Editorial Comment

Change-Over Circuits

FROM the standpoint of safety of train operation, the temporary circuits that are placed in service during change-overs, as for example from straight automatic block to centralized traffic control, are highly important. When the automatic signaling was installed, perhaps years ago, the circuits were designed with care and checked in detail after being placed in service. Likewise the circuits for the new centralized traffic control were prepared carefully, and were checked as well as double checked before starting field construction. On account of the vast number of circuit changes that are involved in a change-over, it is impracticable in most instances to prepare blueprints on which the new wiring can be indicated in red and that to be removed in yellow.

One procedure followed in some instances is to relocate the signals as required for centralized traffic control, and then provide temporary wiring to restore straight automatic block protection. Then, in certain respects, another series of changes in wiring may be required in the final change-over to centralized traffic control. Ordinarily these various changes are made, if possible, between train movements, in order to prevent delay to traffic, and as a result very little time is available either for making the changes or for checking. A question arises, therefore, whether such procedure provides all that may be desired to insure complete safety of circuit protection during the various temporary setups of circuits.

Anxiety on this score is not easily eliminated, although several roads have adopted practices to minimize the possible hazard. In brief, a sufficient number of signals, masts, cases, relays, etc., are assembled to permit everything to be installed that is required at the new locations, without disturbing that previously in service. The final change-over is then confined to a limited number of changes in track circuit connections and perhaps line wire connections, thereby affording opportunity to check these final changes carefully before a train movement is made.

An orderly procedure can then be followed in removing the materials that are to be taken out of service and re-installed as required on other sections that are to be changed-over. On an extended project, therefore, minimum quantities of equipment and materials are left over, and these in turn can be prepared for a repeat procedure on some future project or can be used gradually in maintenance replacements. The primary benefit of the practice herein discussed is the elimination of nervous strain on all concerned with regard to circuit protection during temporary wiring arrangements.

When changing over from automatic block with train orders to centralized traffic control without train orders, a practice used on the Burlington, as described in the May issue, is worthy of emphasis here. In brief, the power switches and signals at the two ends of a passing track are installed as required in the final centralized traffic control, but are bulletined in service temporarily as remotely controlled interlockings, the use of train orders being continued for authorizing train movements. When the final power switch is completed, the territory as a whole is bulletined in service as centralized traffic control, a point of importance being that no circuit changes are required on the date when the method of authorizing train movements is changed from train order to signal indication.

Stop Rust and Decay

MANY materials required for replacements in railway signaling will be scarce for the duration of the war, and every effort should, therefore, be exerted to protect the facilities that are now in service. Since paint and other preservative materials are available, they should be used to minimize rust and decay wherever possible.

For example, the manufacture of insulated wire and cables is restricted on account of the scarcity of not only the insulating materials but also the copper for conductors. Because of this fact, several roads have initiated special cable conservation programs for this summer to make sure that the cables will last for the duration of the war. Paint or other forms of protective coatings are being applied on all aerial cables now in service, and where underground cables extend into housings, the ends are being inspected and given an additional coat of preservatives.

The manufacture of padlocks and keys has also been restricted, because of the brass used. The thousands of such locks in service on instrument cases, signals, controllers, etc., as well as the keys, should be protected by applying graphite or other similar lubricants.

Sheet metal cases and houses used for instruments and batteries should be inspected to remove spots of rust, and paint should be applied to prevent further deterioration. Metal bootleg outlets, and cable connections to rails, as well as rail bonds, are being coated with special greases which not only prevent corrosion but also afford lubrication, thereby minimizing wear and breakage. These and other similar practices should be carried on to an even greater extent now than during peace times, thereby affording direct aid to the war.