

Switch-Stand Selector

IN 1930, THE Texas & New Orleans installed electric switch machines at both ends of a passing track at Dayton, Tex., the operation of these switches and the signals for directing train movements in or out of the siding being controlled by desk levers in the station. It is 7,700 ft. between switches, the station being 900 ft. west of the east switch. The purpose of installing these power switches was to facilitate train movements and reduce delays for trains entering or leaving this siding. Dayton is about midway between Houston and Beaumont, and when business is good, this passing siding is used several times each day.

At the time this installation was made, an operator was on duty each trick at Dayton station. However, on account of the reduced volume of railroad traffic, it was found necessary to cut the forces to two tricks. With no operator on duty during the third trick, the problem arose as to means of operating the power switch machines in some practical manner other than requiring the trainman to use a hand crank. One means of doing this would have been to install new dual-control switch machines with selector levers, but as the elimination of the third-trick operator was considered only a temporary condition, the signal department had the problem of providing some inexpensive control arrangement which could be removed again when a full force of operators was employed.

Apparatus Devised

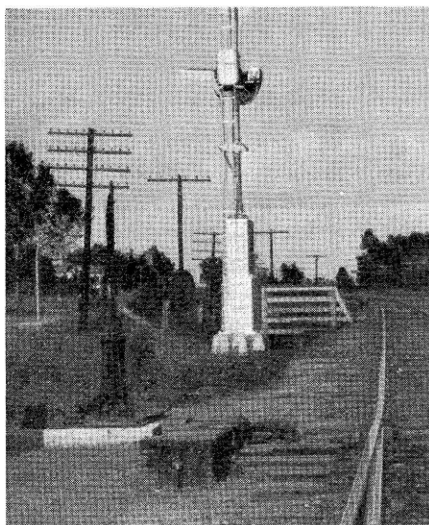
After making a study of the problem, it was decided to install a switch stand at each switch. The only function of the switch stands is to operate a switch circuit controller through which circuits are connected so that when the stand is thrown the switch machine operates in correspondence with the position of the stand. The stand is not connected to the switch itself.

The circuit changes consisted of rewiring the station signal levers so that opposing signals are cleared when the station is closed. Main-line signal controls and normal and reverse switch-operating relay controls from the station are wired through normal contacts of the circuit controllers on the switch stands. The reverse switch-operating relay from the local battery is wired through the reverse contacts of the circuit controller on the switch stands and the

passing-track signal controls are wired through a contact of the reverse switch-operating relays.

Signal Indications Govern

The signals to direct train movements into or out of this siding are controlled by this arrangement so that movement of trains is made on signal indication at all times. Of course, one objection to this is that during the two tricks, when the switch is controlled remotely by the operator, an engineman making a move into or out of the siding under authority of the signal aspects, is required to disregard the clear aspect of the switch target, which does not move. However, if an arrangement of this character were to be installed as a permanent proposition, it would be an easy matter to provide a separate shaft for



The stand operates a controller

the target and connect it to the switch rods so that the aspect of the target would correspond to the position of the switch no matter whether it was being controlled remotely or by the operation of the stand. The position of the switch-stand lever should then be shown by some other visible indication, as the target would not show this. The automatic block signals function to provide the same protection at this switch as at any other main-line switch.

Construction of Device

The switch stand and switch circuit controller are set on a concrete foundation so placed that the stand is located at the standard distance from

the nearest rail. According to regular practice, no lamp is used on this stand because it is located within automatic signal territory.

This arrangement, devised as a temporary measure, has been satisfactory to operating officers and trainmen because it provides a means of controlling the operation of the switch by a standard stand, rather than requiring the use of a hand crank, with which the trainmen are not familiar and use of which would have introduced extra delays.

TIME TABLE RULE CONCERNING DAYTON SWITCHES

The east and west switches of the siding at Dayton are electrically operated from train order office at Dayton.

Interlocking signal and interlocking rules will govern movements over these switches.

When the signal is not cleared or the switch is not set for the route required, train or engineman will communicate with the signal operator by telephone, located in booth or on instrument case.

Instructions for operating the switch by hand, when so authorized by the signal operator, are located in telephone box.

Before moving over the switch with the signal indicating "stop," it must be known the switch is properly set, and a speed of twelve (12) miles per hour must not be exceeded until the entire train has passed over the switch.

Circuit controller located at the east and west ends of siding at Dayton for use by trainmen or enginemen for the purpose of operating remote control switches and is operated by regular switch stands. The switch stands are located near the switches they control and are equipped with targets displaying the usual aspect for position of switches they control.

When train order office at Dayton is closed this apparatus will be used by trainmen or enginemen.

Trains using either of the siding switches shall stop before reaching home signal governing the route and a member of crew shall precede it to operate the switch. While switch lever is operated, position of home signal will change to indicate Stop, after which position of switch will electrically be changed to correspond with the changed position of switch target and signal governing the route will then change to proceed indication.

If either switch shall fail to operate to position desired, it must be manually operated in accordance with instructions posted on inside of telephone box door.

Trains shall not operate over either of these switches against a stop indication of home signal unless points of said switch are spiked. If either switch be found inoperative or does not properly operate when position of switch lever is changed, a member of the crew immediately shall notify the operators during train order office hours and the dispatcher when train order office is closed.