

No. 13413

IN THE MATTER OF AUTOMATIC TRAIN CONTROL DEVICES

PETITION OF THE ERIE-LACKAWANNA RAILROAD COMPANY

Decided December 28, 1964

Petition of the Erie-Lackawanna Railroad Company seeking modifications of the orders entered in this docket to the extent that petitioner be permitted to discontinue (1) trainstop system between Hornell and Port Jervis, N. Y., and (2) cab-signal system between Binghamton, N. Y., and Scranton, Pa., granted.

J. P. Canny for applicant.

Donald W. Bennett for protestants.

REPORT OF THE COMMISSION

DIVISION 3, COMMISSIONERS TUGGLE, MURPHY, AND WALRATH

BY DIVISION 3:

Exceptions were filed by protestants to the report and order of the examiner, and petitioner replied.

In *Automatic Train Control Devices*, 69 I.C.C. 258, decided June 13, 1922, a proceeding instituted under section 26 (now section 25) of the Interstate Commerce Act, and in subsequent proceedings under the same docket, the Commission ordered the Erie-Lackawanna Railroad Company, or its predecessor carriers, among other carriers, to install automatic trainstop or train control devices on described segments of line designated in the orders, in accordance with certain specifications and requirements. Now, by petition filed January 30, 1964, the Erie-Lackawanna Railroad Company seeks modification of the said orders so as to remove (1) its automatic trainstop system between Hornell and Port Jervis, N. Y., and (2) its automatic cab-signal system between Binghamton, N. Y., and Scranton, Pa. The petition is protested by the Brotherhood of Locomotive Firemen and Enginemen, the Brotherhood of Railroad Signalmen, and the International Brotherhood of Electrical Workers. Hearing has been held.

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The Erie-Lackawanna operates over 3057.02 miles of line, including 1426.32 miles of main line extending generally between New York City on the east, and Chicago on the west, serving in particular the lake areas of New York and Pennsylvania. Insofar as pertinent to this proceeding, it has two main lines east of Binghamton, one, the more northerly line through Port Jervis, N. Y., and the other, the more southerly through Scranton, Pa., the latter coming into New York City through the New Jersey area. West of Binghamton we are concerned here only with its main line to Chicago through Hornell.

Part (1) of the considered petition, on petitioner's Susquehanna division, covers that part of petitioner's main line beginning at Hornell, milepost 331.16, and extending eastward through Binghamton, thence over its more northerly route to Port Jervis, milepost 88.96, a distance of 242.20 miles. This area is all double tracked except for 1.20 miles of single track traffic control territory at Shohola, Pa. In addition this part of the petition covers 2.25 miles of trainstop trackage within the Binghamton area making the total distance involved in this part 244.45 miles. Part (2) of the petition involves petitioner's Scranton division, that is its more southerly line between Binghamton and the east, and it begins in Binghamton at milepost 190.57 and extends to milepost 133.17 in Scranton, a distance of 57.40 miles. This is equipped only with automatic cab signals, whereas the territory involved in part (1) has an automatic trainstop system. The particular type of cab-signal system in issue here is the two-indication type indicating only a clear or a restrictive indication, though instantly operative at any point along the line, whereas the wayside signals between Binghamton and Scranton have up to four aspects. It is not connected with the train brakes and serves merely to convey information, within the cab, as to the wayside signals; also it has a whistle which blows when the cab signal goes to a restrictive indication, and which continues to blow until the engineer presses the acknowledging lever. The automatic trainstop system, here in issue, is of the type that operates automatically to stop the train by a service application of the brakes in the event the signal displays a restrictive indication and in the further event that the engineer does not operate the forestalling device.

The difference in parts (1) and (2) of the petition stems from the days prior to the merger of the former Erie Railroad with the former Lackawanna Railroad into the present Erie-Lackawanna

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system. Prior to the merger the Erie maintained two separate pools of locomotive power, one, with automatic trainstop equipment operating east of Hornell; and the other, without automatic trainstop equipment, operating west of Hornell. The Lackawanna had all of its through-line locomotives equipped with cab-signal systems because the line was equipped for cab-signal indications between Scranton and Buffalo which was about two-thirds of its Buffalo-Hoboken main line. Prior to the merger, most of the Lackawanna line between Binghamton and Corning was abandoned as a result of a consolidation approved by the Commission in Finance Docket No. 19989; and subsequent to merger the use of the former Lackawanna main line between Corning and Buffalo for the movement of through trains was discontinued, and some parts of that line have been abandoned with the approval of the Commission in Finance Dockets Nos. 20707 and 22309. Thus, the only part of the former Lackawanna line now equipped with automatic cab-signal system is that here involved in part (2) between Binghamton and Scranton. Today most through-line freight trains are operated over the former Erie line east of Binghamton through Port Jervis, because of more favorable grades, while through-line passenger trains plus some freight trains operate east of Binghamton over the former Lackawanna line via Scranton. At present in order to secure maximum utilization of diesel locomotives and to permit their operation through between Chicago and Hoboken and between Buffalo and Hoboken, it is necessary that at least the lead unit of every combination of locomotives be equipped with both automatic trainstop system and automatic cab-signal system. This method of operation is cumbersome and expensive, and equipping every road freight and passenger locomotive with both systems, to secure maximum utilization and flexibility, would cost in excess of \$1 million plus additional maintenance costs. The present cost of maintaining such control devices on both track and locomotives is in excess of \$178,500, annually, but the maintenance cost would be considerably increased, up to \$272,000, annually, if all locomotives were equipped with dual train control systems.

Concerning part (1) of the petition, the line east from Hornell through Binghamton to Susquehanna, traverses rolling country with no troublesome grades. However, it has 177 curves, the greatest of which is one of 5°22'. There are eight curves that vary between 4°00' and 4°55'. The remaining portion of this line is quite moderate in this respect. The portion of this
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line east from Susquehanna to Port Jervis traverses an ascending grade of 1.36 percent maximum, immediately east of Susquehanna, for a distance of approximately 7 miles. The grade is then descending for approximately the same distance reaching a maximum of 1.08 percent. There are no appreciable grades over the remaining 90 miles to Port Jervis. There is a total of 253 curves on the portion between Susquehanna and Port Jervis, the greatest of which is $7^{\circ}21'$ at one location. There are 13 curves that vary between 6° and 7° , 36 between 5° and 6° and the remainder are all under 5° . On the Scranton division from Binghamton to Scranton the line traverses a very gradual ascending grade from a point starting about 10 miles east of Binghamton for a distance of approximately 8 miles, reaching a maximum of 0.93 percent for a short distance. The grade is then slightly descending, or level, for a distance of 22 miles to Factoryville, Pa., where it again is ascending gradually for a distance of approximately 7 miles to Clarks Summit, Pa., reaching a maximum of 0.67 percent. From this point east to Scranton the grade is descending for a distance of approximately 6 miles reaching a maximum of 1.41 percent. There are a total of 82 curves on this portion of the Scranton division, the greatest of which is $7^{\circ}48'$ at only one location. There are two curves that vary from 6° to 7° , two between 5° and 6° , and the remainder are all under 5° .

There have been many changes and improvements in railroading since the systems and devices here considered were installed in the mid-1920's. Great engineering progress has been made in the areas of motive power, freight and passenger cars, track and roadbed, maintenance of way equipment, highway grade crossing protection and eliminations, signal and communication systems, detection devices, and yard facilities. One of the most pertinent of these improvements has been the complete replacement of the steam engine with the diesel locomotive. The cabs of diesel locomotives, with broad windshields, afford much better visibility of wayside conditions, and the design of the diesel and the elimination of smoke, steam, soot, and cinders have greatly increased the visibility of the train and engine crews. The engineer of a diesel locomotive has fewer gauges, valves, and levers to watch, and manipulate, than did the engineer of a steam locomotive, and the diesel engineer may devote practically all of his time to watching the wayside ahead. The hammer blow effect transmitted to the

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rails by the driving wheels of a steam locomotive has been eliminated as well as the necessity for making special stops for fuel and water. The diesel-electric locomotive has proven less prone to malfunction than the steam engine, and consequently has experienced fewer breakdowns in service. Also, in the event of a breakdown in over-the-road service of one diesel unit, the run can be completed, in most cases, by the other units in the locomotive consist, usually without stopping the train. Dynamic braking systems on present day locomotives, and vastly improved brake systems on locomotives and cars provide faster and more reliable serial application of the airbrakes. Other improvements include the use of radios end to end, wayside to train, train to train, and station to station; also heavier weight of rail, longer and heavier angle or joint bars, heavier tie plates with double shoulders, treated ties, and manganese steel pointed frogs.

Train movement density over the involved lines has decreased since the considered equipment was installed. For example, in January 1929, there was a daily average of 26 eastward passenger trains operated Hornell to Susquehanna, whereas in the first week of December 1963, the comparative daily average was 5.3. Freight train density is not greatly reduced; that is, 25 compared to 21 between these 2 points, but Susquehanna eastward to Port Jervis the average daily movement of freight trains appears to be reduced, eastward from about 18 to 11.4, and westward, from 23 to 9.0. On the Binghamton-Scranton line daily passenger movements in each direction are down from about 14 to something between 3 and 4, and through freight movements are down from about 28 to less than 4.

The total equipped mileage involved in this proceeding, all main line, is 301.85 miles. It is the only trainstop or cab-signal trackage on the whole of the Erie-Lackawanna system, meaning that of its total of 3,057 miles of line only 10 percent of it is equipped with the devices and equipment here in issue. Moreover, its total main line mileage is, as before indicated, 1,426 miles and the mileage here involved represents only 20 percent, approximately, of its main line operations. Also, the segments here involved are generally in the middle of its system and do not now significantly relate to either the Chicago or the New York end of its system, nor to any heavy density area of its lines. Petitioner's accident experience over the 38 years the equipment has been installed does not indicate any safety reason for its retention.

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There are 384 wayside inductors in the automatic trainstop territory here involved and in the cab-signal territory there are 253 track circuits. The annual maintenance costs for them are \$14,289 and \$3,609, respectively. In addition much of the considered equipment needs replacing. The need for replacement of this equipment was spotlighted by the findings in the New York Central accident occurring at Ripley, N. Y., on February 8, 1957, reported in Ex Parte No. 209, wherein an inductor failed on the nonsafe side. For petitioner to continue with its replacement program would cost in excess of one quarter million dollars, and it feels strongly that this expenditure would not be justified. As justification for removing the considered equipment, in addition to the changes and improvements mentioned above, petitioner points out that the signal systems in service in this territory have improved during the past 30 years by improved clarity of aspect and by greater reliability and overall performance. Many of the present signals are of the color-light type and even the semaphore signals still in service all have electric lamps instead of the oil burning lamps. In addition, present day signals have more modern relays, semaphore signals have improved slot arms, and they are resting on better ballasted right-of-way. Petitioner emphasizes, in contrast, that the automatic trainstop system, and the automatic cab-signal system, are both inherently weak in one important principle; namely, that they are the only signal equipment in the entire field of railroad signalling that do not operate upon the traditional fail-safe principle.

The maximum authorized speeds in the territories involved are as follows:

Passenger trains:

Hornell, N. Y., to Scranton, Pa. -----	70 m.p.h.
Hornell, N. Y., to Susquehanna, Pa. -----	70 m.p.h.
Susquehanna, Pa., to Port Jervis, N. Y. -----	50 m.p.h.

Freight trains:

Hornell to Port Jervis -----	50 m.p.h.
Binghamton to Scranton -----	50 m.p.h.

Exceptions on freight trains:

Hornell to Susquehanna with 4,000 or less tons -----	60 m.p.h.
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There are also local speed restrictions applicable to specific areas, and to certain curves.

The protestants object to the granting of the petition. They point out that freight train density remains great on the Susquehanna division; that closely following trains are often the rule

rather than the exception of the Susquehanna division; that the line has many very noticeable curves; that local speed restrictions are applicable on many of the curves; that weather conditions in the area frequently reduce visibility to a very noticeable extent; that many of the less visible semaphore type signals still remain on the Susquehanna wayside; that the dynamic brakes on the present day diesels are sometimes inoperative; and that they have come to rely on the systems here in issue and would be apprehensive of operating without them. In his recommended report the examiner found that the petition should be granted, stating in his discussion:

Based on precedent decisions of the Commission, as they are in point here, this is a close case. Passenger train density is reduced greatly but freight train density is still around 20 or more trains each way per day over some segments. In addition these 20 freight trains are undoubtedly concentrated to some extent in certain hours of the day. Train speeds are also moderately high. Some of the other factors to be considered such as terrain and weather are neither particularly favorable nor significantly unfavorable here. Nor is a modern traffic control system being installed here, though many of the wayside signals are greatly improved over what they were in years past, both in visibility and reliability. The diesel engine has given the engineer much more time and freedom to watch the wayside ahead, but this factor has been present in all of the decisions cited by the protestants wherein the Commission declined to go along with the removal of the considered systems. In the ultimate analysis the examiner cannot find a precedent decision controlling, either way, in this matter, and, in the circumstances, this case must stand entirely on its own record. This means, based on this record, that the systems in issue are not shown to have ever contributed to the avoidance of a single accident, that they are admittedly old and unimproved upon since time of installation 38 years ago, and that they are subject to the same critical failure; namely, falling on the unsafe side, as did a similar system on the New York Central Railroad near Ripley, N. Y., causing severe consequences. All things considered, the systems have never proven themselves to be worthwhile insofar as can be seen by this record; in fact this record contains much evidence to the contrary. Moreover, there is no rhyme or reason, now, to the forced retention of the considered systems on the middle-of-the-line segments on which they exist, and extending, distance-wise, as they do over only 10 percent of petitioner's main line system. At the time they were ordered installed they were looked upon only as a beginning, with the thought of similar installations over the remaining lines as time grew on. Such a goal however, was never attained, fortunately so it now seems, and, in any event, it is highly doubtful that these mere fractional installations would have been ordered had the future been known about the remaining parts of the main line. There is no question but what the Commission would not, today, order such a fractional installation based on no more proven contribution to safety than is here shown, and it follows, by the same token, that it should not order the systems retained. The examiner, accordingly, finds that adequate protection and safety will continue under petitioner's proposal and that the petition should be granted.

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In their joint exceptions the protestants argue (1) that the examiner erred in indicating that the safety systems involved here have never proven themselves to be worthwhile, (2) that the recommended report erroneously found no reason now for the forced retention of the considered systems on certain segments of the line of petitioner, (3) that the recommended report erroneously found no precedent decision controlling in this matter, (4) that the examiner erred in failing to find that the collective evidence of substantial traffic density, high train speeds, following movements, adverse weather conditions, and physical characteristics of the territory clearly show a need for the retention of the trainstop and cab-signal systems, (5) that the examiner erred in finding that adequate protection and safety will continue under petitioner's proposal and that the petition should be granted, and (6) that the examiner erred in failing to find that no consideration may be given in this proceeding to financial advantages or savings which might result from the removal of these safety systems.

Among the decisions cited by the protestants on exceptions are *Appliances and Systems to Promote Safety of Operations*, 268 I.C.C. 547, *Automatic Train Control Devices*, 195 I.C.C. 721, 223 I.C.C. 323, 305 I.C.C. 281, 287, 311 I.C.C. 37 (1960), and more recently the *Southern Pacific* case, docket No. 28000 (Sub-No. 301), *Southern Pac. Co. Modifications of Systems*, 325 I.C.C. 168, decided May 14, 1964.

The gist of the petitioner's reply to the exceptions is that the record in this proceeding clearly reveals the considered equipment as having no safety value, that maintenance of this equipment is therefore an unnecessary expense, that its use on a small middle of the line segment substantially interferes with the efficient use of petitioner's locomotive equipment, and that forced retention of the equipment would require retention of impractical, and uneconomical operations while impairing petitioner's ability to provide safe, adequate, and proper service for the public.

In urging that the examiner's findings are supported by the record in this case the petitioner draws particular attention to the following uncontroverted evidence adduced herein:

a. Only 21 percent of petitioner's main line is equipped with automatic trainstop and cab-signal systems. This is a middle-of-the-line segment not subject to the heavy density of traffic in petitioner's terminal territories where no such equipment is used. Yet, petitioner's accident experience on the remaining 79 percent of its line where no such equipment is used is equally as

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good or better, as evidenced by the Binghamton wreck hereinafter referred to, than its accident experience in equipped territory, although weather conditions are no worse in the equipped territory than the weather conditions in un-equipped territory.

b. On the contrary, the record shows that the worst accident that ever occurred on petitioner's railroad was an accident in automatic trainstop territory. It happened on September 5, 1933, at Binghamton, N. Y., and resulted in the death of 14 passengers and the injury of 31 passengers and 1 employee (see I.C.C. Inspection Report No. 1853).

c. The record in this proceeding also shows that there is not a single case where automatic trainstop or cab-signal equipment actually prevented an accident on petitioner's line or railroad.

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1. * * * This equipment is operated upon an open circuit principle and does not fail safe.

In respect to the recent *Southern Pacific* case, *supra*, the petitioner points out that its line of railroad traverses a rolling country with no appreciable grades and no severe curves whereas there the territory was very mountainous with steep grades and numerous curves, and the area was subject to frequent and heavy snowfall, with snow sheds impairing the visibility of signals. The territory was so treacherous that passenger train speeds were limited to 30 miles per hour and freight trains to 25 miles per hour. Petitioner emphasizes that there is no such evidence in this case, but, on the contrary, protestants' witnesses testified that, regardless of the curves and grades and weather conditions, they have never had to stop because they could not see a signal.

We agree with the protestants that the examiner somewhat overstated the case here against the value of the considered systems. It is true that this record fails to reveal much in their favor but this is no basis upon which to make implications as to the value of the systems generally. On the whole they may not be so indicted and their removal is, as here, subject to the particular conditions prevailing upon the lines under consideration. Here the lines under consideration are still important frequently used main lines but train density over them, while still fairly heavy in freight movements, is significantly down in passenger movements and even freight movements are somewhat fewer. Of more importance, however, operating conditions, wayside signals, and other circumstances and conditions on the considered lines have improved materially since the

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systems were installed and, in short, the total picture, as seen, now adds up to adequate protection and safety without the involved systems. Nothing more need be found; the specifics of the exceptions are all subordinate to this ultimate issue and require no other response. In respect to the decisions cited on exceptions, none are controlling here but the Lehigh Valley case, cited *Automatic Train Control Devices*, 315 I.C.C. 663, is sufficiently similar to have been particularly noted in the course of the instant determination.

An appropriate order shall be entered granting the petition.

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