

C&S: Conrail matches big plans with big money

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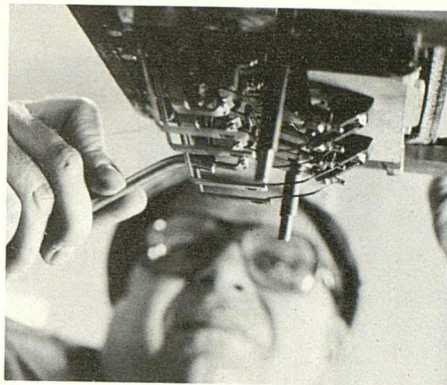
After years of famine experienced by its six predecessor railroads, Conrail is earnestly putting its communications and signals house in order. Its 1977 budget tops off at \$91.3 million as major programs are being launched to give Conrail the C&S equipment and facilities essential to proper train control, safety, and reliability of operations.

Of the proposed expenditures for this year, \$84.3 million is earmarked for signaling and \$7 million for communications. The current signals budget breaks down to \$54.5 million for normal maintenance operations, \$14.1 million for road capital projects, and \$15.7 million for rehabilitation. The latter two expenditures are directly related to the creation of Conrail last April 1, and are referred to in the guidelines set forth in the Final System Plan and the FSP Supplemental Report of September 1975.

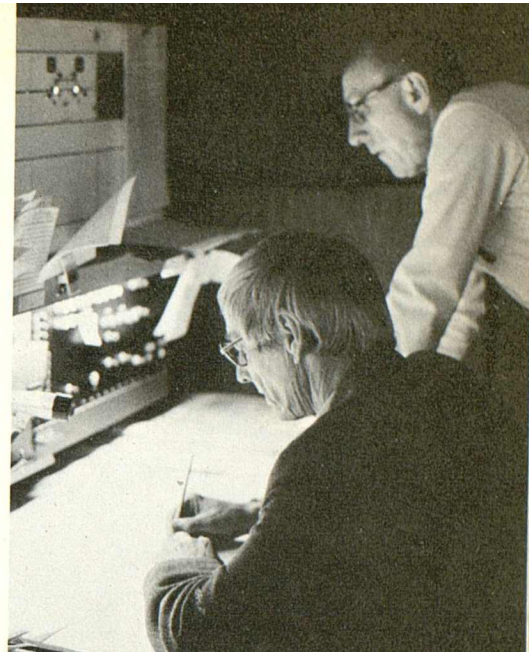
"The FSP," Conrail's Carl N. Taylor, vice president-operations, planning and control, told *Railway Age*, "provides an outline of recommendations which Conrail incorporates into the development of its programs. These recommendations are treated as guidelines within which Conrail can plan its projects. However, the projects are based on Conrail's perspective of the railroad's priorities. This view evolves with time and the changing priorities of our immediate environment, with longer-range goals adjusted accordingly. Therefore, while the general additions and improvements budget is within the FSP guidelines, the individual projects and the totals by project types are decided more by financial and operating benefits to Conrail than by pre-ordained projects."

● **Extending etc.** As of Dec. 31, 1976, Conrail had 5,964 miles of track under centralized traffic control (etc) systems. The extension of these systems is a priority item in the C&S road capital budget. Two projects are the installation of a traffic control system from Elkhart to Marion, Ind., started last year, and the Pittsburgh etc consolidation program, started under the former Penn Central.

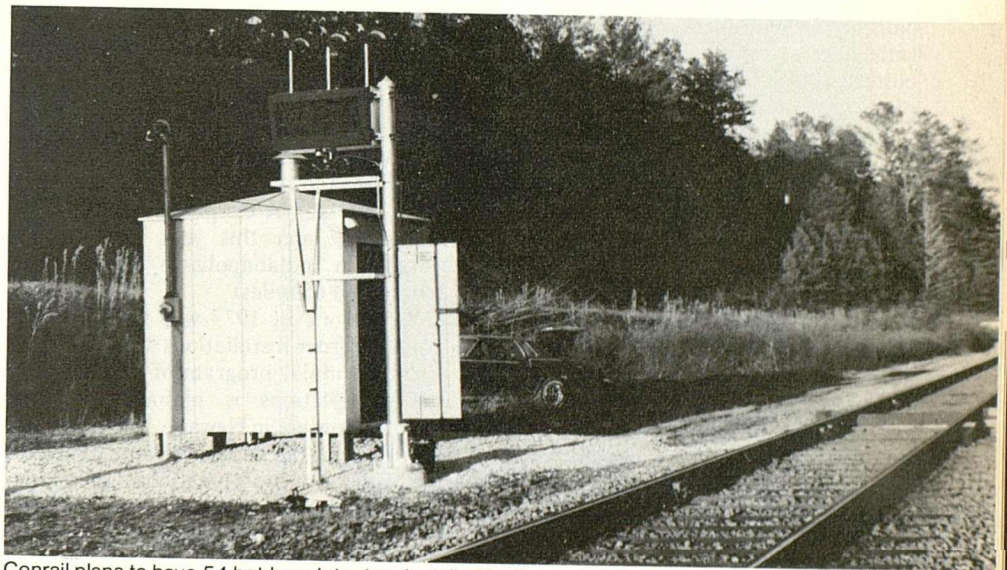
The Elkhart to Marion project involves installing signals on 88 miles of largely single track that had no signaling. A 34-mile segment from Elkhart to Warsaw has already been put under wayside traffic control, without cab signaling. Traffic control rules permit running trains in either direction on the same track with control exercised by signal indicators at two control points. Where signal installations are still under way, control continues under timetable and train orders.



Jim Ferres calibrates a DN-18 relay. The railroad has budgeted \$91.3 million for C&S in '77.



H.J. Rogers and E.E. Snider look over hot-box reports at dispatch board at Columbus.



Conrail plans to have 54 hot-box detectors installed by the end of the year.

The Pittsburgh etc consolidation is an ongoing program that will ultimately involve some 150 miles of main line track from Conpit Junction, 24 miles west of Johnstown, Pa., to Pittsburgh. It affects primarily the two lines extending north from Conpit via the Conemaugh main line, using the Kiskiminetas (Kiski) Junction, and west from Conpit on the Pittsburgh main line.

By year-end, six control points on the Conemaugh line were ready for activation, with 34 of 46 miles soon to be placed under the Pittsburgh etc. The Conpit-Kiski section is all cab signal without wayside signals. On the Pittsburgh main line, control bungalows are being installed, with interlocking under remote control at specific interlocking points.

To sum up what the consolidation is intended to accomplish, Harvey Alexander, chief engineer, communications and signaling, puts it this way: "Visualize the project as being a succession of attended interlockings with right-hand running on

a double-track road, and you have what existed before improvement. What we will have later is the same double-tracked railroad, but revised and remote-controlled by etc so that we can run on either track in either direction."

Replacement of retarders in some of the major yards last year included a master retarder at Elkhart, a master retarder at West Detroit, four group retarders at Stanley (Toledo, Ohio), and four group retarders at DeWitt, N.Y. Other yard upgrading in progress includes the replacement of some cylinder units and control valves at Conway, Pa., and the upgrading of group retarders at Elkhart to 160 tons.

Fifteen of 27 hot-box detectors made by Servo Corp. have already been installed (at five locations in Pennsylvania, four in New York, four in Ohio, and two in Indiana) in the first half of a two-year program. Twenty-seven more are to be installed this year. All are wayside-display detectors.

Conrail's major rehabilitation program includes poles, cross arms, cable footage,



A class at the new System Training Center at Columbus, Ohio, installs lock and point detector rods in switch on training track.

painting, replacement of wooden cases with steel or aluminum, replacement of batteries, replacement of signals and line wire, etc.

Alexander points out that his department gets its project assignments from the operating department, based on a review of what the operating people need and where improvements and installations are to be made. Projects are then set up on a priority basis, cost estimates of the work to be done are prepared by the C&S staff and submitted for approval which, when issued, gets the project under way. "We are a service organization to the operating people," says Alexander.

● **1977 projects.** C&S capital projects authorized this year cover etc yard installations and improvements, new dragging equipment detectors, and the second half of the hot-box detector program. Traffic control systems are to be installed from

Indianapolis to Anderson, Ind. (37 miles), from Union City (on the Indiana-Ohio border) to Ansonia, Ohio (nine miles), and from Plain City, Ohio, to the Buckeye Columbus, Ohio, yard (18 miles). Conrail is also contemplating putting in ctc between Crestline and Orrville (about 60 track miles in Ohio). A ctc project that may be authorized later this year would begin work from Indianapolis to Terre Haute, Ind. (about 65 miles).

Yard work in 1977 will include additional retarder installations at DeWitt and Enola. A major program of improvement and installations is planned for Oak Island Terminal in Newark, N.J. DeWitt is scheduled in the near-term for a complete modernization—automatic switching, management information computer system, and possibly regrading.

Alexander says the current year will see more than 250 dragging-equipment detec-

tors installed, about half of a total of 560 such detectors scheduled to be placed in service over a two-year period. The proposed equipment operates separately from any centralized facility or signal system, and will use a wayside rotating beacon (actuated by sensors) to alert the crew as the train passes by. Installations will be made initially to protect major interlockings and bridges on heavy tonnage routes.

Conrail's highway grade-crossing program this year has scheduled some 300 crossings installations in addition to the 109 installed last year. The railroad has worked out an arrangement with the Brotherhood of Railway Signalmen whereby 190 of these installations can be done by other than Brotherhood members. Of these, a total of nine were placed in service last year.

"Our basic policy," says Alexander, "is to urge states to install complete highway flashers with gates."

● **Communications.** Last year Conrail installed 261 radios in locomotives, cabooses, and highway vehicles. Although Conrail does not at present have a microwave system, engineering feasibility and economic studies will be undertaken this year on microwave and coaxial cables. Also, while automatic dispatching of trains is not now included as part of Conrail's control system, Alexander says, "We are looking at it between Indianapolis and Union City. This would sort out and give higher priority trains preference over the tracks and route. It involves basically having the computer decide what route the train would take, with the computer handling dispatching."

In November, Conrail opened its new signal shop at Columbus, which is responsible for the maintenance and repair of all signal equipment on the system. With over 3,200 employees in its C&S Department—780 of them hired since April 1, 1976—Conrail has established a System Training Center at Columbus for C&S employees. The center officially opened its doors to a class of 14 on Jan. 10. Subsequent classes will number 30 and will be split into two groups of 15, each with a full-time instructor. Courses of instruction will cover a succession of 10-day sessions over a two-year period.

C&S employees will rotate through these sessions in a way that will permit all new employees to learn the basics of how to do their jobs (how to install a track circuit, how to skin a cable and hook it up to a circuit, how to climb a pole, etc.), theory of electricity, block signal controls, and other advanced elements of communications and signals. Special courses of instruction are also planned for veteran employees and supervisory personnel.

C&S engineering is done largely by the Conrail staff, although the workload is such that some of the jobs must be handled by outside contractors. Conrail hopes it will eventually have the engineering people required to handle all of its work in-house. ■

Instructor Charles Holsten (in sport coat) explains an A5 switch machine to his class at the Columbus center, which opened Jan. 10.

