

arrangement because they do not have to go on to the crossing to flag.

Need for Such Control

C. H. Tillet

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It is feasible to provide weather-proof switches at a crossing so that trainmen can take charge of the operation of the crossing signals, and it is sometimes desirable to make such provision.

The public, through the various regulating commissions, is becoming more insistent, and properly so, that the operation of the crossing signals shall more nearly follow the facts, as to the probable use of the crossing by a train. This means that they should not only operate when a train is coming, but that they should not operate if no danger is imminent. Where frequent switching operations are made over the crossing, it is better to have a trainman take over the control of the crossing signal. In doing so, however, he should not overlook putting it in condition for normal operation in his absence, and to insure that he does so we have provided that this is automatically done when the trainman removes his hand from the box housing the control switch. (See article on page 240, September, 1933).



Signals at Automatic Interlockers

"What factors are of most importance in determining whether the home signals in an automatic interlocking plant should operate to three positions or only to two positions? Under what conditions should a speed limit be imposed?"

Automatic Plant Safe as Any

H. C. Lorenzen

Assistant Signal Engineer, Pere Marquette, Detroit, Mich.

We would use two-position signals in non-automatic territory and three-position signals in automatic signal territory at an automatic interlocking plant, the same as if we were installing a manually-controlled plant. At locations where the conditions will permit of the installation of an automatic interlocking plant, there should be no speed restrictions other than what is required by state law for railroad crossings at grade, as, I believe, an automatic interlocking plant is just as safe as a manually-operated plant.

No Speed Limit Needed

P. M. Gault

Signal Engineer, Missouri Pacific, St. Louis, Mo.

The purpose of the home signal is to convey information as to the use, by a train, of the track within the limits of the plant. A further purpose may be to convey information as to the condition of the signal governing the next block beyond the plant. The indications which the home signal may give should be consistent with these purposes.

For a road using three-indication signals the home signal should be capable of indicating "Stop," "Prepare to Stop at Next Signal," and "Proceed." When located outside of automatic block territory the "Approach" indication should be eliminated and only two indications used.

An automatic interlocking is as safe as any other kind of interlocking and, in my opinion, no speed limit should be imposed on account of the automatic feature.



Moving Interlocking Machines

"What experience have you had in moving an interlocking machine from one tower to another? How can this be done without interfering seriously with train movements?"

Machine Moved with Plant in Service

LeRoy Cone

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Several years ago a tower at an electric interlocking was badly damaged by a derailment, and it was necessary to remove the machine (which contained 28 levers) from the tower before a box car, which was leaning heavily against the side of the tower, could be pulled away by a wrecker. Of course, there was no time to make any special arrangements to keep the plant working. Therefore, the wires were disconnected; the machine was moved out promptly, and was set up in a flagman's shanty on the ground, about 30 ft. east of the old tower.

In due time, the tower, which was of brick construction, was rebuilt and then came the time to replace the machine in the tower and, as this was a "hot spot," we were told that we could not put the plant out of service. Therefore, arrangements were made to move the interlocking machine without interruption of train service.

Although the tower was of brick construction, there was a large double window in the east end, and the center portion of the window was removed to give ample opening for the machine to go into the tower. All of the wires were terminated in a junction box in front of the tower, these wires having been extended to the temporary quarters, and were spliced out long enough to go up through the window and to the proper position for the machine in the tower.

Machine Mounted on Skid

This done, a skid or platform was made of oak lumber large enough to allow a man to stand on it close to the machine and operate the levers. The machine was securely bolted to this skid. By sliding the skid along the ground the machine was moved close to the tower. The machine had to be lifted about 20 ft. and to accomplish this, we made a large pile of ties, setting them across each other. This pile was started all around the machine, then the machine was lifted one end at a time up one tie height, and then another layer of ties was placed and the machine was lifted up another tie height. This was repeated until we were level with the window sill. Then a few ties were placed in the tower to the level of the machine outside, and the machine was moved through the double window on to the ties in the tower. One tie at a time, the ties were taken out until the