Editorial Comment

Is 20 Seconds Enough?

TWENTY seconds is just as much time as it was years ago when the Signal Section, A.A.R., prepared requisites requiring that automatic highway crossing protection be controlled to start operation at least 20 seconds prior to the arrival of the fastest trains at a crossing. A new consideration, however, is the increased length of coupled highway vehicles, and the slow speed at which they proceed over a crossing after starting from a stop, especially when ascending a grade.

The laws in different states vary as to the maximum overall length of coupled highway vehicles, but vehicles measuring up to 45 ft. or more are not uncommon. Highway vehicles hauling oil and gasoline are required by law, in some states, to stop before proceeding over any railroad crossing. A further point of importance is that any highway vehicle may stop before starting over a crossing, and, therefore, maximum timing may well be figured from a standing start. Many highway trucks and tractors have extra low gears to be used when starting. Whether a driver uses the lower gears, and how fast he shifts to higher gears, are variable factors which depend on local grade conditions at particular crossings. The number of tracks and the angle of the crossing are also factors which may increase the time to cross.

While passing over a railroad crossing is no time for a driver to dally, and few of them do. Nevertheless, some of the coupled vehicles now being operated on highways are so long and, at some locations, are being operated at such slow speeds when starting that perhaps more than 20 seceonds is required to pass over some crossings. Therefore, it might be well to make a check of local conditions at important crossings to determine whether 20 seconds minimum warning time is sufficient, and if not, make changes to lengthen the approach control track sections. However, this is something that easily can be overdone, if applied to all crossings. The objection to too long a minimum warning time at most crossings is that the delay is too long for highway vehicles when a slow train is approaching. This leads to a demand for speed selection controls on tracks where both fast and slow trains are operated. An arbitrary increase from 20 seconds to 30 seconds, for example, is not, therefore, a cure-all. The railroads, as well as the public on the highways, will be served to a better purpose by confining the big increases, above the 20 seconds minimum, to only those crossings where local conditions warrant. Perhaps the Signal Section, A.A.R., could take action on this matter as a guiding influence before too many states take arbitrary action to raise the minimum to 30 seconds or some other higher figure, irrespective of local conditions at various crossings.

Telephones at Signals

IN addition to telephones at stations, there is an increasing need for telephones at various outlying places along railroads where they can be used by track and signal forces, as well as by train crews in case of emergencies.

Some roads provide a telephone at each switch or group of switches leading from the main track to industries. Such phones are used primarily for communication between the conductors of switching crews and the operators at the nearest offices. These phones are usually on a so-called block circuit, and on many roads this block circuit also extends over entire divisions, with phones at all outlying switches, as well as at other important points where trains may stop. On single-track where absolute permissive block signaling is in service, a telephone at each absolute signal is a necessity to be used when a train encounters a Stop aspect on such a signal.

The new Interstate Commerce Commission rule 136.567 deals with restrictions imposed when the cab signal or train control equipment on a locomotive fails on the road. As explained on page 479 of the August issue of Railway Signaling and Communications, in case of such failure, alternate practices can be used: (1) proceed to point of communication, (2) establish absolute block by converting permissive stop aspect of automatic signals to absolute stop aspect.

With reference to (1) above, "a point of communication" presumably would be any open office or any wayside location where the conductor of a train could use a telephone to talk with the nearest office or with the dispatcher. If the practice as outlined in (2) above is adopted, a means of communication, such as a telephone will be needed at each and every automatic signal because if a train, with cab signaling out of service, encounters a red aspect on such a signal, it will, under such circumstances, be an absolute stop, and the conductor will be required to communicate with the nearest operator or dispatcher to receive authority for the train to proceed. Therefore, a logical solution would be to install a telephone at every automatic block signal.

An alternate practice would be to provide, on every train, a portable telephone that could easily be connected by clips on hand poles to the line wires of the dispatcher's circuit. This practice is now in service on several roads.

A conclusion is that when planning installations of train stop, train control or cab signaling, some thought may well be given not only to the operating practice to be made effective when equipment fails on a locomotive, but also to the telephones needed in case of such a failure.