costly as a main line of railway or branch line of a main line. I am further quite confident we shall see development in the way of a special industry—that is, of an electro-chemical and electric-metallurgical character. It is very necessary in such cases that the supply of power should be available at the place where the ore is to be found. There is a class of industry—electro-chemical and electro-metallurgical—which requires to be carried out in a very big scale for the world market. New Zealand is well provided to meet those requirements. The right place for an industry of that kind is at the South Island Sounds, where they have a harbour and water-power and other facilities all adjacent. That will no doubt come in time, but we have not devoted very special attention to that feature. What we kept steadily in mind is the ordinary needs of the community, by providing a generous distribution of power which will be available to every householder throughout the Dominion. I would like to point out in that map how we arrived at the basis of our scheme. [Witness indicated on plans the distribution of the population, the main sources of supply of hydro-electric power, the substations, &c.] We had to prepare this map to get a basis of our supply and distribution. As a result we selected three sources of supply—one on the Mangahao opposite Shannon, one on the Waikato at Arapuni, and the other at Waikaremoana. We selected those as the very best combination, and we are quite satisfied that they will give the necessary supply of energy. That combination of the three sources is really better than a single source, as the system as a whole is more economical in first cost than a system based on a single source, and there is the further advantage that a continuity of supply is secured, as the three sources are not likely to fail at the same time. You will see in my report presented to Parliament last session that the three sources are essential to my scheme. The Mangahao source is only capable of giving 24,000 horse-power. The scheme would be improved if that source had been capable of giving 50,000 horse-power; and it could have been improved also if we had a source of some 20,000 horse-power in the Taranaki District; and, say, 10,000 horse-power in the Whangarei district. But that is not available. Still, it is a very good scheme. We anticipate that the supply of Mangahao of 24,000 horse-power will be very rapidly exhausted, and the work in connection with the Waikaremoana source should be proceeded with almost simultaneously. With reference to the South Island, here is a map the purpose of which is to show the distribution of the population on the same scale as is shown on the North Island map. [Witness indicated on the map the proposed system of distribution, &c.]

1. *Dr. A. K. Newman.*] What proposals do you make for getting more power between Arapuni, North Auckland, and Taupo? Do you propose in later years to harness the Huka Falls and get other additional power?—It is quite possible it will be needed. They are beginning to realize in Tasmania that they have not enough in the whole of Tasmania to meet the requirements, because one firm alone contracted for 25,000 horse-power, and I understand they will require 25,000 horse-power more. I had an application from another firm wanting to know if we could supply them with power, because they were afraid their rivals were monopolizing all the power available in Tasmania.

2. What is the amount of power available?—At Aratiatia there is 120,000 horse-power available. I do not not know that there is another on the Waikato except Arapuni—at least, not a good one. A distinction ought to be made between a possible development and an economical development. There are no end of power-sources there which on investigation we find we cannot develop economically.

3. *Mr. Luke.*] Have you got the volume and head at the other sources?—Yes; in the Taranaki District there is a source of 5,000 and 10,000 horse-power which I would not touch myself or recommend the Government to develop, because the cost would be too much per horse-power to develop. The Arapuni and Aratiatia sources can be very cheaply developed. We reckon that it will cost between £8 and £9 per horse-power to develop. A steam plant may cost £20 or £25 per horse-power.

4. *Mr. Veitch.*] You said that a special industry in Tasmania is taking 25,000 horse-power and wants 25,000 more. Without hydro-electric power that industry would never have existed?—It would have been out of the question altogether. Before the war the ore went to Germany for treatment, and they are now bringing ore, or will be bringing ore, from Broken Hill to the neighbourhood of Hobart for treatment.

5. Are you aware of the position on the Main Trunk line now, particularly between Taumarunui and Taihape? You have not gone into that?—No.

6. It is a very important matter. They have arrived at the stage that unless they can reconstruct the bridges in that area they cannot increase the axle-work over them?—I imagine the Railway Department will in the order of development first strengthen the bridges—it would not be a very costly thing—so as to enable it to increase the axle-load and so increase the traffic capacity of the section. But I say the time will come, as in America, when the Railway Department will be at the end of its tether. I am assuming that improvements, such as strengthening bridges, increasing siding-accommodation, &c., will be carried out before electrification will be considered, but sooner or later they will reach the end of their tether, and they will have to fall back upon electric working. If a supply of power is not available what usually happens is that a railway company or railway department has just to put up with it. If there is a source of electric power available, they naturally avail themselves of it, and so keep pace with the requirements and development of the community. It is a fact that in the United States the reason why electric power has not been used to a greater extent under these circumstances is that a supply of power was not available, and the companies were not prepared to face the expenditure of providing sources of power and the cost of transmission. When power became available the railway authorities immediately availed themselves of the facilities offered. It is facts of that kind we have had to keep in view in connection with our system, and that is why I am so confident