

EDITORIAL COMMENT

Should Train-Order Signals Control Automatic Signals?

ESPECIALLY at this time when train speeds are being increased so markedly, the question arises whether the automatic signal in the approach to a train-order signal should be so controlled by the train-order signal that it (the automatic signal) will display a distant signal aspect when the train-order board is displaying an aspect indicating that orders are to be picked up by an approaching train.

On a C.T.C. installation placed in service recently, it was noted that, when passenger trains operated through the territory on the main track without taking siding, their average speed was increased from 47 to 54 m.p.h. The explanation is that, under train-order operation, enginemen usually reduced train speed in approaching some of the block offices, so as to observe the train-order signal while approaching within braking distance. Under C.T.C. operation no such reductions in speed are necessary. On another road, one of the reasons for installing automatic block signals was that fast freight trains lost too much time, especially in stormy weather, when the speed was reduced to enable enginemen to observe the aspect displayed by train-order or manual-block signals.

Normal Position of Boards

On the first road mentioned above, the train-order signals stand normally at proceed, but on some roads a rule is in effect that such signals are to stand normally at stop, and, as a train approaches, the engineman sounds a whistle blast when he is within view of the signal, following which the operator is to clear the signal if he has no orders. With the increased train speeds of today, it is obvious that such an operation cannot be completed while a train is approaching within braking distance of the train-order signal, and, as a result, the trains usually overrun the station when orders are to be picked up. As an aid in this situation, a special rule, in effect with respect to certain trains on extra fast schedules, requires that the operator, if he has no train orders, place the train-order board for both directions in the clear position some minutes prior to the approach of such a train.

Thus it is evident that manually-controlled train-order signals at offices in automatic block territory are a source of train delay, especially for fast trains. Furthermore, under the circumstances described above, such a signal, displaying stop, may be encountered by an engineman

who has had no advance warning by a distant signal indication. This situation is at variance with automatic block and interlocking signaling, where one distant aspect has been the practice for years, and now with faster trains, two, and in some instances three, ranges of approach warnings are used.

Should the Signal System Be Separate?

Years ago certain roads saw the need of distant signals for each train-order signal and arranged the control of the automatic located in approach so that it would display a caution aspect when the order board displayed an aspect indicating that orders were to be picked up. This arrangement has served successfully for many years on several important railroads operating extensive mileages of automatic signals.

On the other hand, certain other roads contend that the functions and operation of train-order signals should be kept distinct and apart from that of automatic block signaling. A point of argument is that, if the automatic signal is controlled to the caution aspect by either the automatic ahead or the train-order signal at stop, the engineman may become confused. He may slow down or stop to pick up the orders, and get the impression that he has completed the observance of the caution aspect. While starting or accelerating the train, he may be busy also in reading the orders, at which time he may overlook the next automatic signal, which may be indicating stop due to a train in the block.

As a means of preventing confusion between automatic and train-order signals, one road uses an advance automatic signal at interlocking and certain station layouts, this signal serving also as a train-order signal, being so designated by a sign reading "Train Order Signal." Regardless of whether the signal is held at the stop aspect by a train in the block or under the control of the operator as a train-order signal, the engineman must get a clearance from the operator before proceeding.

Numerous arguments can be advanced both for and against the practice of using automatic signals as distant signals for train-order signals, but the point of importance is that, with present train speeds, a distant aspect is needed and serious thought may well be given the problem, in order to overcome the objectionable features in the present practice.