

Editorial Comment

Hold-Out Signals In C.T.C.

QUITE recently a man, familiar with railroad operation in general but not with signaling, was riding a locomotive on a freight train in C.T.C. territory. In one instance, the train was stopped by a C.T.C.-controlled signal and waited on the main track for a meet. At that location the train was at the foot of a heavy ascending grade, so that difficulty was encountered in starting. Having watched this occurrence, the man inquired whether the C.T.C. could be arranged to control an intermediate signal, so that the dispatcher could hold the train farther out, at a location where the grades were more favorable for starting the train. The answer was that this could be done, if other factors involved would not introduce too many complications.

This general idea of C.T.C.-controlled hold-out signals has already been included in several projects. The purpose in these instances, however, has been to establish a location to which through trains could be advanced, while at the same time allowing switching operations to continue as long as practicable in an industrial area ahead. When the switch engine clears the main track, the hold-out signal can be cleared and the through train continues without stopping. Thus this train is kept moving, rather than being stopped at the last town passed. Hold-out signals for this purpose were explained in an article concerning a project on the Norfolk & Western on page 774 of the December, 1948, issue and in another article, dealing with an installation on the Pere Marquette District of the Chesapeake & Ohio, on page 245 of the April, 1949, issue. Maybe there is also merit in the idea advanced by the man as discussed above, i.e., to provide C.T.C.-controlled signals to hold trains—when they must be stopped for other reasons—at locations where they can be started to a better advantage.

Signal Indications to Stop Trains When Dragging Equipment Detectors Operate

AN important consideration in the use of dragging-equipment detectors is to provide means for informing an engineman to stop his train if something dragging from it has operated a detector.

As installed on several railroads, including an eastern road which has the most installations, each dragging equipment detector is located more than a train length in approach to the distant signal in approach to a home signal. When something dragging from a train operates a detector, the distant signal is controlled to display the Approach aspect, and the home signal the Stop aspect. A special indicator, usually consisting of a light, annunciator, acknowledging and cancelling switches, is provided on or adjacent to the interlocking machine, so that the leverman can inform the enginemen and train crew why the train has been stopped, so that they will know that they are to inspect their train.

One road has provided an illuminated sign, showing the letter "E" on the distant signal when a dragging equipment detector has been actuated by dragging equipment. This illuminated sign is used only as an ad-

ject to the display of Stop aspect on the home signal and Approach aspect on the distant signal.

As applied on the Missouri Pacific, a special light unit was added to signals to display a special aspect when a dragging equipment detector is operated. The purpose is to inform the engineman that something on his train is dragging, and that he is to stop as soon as practicable, but that he has plenty of unoccupied track and route lined ahead, as indicated by conventional signals, for him to stop his train carefully, rather than make an emergency stop and thereby cause more damage than otherwise might result.

The Wabash had a problem in the protection of a bridge across the Mississippi River where it was desirable to stop a train as quickly as possible at any point when any part of the train was off the track or dragging. A continuous system was needed, and five dragging equipment detectors were installed, three on one side and two on the other side of the river, to detect dragging equipment right up to the time it entered onto the bridge. Fourteen electric resonating horns were installed at about 12 ft. above the rail, and spaced approximately 400 ft. apart across the bridge, and along the right of way approaching the bridge. The multiple number of horns provides practically a continuous audible signal throughout the protected zone to the front and rear end members of the train crews and other wayside employees. The multiplicity and control of the horns in sections, and the availability of the audible signal to all within hearing, minimizes the effect of one or more horns failing to operate.

Maintenance of Line Wires For Communications Circuits

THE maintenance of line wires for communications circuits involves a balance of the expenditures justified against the reliability of the communication service demanded. On many railroads, line wire maintenance is handled by linemen who are assigned rather long sections, ranging up to 100 mi. or more. As a general rule, these men seldom have much time to devote to the maintenance of line wires; rather, they are actually trouble shooters. As a result, through the years, the slack of wires increases due to sleet loads, and resistance in wire joints gradually increases until difficulties are encountered in the operation of circuits.

When confronted with pole line conditions such as this, on a major portion of his railroad, the superintendent of communications went to his management to request money for extensive repairs, to pull up slack, replace defective insulators and tie wires, check line taps, and replace old wire joints with modern compression-type sleeves, thus eliminating the excessive resistance. He explained that the operations of the railroad had become so dependent on wire line communications services to the extent that failures or unsatisfactory operations could not be tolerated.

In brief, he was authorized to repair the lines as he saw fit, and to do a good job. Furthermore, he was instructed not to let maintenance of this nature accumulate in the future, but to keep the lines in first-class condition.

This instance is evidence of the fact that railroad managements are now recognizing, as never before, the increasing importance of more and better communications facilities. Looking at this in another way, perhaps there is merit in the thought that it pays for one to stand on his feet and ask for what is needed to make his part of a railroad function properly.