is found expedient in practice; and in face of these examples in New Zealand let alone examples outside New Zealand, which may be quoted by the hundred there is no need to make any assumptions as to what is necessary for Auckland, with a view to drawing conclusions that standby provisions are too costly.

As regards results, I would refer to the statement made in public by the chairman of the Waihi Gold-mining Company at the meeting of the shareholders held in London on the 8th May, 1916, and reported in the *Mining Journal*, that the saving in working-expenses as a result of the adoption of hydro-electric power, directly and indirectly, is between £20,000 and £25,000 per annum, after allowing for interest and depreciation on the cost of the new plant.

The chairman of the Christchurch Tramway Board has publicly stated in regard to the Board's operations for the year ending March, 1918, that instead of showing a surplus of £5,800, after providing for interest, sinking fund, and depreciation, which they are able to do as a result of taking a supply from Lake Coleridge, they would have shown a deficit due to increase in cost of coal and other working-expenses.

It is quite evident that none of the authorities quoted regard the maintenance of a standby plant as burdensome, even when it amounts to the whole of the power requirements, as in the case of the Christchurch Tramway Board.

As a rule the standby provision is not more than a third of the maximum, and only just sufficient to maintain the more essential services; and in the case of the Christchurch City Council is employed to reduce the peak-load demand from the Government.

Another point in connection with the employment of a standby plant is this: that as time goes on and the system of supply is enlarged so as to link up with more than one source of supply, and when the number of transmission-lines is increased with the increased demand, the necessity of standby plant becomes less and less, and that they may be regarded largely in the nature of temporary expedients.

As regards Auckland, there would be inevitably two lines at the outset, supplemented later by a third and then a fourth line.

Paragraphs 37, 38, 39, 40, 41, 42, and 43.

Some opinions of my own are here quoted regarding desirable limits to the expenditure upon headworks and generating plant, and also quoting an estimate of my own of £40 per horse-power as the cost of large power-supply systems when fully developed. The question of the expenditure per horse-power is a most involved one, and it is quite possible for a scheme costing £80 or £100 per horse-power to be more successful financially than one costing only one-half this rate. The capital expenditure per horse-power depends largely upon the extent to which the power is made available. If the supply is confined to the towns and industrial districts the expenditure is so-much; if extended to supply every farmer and settler, however remote, the expenditure per horse-power is greater, but in so doing the range and diversity of uses is increased and a proportionately greater return is obtainable, whilst at the same time the gain to industry and to the State generally is much enhanced by the greater area covered, and by the fact that the power of production is greatly increased, not only by reason of electric power being placed at the disposal of the individual, but by the possibility of closer settlement and by attracting the population from the towns to the country.

Mr. Lowe seems to be under the impression that the £45 per horse-power spent on the Lake Coleridge system is not only in excess of the estimate—which is not the case—but considers it to be an abnormal figure altogether, whereas any one acquainted with power-distribution would regard it as abnormally low. I have no doubt that the expenditure on the Lake Coleridge undertaking per horse-power of plant will exceed the figure of £45 by a considerable amount, much to the benefit of the community generally. I also anticipate that ultimately, as the lines become more and more utilized, the capital expenditure in terms of the horse-power of plant will be restored to about the present figure.

In paragraph 42 the argument is again repeated that the Lake Coleridge undertaking cost twice the estimate—which is not true—and that therefore the supply to the Auckland district will cost twice the estimate. This does not follow even if the first assumption is true; and even if it did it would not be regarded as an abnormal figure from the point of view of a comprehensive power system designed to supply all the needs of the community, nor would it be unprofitable as an investment.

"*Some Interesting Comparisons.*"

The matter under the heading "Some Interesting Comparisons" may be dealt with conveniently *en bloc*, as the purport of it is to answer the question, "What effect will the Arapuni hydro-electric scheme, if carried out, have upon the business of the Auckland Gas Company?"

The inference from the arguments and evidence adduced is that, so far from having to fear competition, the Gas Company is going to benefit by it. Then why worry about it? The answer that one infers Mr. Lowe would give to this question is, "Oh, we are not afraid of fair competition. What we object to is electricity supplied by the State at less than cost price." But the evidence of the chairman of the Toronto Consumers' Gas Company, quoted in this connection, is to the effect that the business of the company has increased by leaps and bounds in spite of the fact that they are in competition with a State supply of electricity—viz., the Ontario Hydro-electric Commission, operating on a colossal scale, and, from Mr. Lowe's point of view, selling electricity at less than cost price, as it does not pay rates and taxes. So that the Auckland Gas Company has nothing to fear in any case. Why then should the Gas Company trouble themselves about the matter? It is difficult to believe that the Gas Company as such should go to the trouble of proving that the State hydro-electric