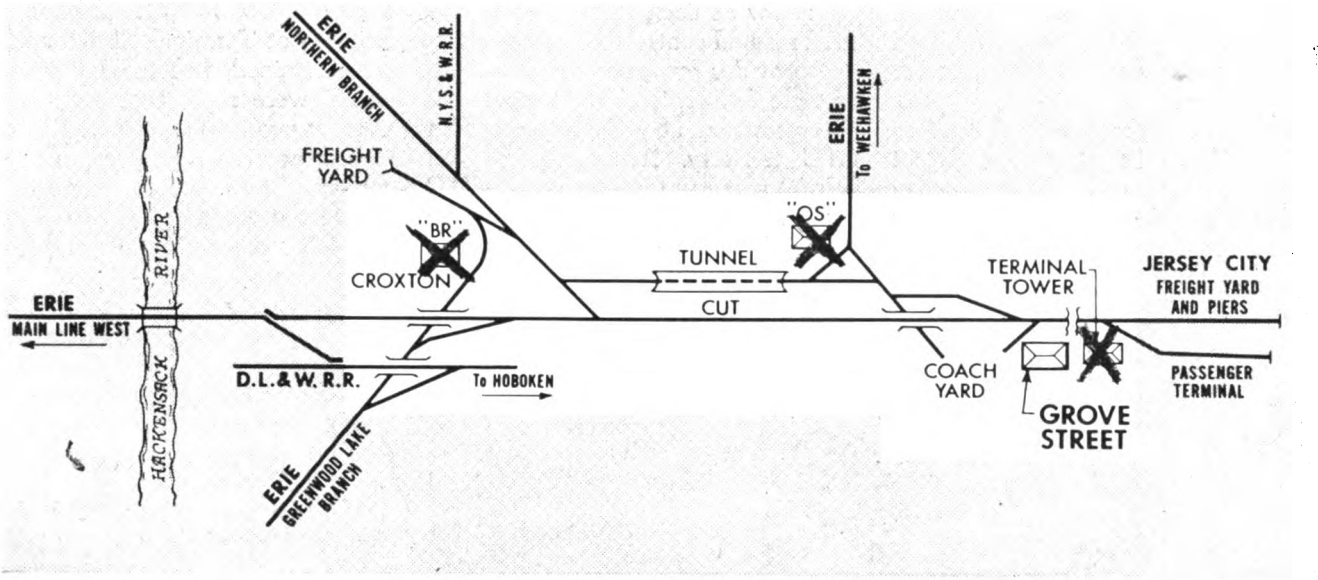
RAILWAY SIGNALING AND COMMUNICATIONS



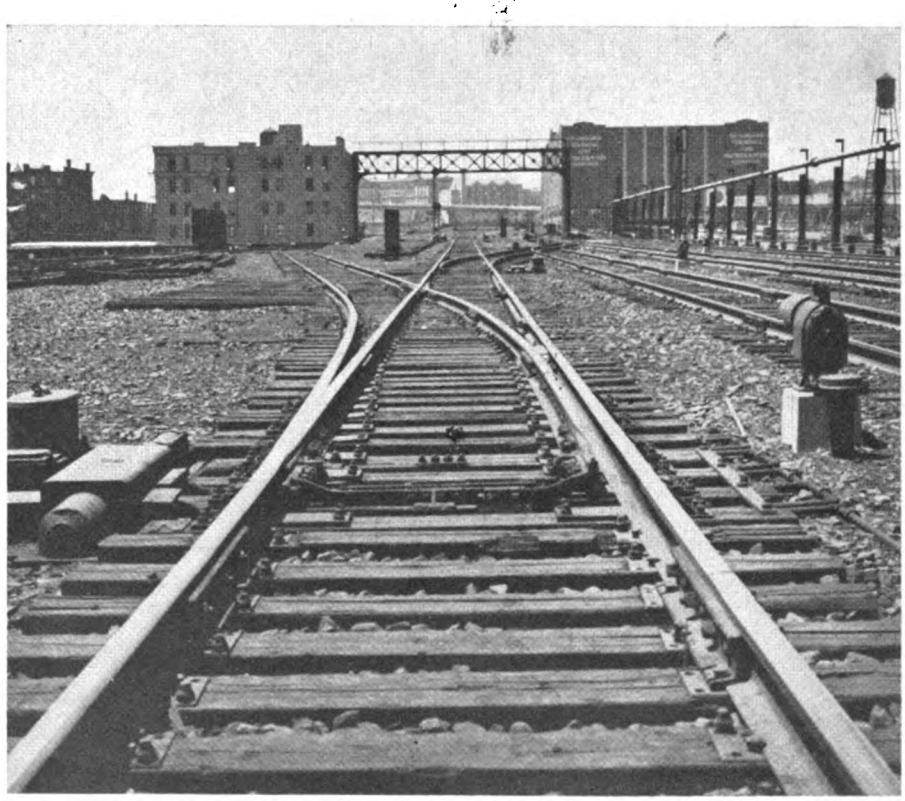
A schematic track plan of the Erie at Jersey City. Northern Branch passenger trains back up a mile to cross to DL&W.

Erie Consolidates Interlockings

IN A STEP toward elimination of duplicate facilities and to reduce operating expenses, the Erie for some time has been running its passenger trains into the Lackawanna terminal at Hoboken, N.J. Formerly all Erie trains ran into its Jersey City terminal. As a result of this move the Erie has consolidated the functions of four interlocking towers in the Jersey City terminal area into one tower.

Terminal tower used to be a very busy place: a train director, assistant director and three levermen were required to handle the peak morning and evening rush hours. Each day 170 trains passed through the interlocking. Now Erie passenger trains leave their own tracks just east of the Hackensack River bridge and proceed to the DL&W passenger station at Hoboken. Only a handful of NYS&W commuter trains still use the Erie platforms at Jersey City.

Trackage has been reduced considerably. The route through the tunnel (built in 1861) had been single tracked some time ago. The former four-track route through the cut



Much track has been removed from the Erie's former passenger station at Jersey City. The unused signal bridge in the background awaits dismantling. Steam pipe at right crosses back and forth between the ties, serving as a snow melter.

(referred to by the Erie as "through the arches" because of the number of Jersey City streets which pass overhead) has been reduced to one track. Nevertheless, the freight movements to the Jersey City piers, the Weehawken, Greenwood Lake and Northern Branches, and the main line keep this area busy. About a dozen engines are serviced each day at Jersey City, and the coach yard at Grove Street is still in use.

The area formerly served by Terminal, Grove Street, OS, and BR towers is now controlled by one man each trick at Grove Street. The new control machine there is a GRS miniature lever machine. An item that spurred this project was the construction of a connection from the New Jersey Turnpike to the Holland Tunnel. One pier of the connection is in the same spot that OS tower once stood.

Grove Street and Terminal areas are controlled by direct wire, while GRS code controls the former OS and BR locations. In the instrument bungalow at each code location are local manual controls. This Erie practice provides for local control in case of code failure. This local control is also provided at ends of sidings in CTC territory. It recently proved helpful when the Erie moved a CTC control machine from its Jersey City terminal to the Lackawanna station at Hoboken. Men at the ends of sidings used local controls to operate switches and clear signals, thus expediting train moves while the control machine was out of service.

Existing US&S relays were reused as much as practicable. However, the new US&S PT55 time element relays were used for the time locking circuits. These relays are driven from one 180 DM code transmitter.

The US&S electro-pneumatic switches at Terminal, Grove and OS were retained, but the EP switches at BR were replaced by model 5C GRS low voltage machines. The compressor at BR was needed to replace a worn out air pump at one of the other locations, and the few switches remaining at BR did not warrant running a pipe line there.

The electric switch machines have an emergency hand crank mounted in a case on the side of the bungalow at BR. Removal of the crank and the brake release lever from this case automatically removes power from the switch machines.

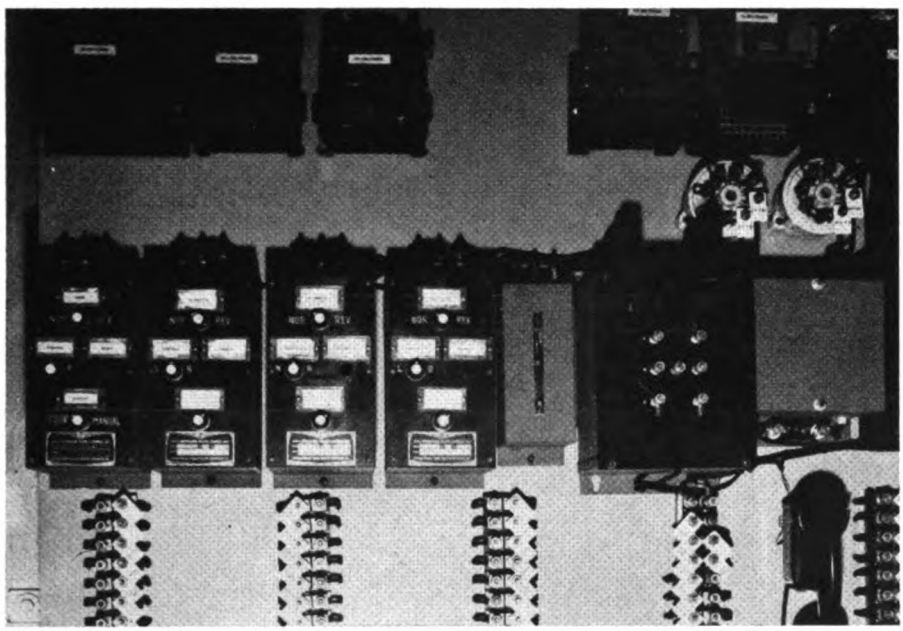
The Erie's wiring is worthy of special mention. All relay wiring is done with solid wire. The square corners make a particularly attractive appearance and facilitate tracing wires. As all relay terminals, including spares, are wired to the terminal board, future wiring changes will not require running leads direct to the relays. The wires are identified by plastic Actioncraft tags. These are manufactured by Transcontrol from lists of the required nomenclature supplied by the Erie.

Each bungalow has a loud bell and horn. Operation of an emergency whistle switch on the control machine causes the horn to sound for the train crew to call the tower by phone for instructions. The bell provides an audible maintainers call signal.

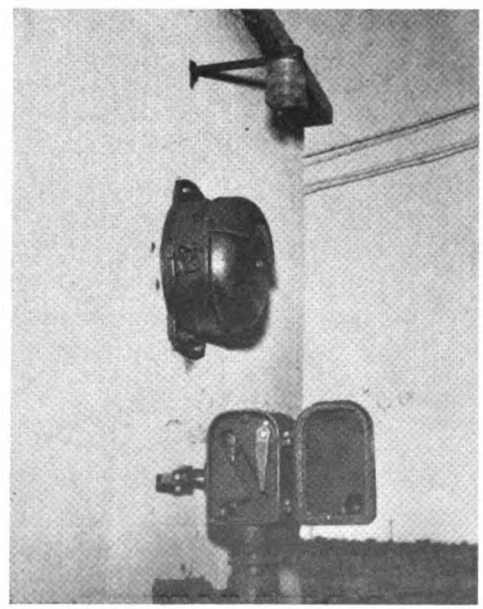
In the event of ac power failure, the Edison nickel iron batteries feed an inverter in addition to the usual dc loads. This inverter supplies ac for code requirements.

Snow melting at all but the BR area is accomplished by steam pipes between the ties under the points. The Erie's steam generating plant serves a nearby industry in addition to its own requirements in the yards and shops. Rails Company propane gas snow melters keep the switches in the BR area clear.

The design and installation was under the direction of F. Youngwerth, General Superintendent of Communications and Signals. The field work was under the direction of General Signal Inspector J. A. McQuiston.



These units provide for local control of the remote interlockings in case of a code line failure. The bottom lever shifts the unit from code to manual control. The top lever controls the switches, the center levers control the signals.



Box at bottom contains brake release lever (right) and crank (left) for hand operation of the electric switch machines at "BR." Removing levers automatically cuts power off of switch machines. Maintainers call bell and light are above.