

Telephone boxes T1 and T2 have controls for ice track indicators, also handset for radio and intercom

How to Save Time . . .

When Trains Are Entering Yards

Several good practices have been applied by the Richmond, Fredericksburg & Potomac to save time for northward trains when approaching and entering the Potomac Yard at Alexandria, Va. These practices include interesting applications of special control for power switches on yard tracks, yard-track indicators, and communication by phones and radio

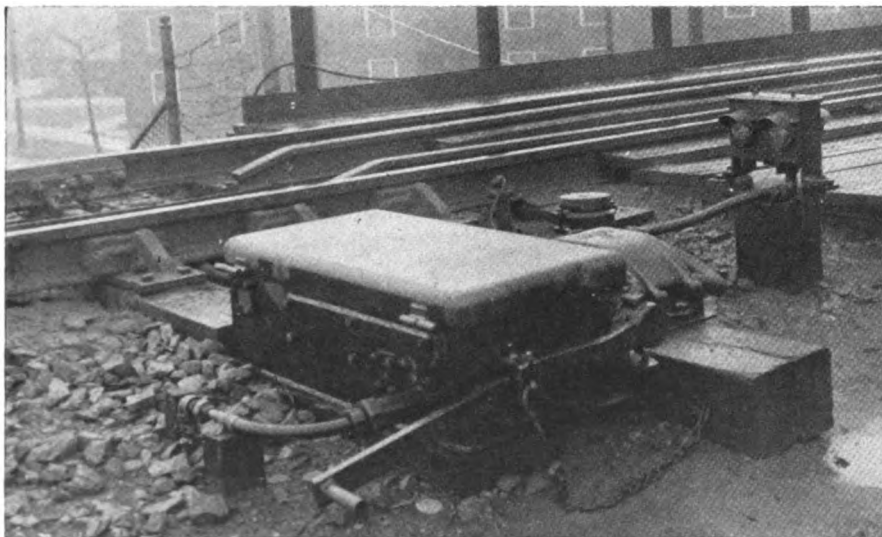
APPROXIMATELY 20 northward freight trains daily enter the receiving yard of the Potomac Yard, on the RF&P at Alexandria, Va. Because these trains are numerous and come from three railroads—the RF&P, the C&O and the Southern—special facilities must be provided to accept these trains and move

them into the yard promptly, so that they will not delay other trains.

The yard entrance is at "DK" as shown in the plan. The Southern connects with the RF&P at a junction interlocking known as "AF" which is two miles south of "DK." Two main tracks, used exclusively for freight trains, extend between

"AF" and "DK." Trains may be run in either direction on signal indication on both of these tracks.

At North Alexandria, one-half mile south of "DK", there is an interlocking known as North Alexandria, which includes crossovers so that trains can be routed either way between the two freight tracks and the two main tracks No. 2 and No. 3, which are passenger train tracks north to Washington.



Non-interlocked power switches expedite train movements into the yard

Yard Interlocking Is New

A new yard-entrance type of power interlocking has been installed recently at "DK" as shown on the plan. The crossover No. 3, and the ten yard track switches on the ladder are operated by Style NA-15 dual control switch machines, designed especially for use on yard switches.

Indicators 2R, 2L, and 4R direct moves over the crossover 3 at "DK." Switches 5, 7, 9, 11, 13, 15, 17, 19, 21 and 23 are not interlocked, in a conventional manner; however, detector locking is provided and time locking requires in-

indicator to indicate Stop before route can be changed for trains entering the yard.

The normal and reverse position of each switch is shown by a colored light indication on ES20 switch indicators. Thus northward freight trains entering Potomac Yard receiving tracks are yarded to proper track without stopping to operate switches.

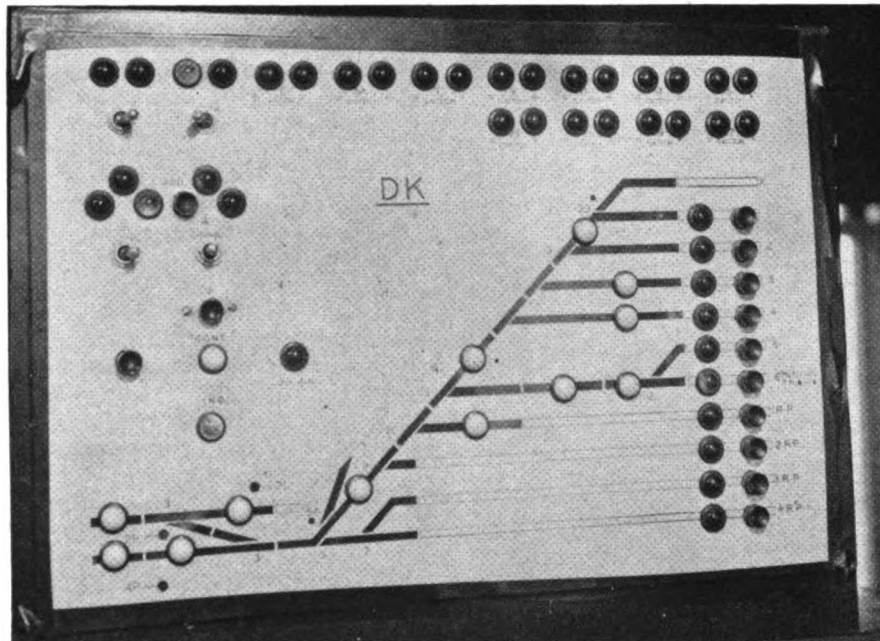
These switches and indicators at "DK" are remotely controlled from "AF." On top of the conventional power interlocking machine in "AF" tower, there is a white panel, 12 in. high and 18 in. long, as shown in one of the pictures herewith. This panel controls the functions at "DK." At the left on this panel, there is a toggle lever that controls the operation of the crossover to normal, or to reverse. One toggle lever controls indicators 2R and 2L, and another toggle lever controls indicator 4R.

To line up the switches at "DK", to route a train to any one of the 11 tracks, the operator pushes a button on the line which represents that track on the diagram on his panel. Thus, this might well be termed "single-button destination" control, as developed by the RF&P. As soon as the route called for is lined up, an indication lamp is illuminated beside the respective pushbutton. This track panel, including indication lamps and track-occupancy lamps, is duplicated in the yardmaster's office, north hump, and also in the hump conductor's box at the northward hump. Thus the yardmaster and hump conductor know when trains enter the yard and are being routed to the correct receiving track.

The power switch machines at "DK" are the special toggle spring type, with dual-control, designed for use in yards. When lining for an incoming train, these switch machines are controlled remotely from "AF" as explained above. When other yard moves are being made, yardmen use the dual-control levers on these machines to operate these switches by hand throw.

Train Approach Indicator

Yard crews can make local switching moves in the "DK" area at all times except when a northward road train is approaching. To inform yard crews that they can proceed with their local switching in the "DK" area, a "train-approach" indicator, facing north, was located on the east side of the tracks south of Braddock road un-



To line up a yard track switch, the operator pushes the button for that track

derpass. This indicator consists of two yellow lamps and can be viewed from any yard track before the fouling ladder. Two lamps are used to prevent delay to operations in the event one of the lamps burns out. This indication is the only aspect given for southward movements from receiving yard tracks.

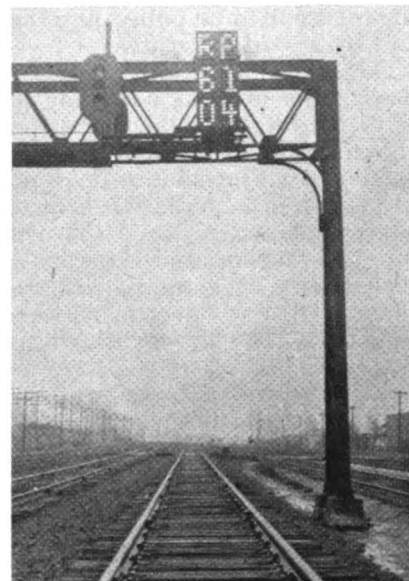
When the operator at "AF" sends out controls to line up a route at "DK" for an incoming train, the two yellow lamps in the train indicator at "DK" are extinguished. This is a warning to any yard crew that they are to clear the "DK" area as quickly as possible, or if clear, not to foul the ladder without first contacting the operator at "AF."

Icing Tracks and Set Over

Prior to the arrival time of an incoming northward train, the yardmaster decides which track the train is to be yarded on. If the train has more cars than that track will hold, he decides which track is to be used for the surplus. If the train has cars of perishables to be re-iced, he decides how many cars are to be set at each re-icing platform.

To give these instructions to the engine crew and train crew of a train before arriving at the entrance of the receiving yard, was a problem that was solved by special indicators and communication facilities.

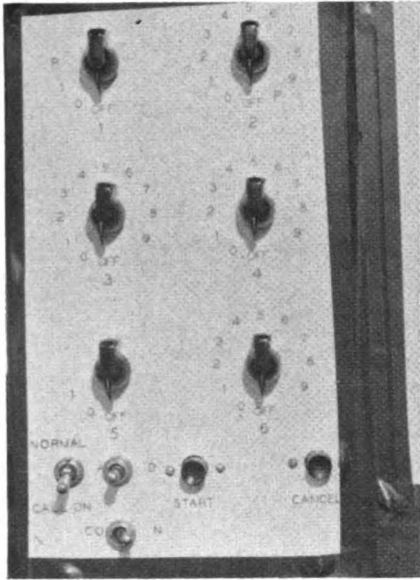
A large-sized indicator, which displays a selection of letters or figures, is located on a signal bridge



Re-icing dock track indicator

about ¼ mile from the yard entrance. The whole indicator is 3 ft wide and 6 ft 9 in. high, each letter or figure being about 12 in. wide and 21 in. high. For example, the indicator may display "02" over "00" over "01." This will indicate to a northward train that it is to be received on track No. 2, and that the head-end cars, in excess of the capacity of track No. 2, are to be set over on track No. 1.

The letters "RP" refer to re-icing platform tracks. The indicator may display "RP" over "61" over "04", as shown in the picture. This will indicate to a northward train that it is to stop to allow the brakeman to cut the train at the rear of the 61st car. Then the first 61 cars are pulled in on No. 4 track at the re-



Yard track indicator control panel

icing station. The cars to the rear of the 61st car are left on the freight running track to be pulled into the yard by a yard locomotive.

This indicator is controlled by the operator at "AF", according to instructions from the yardmaster, who must know, ahead of time, just how each arriving train is to be yarded. The indicator control panel, as shown in one of the pictures is 9 in. wide, and 12 in. high. Each of six dials controls its respective letter or figure in the corresponding location on the indicator at the field location. All the six dials normally point down to the "Off" position. The upper left dial can be turned to three positions "0", "1" and "R." The upper right dial can be turned to eleven positions "0" to "9" inclusive, and "P." Thus, these dials control corresponding units on the indicator to display any track number from 1 to 19, or the letters RP for re-icing platform.

The two center dials can be turned to 10 positions 0 to 9 inclusive. Thus these two dials control the corresponding units on the indicator to display the number of cars up to 99. The two lower dials can control the display of track numbers up to 19.

Special indicators were installed to direct the splitting of perishable trains on the tracks along the re-icing platforms, when handled by incoming road engines. These indicators are located on the overhead ice conveyor bridge about midway of the icing platforms, and can be seen from either the north or south side.

The indicator for the No. 1 re-icing track is located directly over

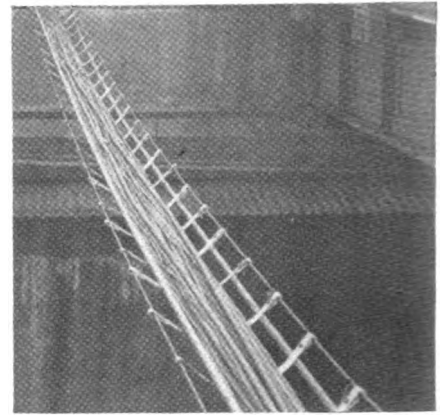
that track. Movements on re-icing tracks No. 2 and No. 3 are directed by an indicator located directly above the center line between these two tracks. Movements on No. 4 re-icing track are controlled by an indicator over that track. These indicators are the color-light type. The lamps in these indicators are normally extinguished. They are remotely controlled by the head brakeman to display "stop," "proceed" and "give slack" indications. The stop and the proceed aspects, displayed alternately, will indicate that the engineman is to give slack, so that the head brakeman can make the cut.

These indicators are controlled by small toggle levers mounted in two wayside telephone boxes along the east side of the track. One box is located near indicator 4R at "DK." The second box is 500 ft further south.

In addition to the levers for controlling the re-icing track indicators, each of these phone boxes includes (1) a dial phone extension 64 in the RF&P PBX exchange; (2) a hand set which, by means of selection dial, can be used for direct communication with the yard master and hump conductor at the northward hump, over the "B" band inter-com; and for calls by radio to the engineman on the locomotive of his train. A selection switch connects through local equipment for the different frequencies used for train communication by the RF&P, the C&O and the Southern.

Based on information displayed by the large yard track indicator, such as "RP" over "61" over "04" the engineman and head brakeman know how their train is to be yarded. The head brakeman drops off at one of the two phone boxes.

He uses the dial phone to call the yardmaster's office to ascertain the initial and number of the car, at the rear of which he is to cut the train, provided this information has not already been received by radio enroute to "DK." By watching the cars approaching him, the brakeman sees when his "cut" car is near. Then he throws the toggle switch to illuminate the re-icing track indicator to Stop. Then after the brakeman cuts the train, he clears the indicator, so that the engineman can again pull the cars on up the re-icing track. The head brakeman leaves the indicator control in the proceed position and rides the rear car of the cut. The indicator will indicate Stop automatically when the rear car clears the ladder. When



Basket trough holds cables over bridge

any questions or special circumstances arise, while making these moves, the brakeman can use the radio handset in the wayside phone box, to call his engineman directly.

The indicators continue to display the Stop aspect for three minutes, and then, by automatic control, the lamps are extinguished. When a string of cars has thus been spotted on a re-icing track, and the brakes are set, the locomotive whistle is blown one long blast to indicate to the ice platform men that no further movement of the cars is to be made, therefore they can proceed with their work.

The operator at "AF" also has control of a special indicator located on signal bridge at "AF" interlocking, to inform the conductor and flagman whether or not they will be picked up by a station wagon from the yard office. If they are to be picked up at Alexandria passenger station a letter "A" will be illuminated. If they are to be picked up at "DK" a letter "D" will be illuminated. If no letter is illuminated they stay with their train until it is yarded and then walk to the yard office. The yardmaster advises the operator at "AF" regarding the display of this indicator. The yardmaster instructs the driver of the station wagon to be at Alexandria station or Braddock road, as the case may be.

The tracks are on bridges over Braddock road. Over this street the cables for signal and communication circuits and an air line are laid loose in a basket trough as shown is one of the pictures. At each side of the trough there is a 3/8-in. stranded Copperweld messenger. Cross straps made of impregnated canvas, 3/8 in. thick and 1 in. wide are spaced 1 ft apart, along the messengers. Hooks, made of sheet copper, are clamped on the ends of the straps and over the messenger.