

# Editorial Comment

## The Federal Crossing Protection Program

THE LONG-AWAITED rules and regulations for the installation of crossing protection with federal funds available under the Emergency Relief Act, have now been released, as explained elsewhere in this issue. As anticipated, an alternative plan has been provided so that the states can assume a portion of unemployment relief in case the requirement, that 40 per cent of the money must be spent for direct labor, cannot be met. The installation of protection offers an opportunity for the expenditure of a larger relative outlay for wages than numerous other projects proposed. By a careful choice of materials and distribution of labor, including field supervision, and other reasons, as explained in an editorial in the July issue, schedules can be proposed which will meet the stipulation or come so close as to receive favorable consideration and approval on a co-operative basis.

The opportunity is now presented to provide automatically controlled protection at thousands of crossings. Thus after years of argument, the public in general, as well as the government officials, have agreed that the hazard has been brought about primarily by the extensive use of motor vehicles and the construction of paved roads. As a result of this conviction, the government now proposes to provide the funds for improving safety of highway travel at railroad crossings.

However, in this program, crossing protection is definitely in competition with other forms of improvements, no definite sums being allocated to each. Therefore the amount of crossing protection to be approved depends very definitely on the forehandedness of the railroads in initiating action by contact with state highway officers and, through them, with the district engineers and the Chief of the Bureau of Public Roads. It is granted that, in some instances, the preliminary negotiations must be conducted with diplomacy. However, this is being done successfully in numerous states, and the obstacles imposed should not be looked upon as insurmountable. The important point is that the funds are available, and if the signal engineers do not exert their efforts to get an adequate allotment for crossing protection, the money will be allocated to other purposes.

## Obsolescence in Signaling

THE INTRODUCTION of faster schedules for passenger as well as freight trains has focused attention on the well-known fact that the signaling on many miles of railroad is decidedly obsolete, so much so that many of the older installations are not only inefficient but entirely unadapted for the handling of trains as they are being operated today. The respacing of signals to provide adequate braking distances has been dealt with recently in these columns, but beyond this major consideration serious problems arise also with regard to the replacement of obsolete apparatus.

So far as the signals themselves are concerned, perhaps the most antiquated are the hundreds of miles of enclosed disk signals that are still in service on lines handling fairly heavy and fast traffic. Scarcely less open to criticism are the extensive installations of two-position, lower-quadrant semaphores that are still to be found.

Rail is allowed to wear to certain limits and is then replaced; bridges are replaced when they become inadequate for the loadings imposed; cars are scrapped when they become inadequate for modern train loadings and speeds; but signals are supposed to function forever. This situation is, of course, due in part to the fact that signaling must be so maintained as to function safely at all times. Relays, signal mechanisms, switch machines, etc., are sent through the shop time and again to take up wear and bring them back to their original operating characteristics. An accurate statement of all of the costs involved in making such repairs would, in many instances, show that the amount of money spent for overhauling an old device represents a large proportion of the cost of a new piece of equipment, that would operate so much more efficiently as to pay for itself in a few years.

The idea of "jacking up the bell," constructing a new locomotive under it, and calling it a shopping job, has largely been discarded in the locomotive field. Thousands of locomotives are being scrapped because railroad managements find it more economical to buy new modern motive power. Likewise, thousands of freight cars are being burned in order to salvage the scrap iron, because these old cars are of designs no longer adequate for operation in today's trains.

In a similar manner, numerous interlockings and the signaling on many sections of certain roads are due for a thorough "house-cleaning." The self-satisfaction, acquired from the fact that maintenance has been improved to such an extent that signal performance is much better than in certain years in the past, is no fence to hide behind. The signals may be working just as good or better than they ever did. But if the entire layout is so antiquated as not to meet modern requirements, some one is going to analyze the situation and the signal engineer will then be placed on the defensive unless he has previously called this condition to the attention of his management.

The opening wedge for prying loose certain signal rehabilitation programs is the necessity for meeting the requirements for the operation and protection of trains now being operated. On certain territories extensive replacement of obsolete equipment must be made to provide safety. However, there is always the necessity of justifying an expenditure also from an economic standpoint. It is oftentimes surprising to one to discover the savings that can be effected by modern apparatus and methods of power supply in reducing operating and maintenance costs. However, in the vast majority of projects, such as the combining of interlockings, installing remote control, extending centralized traffic control, etc., savings in operating expenses, as well as increased efficiency in train operation, go a long way to justify the expenditure required.

As an example of what can be done, the Boston &

Maine carried out 19 separate projects during the last winter, involving extensions of C.T.C., remote control, combinations of interlockings and the replacement of obsolete signaling, as explained in an article elsewhere in this issue. It is true that this Boston & Maine program was financed by a government loan; but many other roads have just as good credit with the government as the Boston & Maine. The situation as to signaling on the B. & M. was just as good or better than that on numerous other roads; the reason that the extensive program was inaugurated and carried to completion so efficiently was that the signal officers were active in presenting a clear explanation of the opportunities to effect savings and increase efficiency by modernizing the signaling and interlocking facilities.

The depression appears to be passing, general business seems to be on a gradual upgrade, and with the continuation of these trends financial problems will clear so that funds will be available. The railroads are "clearing their decks" as to cars and locomotives so that they may be prepared to handle increased business on an efficient and economical basis. Unless signaling is to lag behind in the improvement program, investigations, plans and estimates should be started now to include numerous projects of rehabilitating signaling, combining interlockings, extending C.T.C. and adding cab signaling. By doing the preliminary planning now, a lot of rush work entailing snap judgment and errors will be obviated later.



## Collision on the Erie

ON APRIL 25, there was a head-end collision between two freight trains on the Erie near MQ Crossing, N.Y., which resulted in the injury of three employees. An abstract of the report of the Bureau of Safety I.C.C., concerning this accident follows:

The accident occurred on that part of the New York Division designated as the Graham Line, which extends between Graham, N.Y., and Newburgh Junction, a distance of 42.2 miles. In the immediate vicinity of the point of accident this is a double-track line over which trains are operated by time-table, train-orders, and an automatic block-signal system; one of the trains involved in this accident was being operated against the current of traffic, this movement being authorized by a train-order. The accident occurred on the westbound main track approximately 4 miles east of MQ Crossing.

Extra 3374, (Symbol Second No. 90), an eastbound freight train, consisting of 46 cars and a caboose, arrived on the eastbound main track at MQ Crossing, where the crew received train-order 2, form 19, which read as follows:

"Extra 3374 east has right of way over opposing trains on the westward track MQ Crossing to west end of Moodna viaduct."

Moodna viaduct is near BS Tower, 12 miles east of MQ Crossing. Extra 3374 entered the westbound main track and departed from MQ Crossing at 3:28 a.m. and was traveling at an estimated speed of 30 miles per hour when it collided with Extra 3213. Extra 3213, a westbound freight train, consisting of 65 cars and a caboose passed BS Tower, 12 miles from MQ Crossing at 3:22 a.m., found signal 61-1E displaying an approach indication, and was stopped west of that signal, just before being struck by Extra 3374. The employees injured

were the fireman and head brakeman of Extra 3374 and the fireman of Extra 3213.

Train Dispatcher Beers stated that Train First No. 90 departed from MQ Crossing at 2:21 a.m., and when it failed to arrive at BS Tower at 2:45 a.m. he called the operator at that point and inquired if he had heard it approaching; the operator replied in the negative. Dispatcher Beers then remarked that Train Second No. 90 was closing up and he would probably run it around First No. 90, and instructed the operator to get ready for a form 31 order. He then called the operator at MQ Crossing and told him to copy a form 19 order, after which he issued the following order:

"BS 31—C&E all westward trains  
MQ 19—C&E Extra 3374 east  
Extra 3374 east has right over opposing trains  
on westward track MQ Crossing to west end of  
Moodna viaduct."

After the two operators repeated the order he made it complete at 2:54 a.m. Just as he completed the order the operator at BS Tower called and said that he had heard Train First No. 90 call in the flagman, and about this time the operator at MQ crossing reported that Train Second No. 90 (Extra 3374) had entered the circuit, whereupon he instructed the latter operator to hold this train until he learned what was delaying Train First No. 90, but did not say anything to the operator about not delivering the train order. The operator at BS Tower reported Train First No. 90 as passing at 3:15 a.m. and suggested that train order 2 be annulled if Train Second No. 90 had not left MQ Crossing, so that west-bound Extra 3213 could proceed. At 3:18 a.m. Dispatcher Beers annulled the order at BS Tower, issuing train-order 3 for that purpose, but failed to annul the order at MQ Crossing, thinking that the operator at that point was holding Train Second No. 90. Extra 3213 passed BS Tower at 3:22 a.m., and the dispatcher then rang MQ Crossing with the intention of annulling the order to Extra 3374, but received no response.

Operator Young, on duty at MQ Crossing, stated that after train order 2 was made complete, he was instructed by the dispatcher to hold Train Second No. 90. Trouble then developed with the interlocking whereby he could not lock a derail and he reported the matter to the dispatcher and the maintainer. As Train Second No. 90 arrived he started out to spike the derail, met the head brakeman, and, forgetting the dispatcher's instructions to hold Train Second No. 90, delivered the engineman's copy of train order 2 and a clearance card to the head brakeman; he then spiked the derail, returned to the tower and obtained the conductor's copy of the order, and went outside and gave it to the conductor as the rear end of the train was passing the tower. As soon as the train passed through the cross-over to the westbound track, which was between 3:20 and 3:25 a.m., he notified the dispatcher that it would clear the switches about 3:28 a.m. and the dispatcher then told him that Extra 3213 already had passed BS Tower on the same track.

This accident was caused by the action of the dispatcher in annulling a train-order to the inferior train without first annulling it to the superior train; the operator at MQ Crossing failed to hold the superior train in accordance with verbal instructions from the dispatcher.