

WHAT'S THE ANSWER?

(Continued from page 31)

able to give a "high green" or clear signal and maintain operation at maximum authorized speed permitted for the territory, with no restriction placed on account of the No. 24 equilateral turnout.

Safety and comfort limit the speed with which a passenger train may negotiate a turnout and any speed that gives comfortable riding is well within the limits of safety. We find that at maximum authorized speed riding conditions are comfortable with the No. 24 equilateral.

Studies have proved that unnecessary stops and slow-downs cost money, and with the No. 24 equilateral turnout we have eliminated the slow-down which would otherwise be required to negotiate a lateral No. 24 or sharper lateral turnout. And with high speed freights, savings can be evaluated in running time, brake shoe wear, fuel consumption and market arrival time.

We know of no outstanding disadvantages chargeable to the equilateral turnout, except perhaps the higher initial installation cost, which we consider is amply offset by the economies derived from the higher speed operation and the elimination of slow-downs.

Considering turnouts to sidings. Level lateral turnouts No. 15-16-18 and 20 with 30-ft straight points are good for 36 mph; this can be increased if made equilateral and curved points installed at increased installation cost. However, with maximum authorized

speed of say 75 mph, the turnout not being good for 75 mph, would therefore require to be signaled for medium speed (half maximum authorized speed), which would eliminate any advantage to be gained outside of riding comfort. Therefore the Erie does not install equilateral turnouts at sidings.

Power Line Carrier

Have you tried making use of the signal power line for transmitting carrier type signals, such as the type used in hotbox detection? What precautionary steps must be taken to insure success? What is the distance that the carrier signal is being transmitted? Who supplied the coupling devices, etc.?

Trainphone Carrier on Power Line

F. L. CHATTEN, System Engineer—Communications and Signals, Pennsylvania, Philadelphia, Pa.

We have not attempted to use signal power lines for transmitting carrier signals in hotbox detector service. We do use a signal power line for transmitting trainphone carrier signals, the power line serving as an antenna for inductive train communication. For train communication the signal covers a distance of about 68 miles. This is not a maximum distance obtainable, but is the distance over which the system is used.

Carrier signals on open wire must

be coordinated with other neighboring carrier systems by negotiations, since the use of carrier frequencies is practically unregulated.

The coupling device is a capacitor designed for this particular application by the manufacturer of the trainphone equipment.

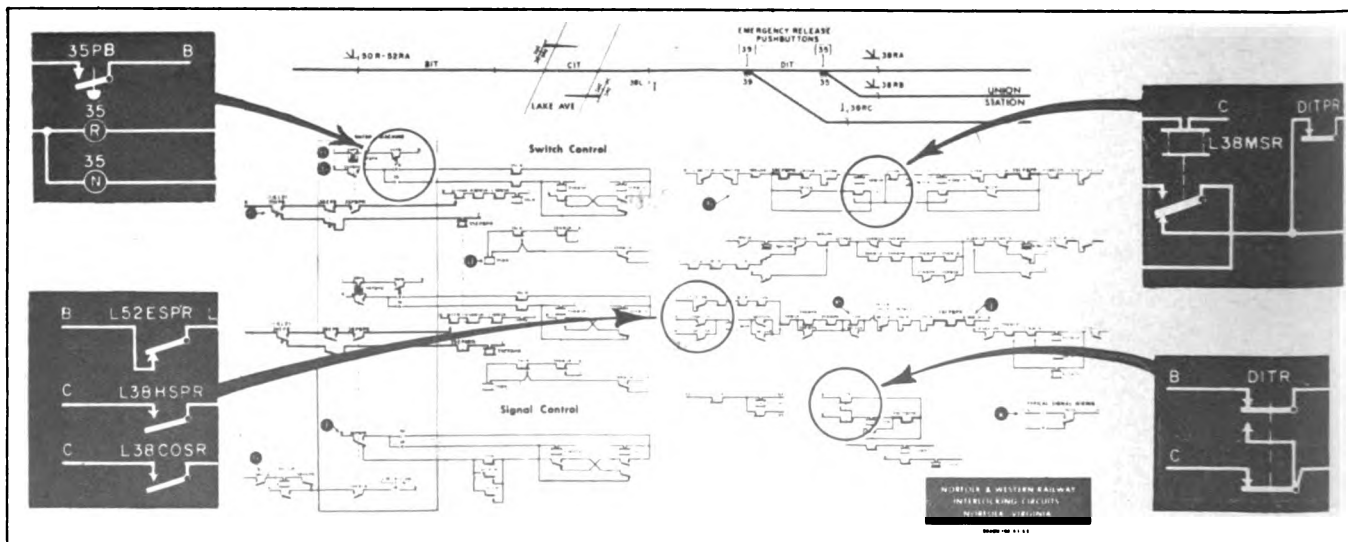
Communication Lines Available

P. V. MATHER, Assistant Engineer—Signals, Chicago, Milwaukee, St. Paul & Pacific, Chicago, Ill.

We have not as yet made use of the signal power line for transmitting carrier type signals, either for hotbox detection or for other purposes. One reason is that in non-electrified territory we obtain commercial power locally, the maximum length of power line being about 10 miles. Another reason is that a communication or CTC code line has been available and more readily adaptable for carrier transmission over the distances so far required. The remaining sections of transmission lines for AC signaling in non-electrified territory are being abandoned as signaling is converted to DC operation with battery standby. In electrified territory carrier circuits for the remote control of substations are handled on communication lines.

Until such time as greater distances between field and read-out require transmission by carrier, it is our plan to utilize communication and CTC code lines for hotbox detector information.

CORRECTIONS for "Underwater Interlocking" Circuits



The fold-out circuit plan in the January issue, page 22, regrettably contained four errors. These errors were spotted by observant readers who called them to our attention. They are: (upper left) lower lever contact should be **35N**, not 35L; (lower left) left side connections to relay L38HR should lead to common, "**C**", not to "B"; (upper right) stick contact on relay L38MSR should be

making its **back** contact, not its front contact; and (lower right) left side connection to relay DITPR should lead to "**C**", not to "B". These corrections have been made the same size and color as the original circuit plan, and the squares may be cut out and pasted on top of that plan to provide a corrected plan of N&W interlocking circuits.