Centralized Traffic Control Indications

"What indications are necessary or desirable on the control machine of a centralized traffic control system?"

Complete and Permanent Switch, Signal, OS, and Approach Indications are Desirable

By W. F. Zane
Signal Engineer, Chicago, Burlington & Quincy, Chicago, Ill.

A CENTRALIZED traffic control machine should have complete light indication. The indication should be displayed on the machine during the entire time that the field conditions, which produced this indication, remain. The track diagram should receive indications from each OS point and there should be approach indication of a train entering controlled territory. The switch indication should be a normal, and a reverse, light. The signal indication should be a left-, right- and normal-indication.

It is necessary that the face of the control machine at all times be an exact picture of the field conditions in order to effect the desired economies made possible by these installations. Proper indications help to permit the party handling the machine to execute other duties. If he is a dispatcher, he will have other things to do; if he is an operator, the chances are he will have to handle telegrams and possibly sell tickets, all of which is possible in connection with the operation of one of these machines. The economies effected by such an installation are increased by placing its control under some person already employed, instead of at a point where the result of its installation would be an increase of force.

Visual Approach Indication Most Important

By J. H. Schubert
Signal Engineer, Nashville, Chattanooga & St. Louis, Nashville, Tenn.

THE number and kind of indications depends upon the mileage, number of functions operated, density and type of traffic, and other duties which the controllers may have to perform aside from the operation of the machine.

Where high-speed passenger-train traffic is present with freight train movements, and passing tracks are controlled under single-track operation, the following indications should be provided to obtain the best results.

First and most important, visual approach indications should be provided. This indication should remain until the train enters the home signal limits. Where there are several approaches to the controlled territory, this visual indication should be supplemented with a single-stroke gong.

Next in importance is a visual indication of the occupancy of the track between home signal limits of adjacent passenger tracks, this indication to remain until the block is clear. Where one or more passing tracks are in controlled limits an indication should be provided showing when the passing track is occupied.

Indication of the operation or position of controlled switches and directional indications of signals are desirable, but not necessary. However, these indications can generally be furnished with very little additional cost and, therefore, they should be supplied.

Where an automatic train graph is used some of the above information is shown on the graph, but where train movements are heavy and the controller has other duties to perform, he cannot take the time to check the train graph before lining up his movements without delay to trains. Variations in some of the above indications may be desirable, depending upon the traffic conditions to be met.

Only OS Indications Are Needed

By B. J. Schwendt
Assistant Signal Engineer, New York Central, Lines West, Cleveland, Ohio

AFTER three years of quite intensive operation of a centralized traffic control system, it is our experience that only the OS indications are really necessary. In the installation mentioned, information as to the approach of trains is brought in by telephone from offices at each end of the CTC section, otherwise it might have been necessary to provide approach-annunciator indications.

There are no indications that the signals have cleared or have returned to the Stop position, and none have been found necessary. In fact, if such indications were provided and it was found that a signal failed to clear or failed to return to Stop, there is really nothing that could be done about it by the dispatcher in charge, so why spend any money to provide apparatus to bring in such information? If the signal failed to clear when intended by the operator, the worst trouble that could happen would be a train stop. By rule, the train crew would telephone in very shortly and explain to the operator or dispatcher that the signal was "red" and ask for insructions. As a general proposition nothing else could be done about it by the operator or dispatcher if he knew the signal was standing "red," except to call the maintainer; and this might possibly get the maintainer on his way to the signal failure a few minutes ahead of the time he would otherwise be called if the operator waited for the train crew to report the case. It is hardly worth spending money to get this result.

The situation is similar with regard to indications on switch machines—that they have operated, or have not operated. If they operate satisfactorily, the information is useless. If they do not operate satisfactorily, the signal will not clear and the train crew, stopped by the signal, will again, by rule, telephone in and ask for instructions. The best an indication could do would be to let the dspatcher or operator know a few minutes in advance that the switch had failed to operate. This would have given the operator a chance to try it again. Many times a stone or other obstruction in the switchpoint drops out when the switch is operated a second time and, therefore, an indication in this particular instance would help matters as it might eliminate a train delay.

In all systems developed to date these additional indications require additional apparatus and necessarily cost money in the first instance and ever afterward cost money to maintain. In the interest of economy, any apparatus that does not serve a useful purpose and justify its keep, should be excluded. In my opinion as to requisites, OS indications are the only ones necessary and all others can be placed in the list of "adjuncts."

If we recognize that indications for signals are necessary on the control machines of a centralized traffic control system, it is going to be quite difficult to explain to anyone why it is not also necessary to