



The Pennsylvania Railroad Harrisburg Power Director's Office Fact Sheet

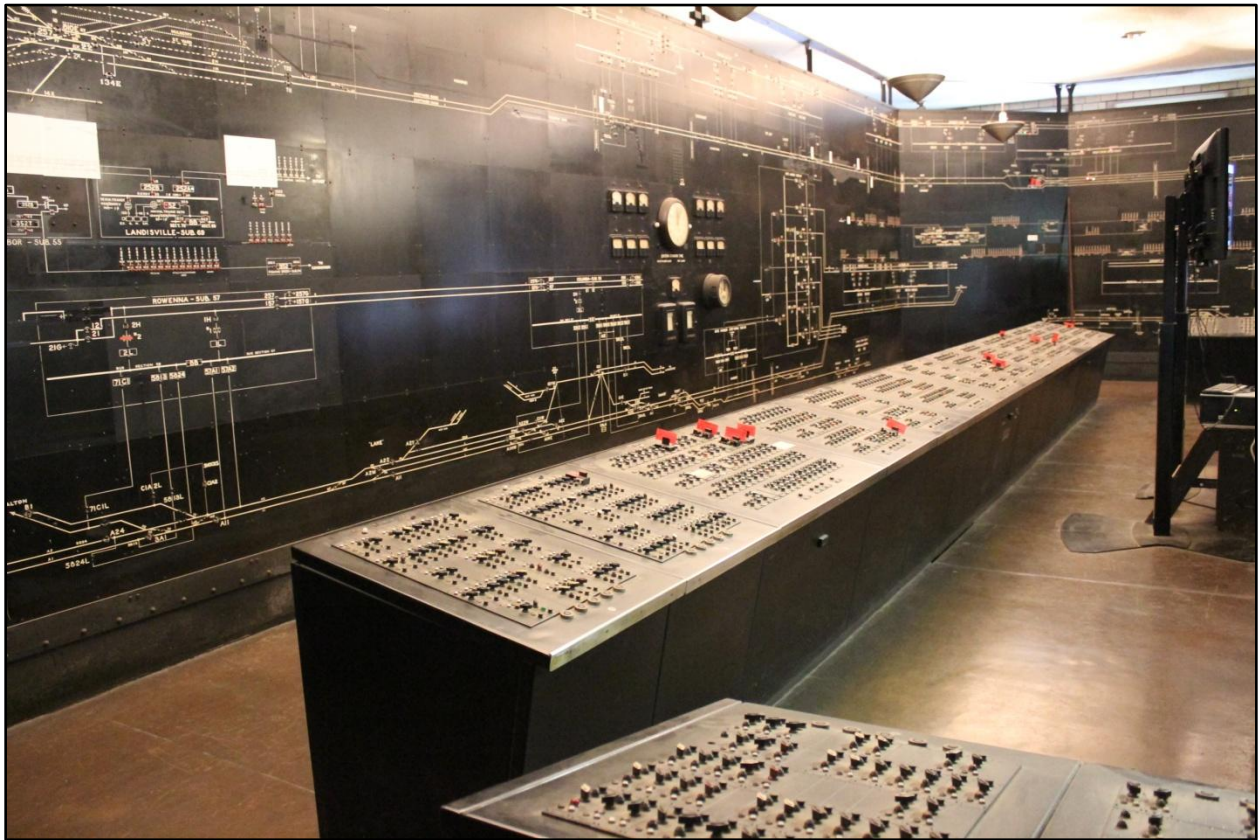


Photo by Al DiCenso

The Harrisburg Chapter of The National Railway Historical Society

Background

In 1915, the Pennsylvania Railroad began electrifying its railroad. Use of electric locomotives offered several advantages over the steam locomotives of the era. Electric locomotives were less expensive to operate and maintain. The use of electric “MU cars” provided faster acceleration and thus reduced running times between stations allowing more trains to be scheduled. The MU cars could be operated from either end, eliminating the need to turn steam locomotives at the end of their runs. The electric locomotives were also cleaner and were better suited for use in tunnels such as those under the Hudson River leading to New York Pennsylvania Station.

Harrisburg was as far west as the PRR went with the electrification of its passenger lines. Enola, PA (across the Susquehanna River from Harrisburg) was the western terminus of the electrification of its freight lines. The Harrisburg Power Directors Office was placed in service in the mid-1930's. It was the last of four PDOs constructed. Harrisburg controlled power on the Main Line from Harrisburg to Frazer, PA (near Philadelphia,) the Trenton Line to near Morrisville, PA and the freight line from Enola to Safe Harbor, PA. It also controlled the Pennsy's famed “Low Grade Freight Line” to Parkesburg, PA. This was the line that allowed freight traffic to and from the New York and Philadelphia areas to avoid climbing the hills present on the route of the main passenger line and allowed freight trains to operate directly into the massive classification yard in Enola.

Historical Significance

The Pennsylvania Railroad was “The Standard Railroad of the World.” Electrification was not just important to the railroad and the areas it served, it was important to the nation as a whole. This massive project not only allowed passengers and freight to move throughout the eastern United States more efficiently and more economically in peace time, it was indispensable to the nation's war effort during World War II. There were uncounted freight trains that moved raw materials to the defense plants and moved war materials from defense plants to the ports. There was also a constant flow of Troop Trains that carried military recruits to training bases and carried soldiers, sailors and marines to and from embarkation points for Europe and the Pacific. While all railroads participated in this effort, the Pennsy's electrification allowed the railroad to handle a great deal of this traffic while minimizing the use of fossil fuels, a precious wartime commodity. This was due to the fact that much of the electricity used by the PRR was generated by the Safe Harbor Hydroelectric Dam on the Susquehanna River.

Engineering Significance

The electrification of the Pennsylvania Railroad's multi-track main lines from New York through Philadelphia to Washington and the Main Line from Philadelphia to Harrisburg was a major engineering achievement of the early 20th century. It was the single largest capital improvement program undertaken by any railroad up to that time. The electrification program cost more than \$250 million (roughly than \$3.2 billion in today's dollars) and covered some 2,200 track miles, roughly 700 route miles. It accounted for approximately 25% of the electrified railroad trackage in the United States. In 1936 the power system of the Pennsy consumed 563,000,000 kilowatt-hours of electricity!

Clearly the system was engineered to last. Much of the system remains intact serving trains operated by Amtrak, Maryland Area Regional Commuter (MARC,) New Jersey Transit (NJT Rail) and the Southeastern Pennsylvania Transportation Authority (SEPTA) to this very day, spanning the time frame of those early MU trains in 1915 to the high speed Acela trains of today.