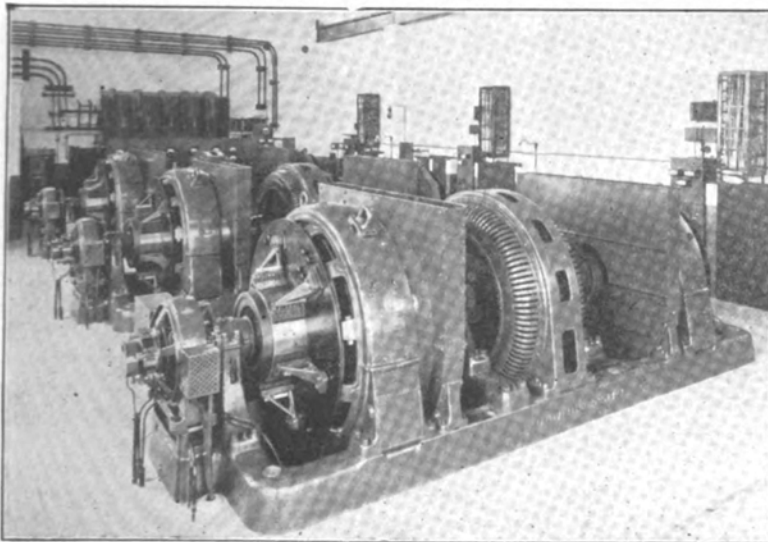


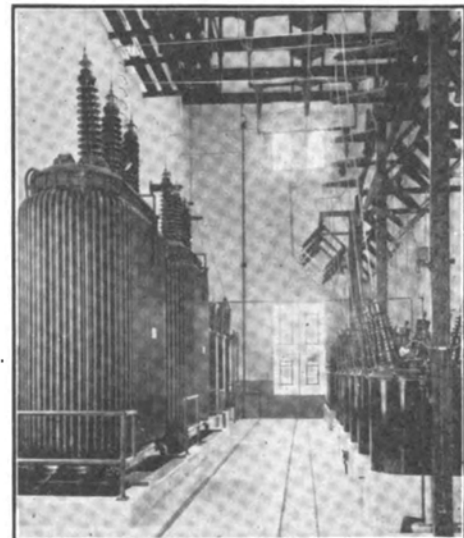
Mountain Electrification Proves Complete Success



Chicago, Milwaukee & St. Paul Electrified Freight and Passenger Trains, Descending Two-Per-Cent Grade on Eastern Slope of Rocky Mountains. Double-Unit, 3,000-Volt, Direct-Current Locomotives Used.



Piedmont Substation With Three 1,500-Kilowatt Synchronous Motor-Generator Sets Furnishing Direct Current at 3,000 Volts.



Morel Substation. 100,000-Volt, Three-Phase Transformers and Oil Switches.



Great Falls Dam and Power House at Volta. One of the Chief Sources of Power Supply.



Interior of Volta Power House, Showing Four 8,000-Kilowatt Vertical Generators.

Entire success with important economies has marked the partially completed electrification of the Rocky Mountain divisions of the Chicago, Milwaukee & St. Paul Railway. The general scope and many of the details of this epochal electrification have already been described and illustrated in the *ELECTRICAL REVIEW AND WESTERN ELECTRICIAN* of December 26, 1914, and October 23, 1915. The first electric locomotives were placed in regular service last December on the 115-mile division crossing the Continental Divide, where they were given their initial tryout under the severest service conditions. Last April electric service was extended to Harlowtown, making 220 miles of electrified road. By November 1, 1916, it is expected that steam engines will be superseded over the entire stretch of 440 miles from Harlowtown, Mont., to Avery, Idaho. Among the advantages of electrified service have been found the following: Reduction in running time, haulage of heavier trains, regenerative braking with reduced wear and tear, freedom from trains being stalled in winter, absolute cleanliness, and popularity with the travelers.