and 10 p.m. The Safety Board notes the recent FRA rule requiring all trains operating on the corridor to be equipped with ATC devices by January 1, 1990. The Safety Board is concerned that even this date might not be met fully and believes the process needs to be expedited.

During the Safety Board's investigation of the Chase accident, it was revealed that the nonautomatic train stops or ATC-equipped Amtrak diesel locomotive units and/or its replacements were not confined to "yard" service as Amtrak had represented, but were used to pull work trains on the corridor. As of December 10, 1987, Amtrak reported it is beginning to modify these units with ATC, but in the meantime, it continues to use the unmodified units. The Safety Board believes that Amtrak should immediately discontinue the use of these non-ATC-equipped locomotives on the Northeast Corridor.

The Pennsylvania Railroad had significantly advanced the state-of-the-art in railway signals when it designed and adopted the position-light signal system in the early 1920s. A few years later, it initiated another important signal advancement in its development and introduction of ACS. By 1931, both position-light wayside signals and ACS were in service on the corridor between Washington and New York. ACS supplemented the wayside signals by alerting engineers to the condition of the tracks ahead even when they could not see the wayside signals. Moreover, ACS informed them of changed conditions ahead after they passed a wayside signal.

When the ACS system was fully functional, it made the wayside signal system appear to be redundant. The Safety Board believes that many engineers may have become dependent on the ACS aspects, particularly since the cab signal whistle alerted them whenever the ACS changed to a more restrictive aspect. However, the operating rules still require engineers and other crewmembers to observe, respond, and communicate the aspects of both wayside signals and ACS. As long as wayside signals are used, it is imperative that they be observed and identified as far in advance as possible, particularly when trains are operated at high speeds. The ACS system is merely a backup to the wayside signal system and an aid to the locomotive crew when visibility is poor.



However, the Safety Board believes the use of the same color in all the aspects is a weakness in the position-light signal used on the corridor. At great distances, it is difficult to distinguish one aspect from another. The amber lights can be seen best at night and in overcast daylight; bright sunlight illuminates the black backgrounds and reduces the definition between the backgrounds and the lights. This was evident in the Safety Board's postaccident sight distance tests. Overhead catenary wires often prevent a full view of signal aspects in curves, somewhat diminishing the value of the position indication. This problem is aggravated by all the aspect lights being the same color.

The color red is universally recognized as a warning of danger. When locomotive crewmembers watch for the amber aspects of a signal on the Northeast Corridor, they must first detect this display and then decide, based on the position of the display, what action the aspect requires. However, if the stop aspect lenses were red, the engineer would know that on detection of the color red, he would be required to stop. This would save the time otherwise required to perceive the position of the aspect lights. It may be necessary to use a bulb of greater intensity for the red aspect to enable the engineer to detect it from the same or greater distance needed to detect the amber, but this should not present a problem.

In American railway practice, red has always signified danger, and restrictive interlocking signal aspects include the color red virtually everywhere except on the Northeast Corridor. Norfolk and Western and Conrail recognized the value of modifying their Pennsylvania-type position-light signals by replacing the amber lenses in the horizontal aspect with red ones. This modification had also been proposed for the corridor as part of an improvement project, but according to Amtrak's chief signal officer, it had been set aside because of budget restrictions. The Safety Board is not convinced, however, that the expense of such a project outweighs the probable safety benefits of such a relatively easy way to enhance the effectiveness of the wayside signal system. It cannot be eliminated as a possibility that had the "stop" aspect of signal 1N been red and of proper intensity, the engineer of train ENS-121 might have detected and reacted to it in sufficient time to prevent the accident or reduce its severity.

The emergency response forces of Baltimore County and its neighboring jurisdictions responded promptly and in appropriate strength to the emergency. However, rescue forces were hampered by extrication tools that proved inadequate to deal with the structure of the Amfleet cars. As a result, some passengers were not extricated until after temperatures dropped below freezing. It appears that at least one person may have died as a result of hypothermia while awaiting rescue and not solely from the injuries received in the accident. In its future liaison with local emergency forces, especially along the corridor, Amtrak should provide them with structural diagrams for the cars and information relating to the types of tools (even if new tools must be designed and developed) that can be used effectively to free persons trapped in railroad car wreckage.

Postaccident inspections revealed that the emergency windows in the 11th car, a rebuilt Heritage-class coach, could not be pulled inward as designed because the inside framing around them was too wide.

Therefore, the National Transportation Safety Board recommends that the National Railroad Passenger Corporation (Amtrak):

Provide procedures and instructions to dispatchers to avoid operating trains not equipped with automatic safety backup devices in a manner that places them in potential conflict with passenger trains at converging interlockings. (Class II, Priority Action) (R-88-1)

Revise the Northeast Corridor timetable to eliminate the possibility of misinterpretation of maximum permissible speed rules. (Class II, Priority Action) (R-88-2)

Expand and intensify supervision and management of train operations on the Northeast Corridor to include mandatory speed and signal compliance checks and regular supervisory crew fitness checks at reporting points and improve enforcement of compliance with the requirements of postaccident testing of employees for alcohol and drugs. (Class II, Priority Action) (R-88-3)

Reassess and restructure its safety program to provide a greater role for safety considerations in all aspects of its operations. (Class II, Priority Action) (R-88-4)

Discontinue immediately the use of nonautomatic train control-equipped locomotives in Northeast Corridor work train service. (Class II, Priority Action) (R-88-5)

Modify the wayside signals so that horizontal (stop) aspects are displayed by red lights. (Class II, Priority Action) (R-88-6)

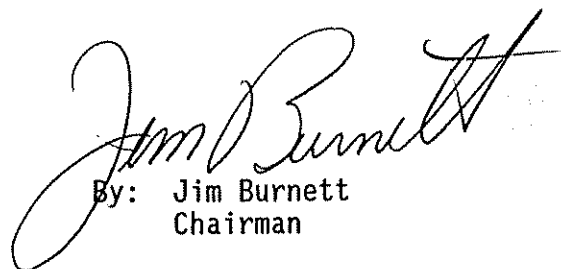
Provide local emergency forces along the Northeast Corridor with data on the structural details of passenger cars and information on extrication tools that are adequate for use with those cars. (Class II, Priority Action) (R-88-7)

Develop and implement a procedure for the written notification of dispatchers and traincrews when train speeds are restricted. (Class II, Priority Action) (R-88-8)

Modify the emergency exit window sunshade frames inside Heritage cars so that the emergency windows can be removed quickly. (Class II, Priority Action) (R-88-9)

Also as a result of its investigation, the Safety Board issued Safety Recommendations R-88-10 through -13 to the Consolidated Rail Corporation (Conrail) and R-88-14 to the Federal Railroad Administration. In addition, Safety Recommendation R-84-46 was reiterated to the Federal Railroad Administration.

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER, NALL, and KOLSTAD, Members, concurred in these recommendations.

  
By: Jim Burnett  
Chairman