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HIGHER VOLTAGE DIRECT CURRENT

The abstract of the Institute paper on the Butte, Anaconda & Pacific electrification which appears elsewhere in this issue is a most encouraging statement for electrical operation, the reported profit of 20 per cent on the initial cost that was effected through savings over the cost of steam operation being enough to deserve the attention of any railroad management. The statements regarding the negligible effects experienced in service with flash-overs at the high potential of 2400 volts are especially interesting, because this has been a point subject to considerable discussion in the past. In view of the satisfactory results obtained from this step another material increase in d.c. voltage may be expected in the near future. Of course, the proposed installation on the Chicago, Milwaukee & Puget Sound Railroad with 3000 volts constitutes an actual step ahead, but so much has been heard of the practical possibilities and experimental installations of d.c. equipment at voltages far in excess of this that it seems not unreasonable to expect, in the near future, some d.c. installations at 5000 volts or even more, especially in situations where the motor is not restricted in size. This prospect, together with that of the practically accomplished development of the mercury-arc rectifier for railway service, constitute possibilities in the art of electrification of steam railroads that were almost undreamed of when it first began on a large scale ten years ago.

ENCOURAGING RATE DECISION

Elsewhere in this issue is printed an extended abstract of one of the most important rate decisions that have lately been handed down on the subject of electric railway fares. In granting a substantial increase in rates to the Middlesex & Boston Street Railway, the Massachusetts Public Service Commission has done far more than to approve measures of financial relief to a deserving company. It has enunciated most significantly its belief that the future of private ownership under public regulation depends upon a living wage to capital no less than to labor. Its unequivocal stand upon this question, as well as the clarity of its findings, the soundness of its methods in dealing with the evidence before it and its constant alertness in drawing conclusions of general application from the material assembled, will interest the student of rate-making from start to finish. The Middlesex & Boston Street Railway, operating many miles of thinly-populated country lines in addition to suburban lines in Newton & Waltham, has been struggling to earn a bare 4.35 per cent on its investment, unable adequately to care for depreciation but forced to pay relatively high rates for borrowed money, to satisfy the public's demands on high-class service and to meet rising costs of material and an arbitrated wage increase. On account of these conditions the company asked for a 6-cent fare on the entire system and an additional charge of 1 cent per transfer, which would add $110,000 to the company's annual revenues. The commission approved only the former request, with the provision that the company sell nine tickets for 50 cents on those portions of its system where a 5-cent fare now prevails, and give free transfers at all existing transfer points. The granted increase is estimated by the board to yield the company about $70,000 per year. This, the commission says, should enable the company to maintain its property in safe condition by expending for maintenance and revenues, until some general basis for dealing with depreciation is ordered or indicated by the board, substantially 20 per cent of its gross revenue, and also to provide very moderate dividends.

IMPORTANT QUESTIONS DECIDED

This Middlesex and Boston opinion discusses a number of important questions which may only briefly be indicated here. The right of the commission to deal broadly with the company's fare problem, regardless of prior franchise agreements concerning fares on its constituent lines, is admirably set forth. In the light of previous court decisions this was not unexpected, but it is wholesome for the powers of the board thus to be brought prominently and clearly before the public. The reckoning of the return upon the basis of capital investment instead of upon reproduction cost is also significant. The commission does not concede for a moment that money lost during the earlier stages of a public service enterprise soundly and honestly managed should be irretrievably gone from the stockholders. In its opinion, public utilities are never finished, and unless they are kept on good trading terms with the public the whole experiment of private ownership under public regulation must fail. Then, too, the commission feels that the more prosperous lines should, to a large extent, pay the losses on the less patronized routes. It is not unreasonable, it is said, to suppose that some advance over the original fares might now be necessary even upon the better-paying lines if these had continued to be separately operated. These various changes and others allowed by the commission are anticipated to