

spondents will perforce be limited to the employment of devices of the ramp type. The request for additional time was made by respondents in their answers and at the hearing. Although the proposed order was issued on January 10 of this year, it appeared at the close of the hearings on April 15 that only a few of the respondents had made arrangements or were contemplating making arrangements to make the tests which they consider to be necessary.

We do not desire to force any carrier to adopt a particular type which it believes is not entirely suitable to its peculiar needs, if there are others available which, within a reasonable time, may be shown to be more suitable. In view, however, of the investigations which have already been made and of the time which has elapsed, we are of the opinion that a six months' period will give sufficient time for any road to decide upon the device it should select. Within this time, provided a sufficient installation is made and intensive tests of the device are conducted, it can be determined whether or not the device will be suitable.

Respondents will be required to make monthly reports to us, during the six months' period beginning July 1, 1922, of their arrangements for such tests and of the progress made. Railroad systems composed of two or more of the roads specified in our order, which may desire to adopt a device for use as standard equipment on each of the roads constituting the system, may test such device on one of the roads of the system, and during the time of such test will not be expected to make test installations on any other road of the system.

#### Requirements and Specifications

The definitions, functions, requirements and specifications which we have adopted are set forth in the appendix. They are based upon the facts developed in our investigations and upon the requisites laid down by the Block Signal and Train Control Board in its report in 1910, the requisites of the Railway Signal Association reported in 1914, the requisites of the American Railway Association adopted in 1914, and of the automatic train control committee of the United States Railroad Administration adopted in 1919, together with those adopted by the joint committee on automatic train-control of the American Railway Association in March, 1921.

#### Permissive Feature Eliminated

We have eliminated the provision in the specifications of the joint committee under which the engineman would be permitted, if alert, to forestall the automatic brake application and proceed. Some of the respondents object to the elimination of this provision. They contend that, in many instances, it is proper for a train to pass an automatic block signal in the stop position, and that there are so many such conditions that the elimination of the manual control provision practically eliminates the simple automatic stop from consideration. \* \* \* Where the device is made subject to the manual control of the engineman so that he may prevent the automatic brake application according to his own judgment of the conditions, the automatic safety feature of the device is, to that extent, nullified. It is assumed by the proponents of manual control that no engineman, if alert to a dangerous situation, will deliberately cut out the automatic stop device. The proper use of the manual control would depend, therefore, upon the judgment of the engineman. His judgment would be the determining factor in situations of known or unknown danger. This factor of human judgment is the factor which an automatic train-stop device is designed to eliminate. The manual control feature is, in our opinion, a dangerous one which will permit the judgment of the engineman to intervene and thus may prevent the essential function of the train-stop device, namely, its automatic operation in cases of emergency.

The respondents, required to install upon designated portions of their respective roads, automatic train-control devices in accordance with our specifications and requirements, have been selected with regard to the measure of the risk of accident in connection with traffic conditions thereon. Some of the respondents called attention to their records of operation to show that there have been relatively few accidents of the character which automatic train-control devices are intended to prevent, and that the possibility of such accidents is relatively remote. These respondents therefore request that they be excluded from the provisions of our order. The reasons advanced do not, however, appear to be sufficient justification for such action.

We have decided not to limit by our order the installation of automatic train-control devices to roads or portions of roads already equipped with automatic block signals, because we have no desire to discourage efforts to automatic-

ally control trains without the aid of fixed wayside signals. The statement, therefore, of the primary function of automatic train-stop or train-control devices recognizes the possibility of installing such a device without the use of automatic block signals.

#### Order

At a General Session of the Interstate Commerce Commission, held at its office in Washington, D. C., on the 13th day of June, A. D. 1922.

No. 13413.

#### In the Matter of Automatic Train Control Devices

This case having been initiated under the provisions of Section 26 of the Interstate Commerce Act; and full investigation of the matters and things involved having been had and the case having been duly heard and submitted, and the commission having, on the date hereof, made and filed a report containing its findings of fact and conclusions thereon, which said report is hereby referred to and made a part hereof:

It is ordered, that the following specifications and requirements for the installation of automatic train-stop or train-control devices upon the herein designated portion or portions of the lines of respondents, be, and they are hereby, adopted and prescribed:

See page 26, January, 1922, *Railway Signal Engineer*.

It is further ordered, That the following carriers by railroad subject to the Interstate Commerce Act be, and each of them is hereby, required to install on or before the first day of January, A. D., 1925, an automatic train-stop or train-control device or devices, applicable to or operated in connection with all road engines running on or over at least one full passenger locomotive division included in the part of each of such company's main line between points hereinafter designated:

See page 26, January, 1922, *Railway Signal Engineer*.

It is further ordered, That each of the said carriers shall submit to the Commission complete and detailed plans and specifications for the installation of the aforesaid devices prior to the installation thereof.

It is further ordered, That each of the said carriers shall file with the Commission, on or before January 1, 1923, complete plans of the signal systems in use on the designated portion or portions of line, and report of the number and type of locomotives assigned to or engaged in road service thereon; each carrier shall proceed without unnecessary delay to select and install the devices as specified herein; and each carrier shall file with the Commission, on or before January 1, 1923, and on the first day of every month thereafter, full and complete reports of the progress made with reference to the preparation for and installation of such device or devices, except that the The Pennsylvania Railroad Company, The Pittsburgh, Cincinnati, Chicago & St. Louis Railroad Company, West Jersey and Seashore Railroad Company, The Long Island Railroad Company, and Norfolk & Western Railway Company, for good cause shown, will not be required to file the plans and reports herein specified until July 1, 1923, but The Pennsylvania Railroad Company will be required to file such plans and reports beginning July 1, 1922, for the installation of the automatic train-control device upon its Lewistown division between Lewistown and Sunbury, Pa.

And it is further ordered, That each installation made pursuant to this order shall, when completed, be subject to inspection by and the approval of the Commission or any division thereof to which the matter may be referred.

And it is further ordered, That a copy of this order be served upon the above named carriers.

By the Commission:

GEORGE B. MCGINTY,  
Secretary.

A movement was begun in New York City recently by the American Engineering Standards Committee to standardize colors for traffic signals, under a plan, which includes considerations of signalling in railway and steamship operations. The avowed purpose in this movement is that of establishing codes of signaling so different one from the other that no confusion will arise in identifying one system from the other. In presenting unofficially the case of the railroads, A. H. Rudd, chief signal engineer of the Pennsylvania, contended that the committee should adopt red as a stop signal in all cases unless qualified by a more favorable indication, should adopt the use of yellow for tail lights of automobiles or for any other purposes where caution only is required, and should adopt the use of green lights for fire escapes, for proceed signals at street intersections or to indicate a clear way.