

## COMMERCIAL ASPECTS OF ELECTRIFICATION OF STEAM ROADS

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The author writes a concise statement of some of the most prominent advantages to be secured by the railways, manufacturers, farmers, and the public at large by the electrification of our steam railroads.—EDITOR.

In all probability during the next few years very marked progress will be made in electrification of existing steam railway lines. The economies of operation and the increased facilities secured on the Chicago, Milwaukee & St. Paul Railway mountain divisions, and on the Butte, Anaconda & Pacific Railway installation are so striking as to convince the most skeptical of the advantages of electrical operation; the results obtained on these roads will exert a powerful influence on other lines operating under similar conditions to adopt electrification.

Many indications point to a large increase in operating costs for the railway systems of this country; to offset these increased charges without corresponding reductions in other directions, means that increased charges for service must be made. If, however, economies in fuel, in maintenance, in reduced delays, and in a decreased amount of non revenue freight haulage can be obtained on other roads to the extent that they actually have been on the roads above referred to, a substantial amount can be saved above the return on the investment required for electrification.

While the electrification of steam railway lines is primarily a railway problem, there are other aspects that make it of extreme interest and importance to the entire electrical industry and to the country at large. In Montana and Idaho, as a result of the Milwaukee electrification, the Montana Power Company, from whom the Railway Company purchases power, has extended its distribution system over a territory which previously had not sufficient commercial power possibilities to warrant such extensions. As a result, cheap power is available for lighting and manufacturing purposes in communities that could not otherwise have hoped for these advantages for years to come. The result of this must inevitably be to stimulate both trade and population, which will react favorably to the railway, to the power company and to the states themselves.

It is this broad extension of the use of electric power that must necessarily follow in the footsteps of the electrification of long

railway lines that is of prime importance to the electrical industry as a whole; the logical step for any road adopting electrification is to purchase power from outside power companies; and the loads that would be carried would justify central stations of the largest capacity, considerably in excess of the load obtainable from the railroads themselves. This would probably result in the consolidation of numerous small companies in many parts of the country, and the creation and development of power facilities in sections which are now practically undeveloped.

In all such instances, comparatively cheap power would be made available to small urban communities and to agricultural districts, and this must result in the most far reaching benefits to the general public. A plentiful supply of energy at a moderate price will open up, through irrigation, much of the waste land of the west and southwest; manufacture and trade in villages and towns which are now merely trading posts will be stimulated; and the farmer will be enabled to secure many of the comforts of life now possible only to the city dweller and to employ in his work many of the labor saving devices now beyond his reach.

These things make for the general public welfare. Individually, the manufactures of electrical apparatus, the power companies immediately along the lines of the steam railways, and the railways themselves are particularly concerned and benefited.

But the general prosperity and well being of the nation itself is also concerned. Our national life is complex and nearly every vital factor in it is tied together by the transportation systems and is dependent upon them for proper functioning. It is distinctly to the public interest and vital to its welfare that the railways be operated as efficiently and economically as possible and that their development and improvement be continued and encouraged. It is from this standpoint that the possibilities of electrical operation assume a phase of national interest and importance.