

WILLIAM G. T. GOODMAN re-examined. (No. 10.)

49. *Mr. MacGregor.*] You are an electrical engineer?—Yes, sir.

50. And are acting as advisory electrical engineer to the Corporation of Dunedin?—Yes.

51. I want you to state, Mr. Goodman, as accurately as you can, what you consider will be the probable demand for electrical energy for lighting purposes within the City of Dunedin?—From observations I have made from time to time I should say that the peak load in Dunedin will only be about 700-horse power. Dunedin has not a very large shopping district, though there is no doubt that most of the shops would take electric light, owing to its flexibility and practically its non-inflammability; but, apart from the shops, the average small householder is not going to take electrical energy for lighting purposes. The average householder takes a house on, say, a yearly tenancy. That house is probably already supplied with gas-fittings, and it is not likely that the tenant is going to the expense of fitting the place up with electric-light fittings, knowing as he does that he might vacate the house at the end of his tenancy, and leave the fittings to be taken over by the property-owner to the advantage of the succeeding tenant. He has the gas, and he naturally looks to what amount he can save by substituting electricity for gas, and he will find that that saving would not pay for the cost of the installation of electrical fittings in one, two, or even three years. So it is hardly likely that householders in large numbers will become consumers of electric light. As far as the demand generally for electric light in the City of Dunedin is concerned, I should certainly say that the peak load will not go up above 700-horse power. It has been stated that the peak load in Wellington goes up to 1,500-horse power; but, as I have already pointed out, Dunedin cannot be compared with Wellington by any means.

52. *Mr Buddo.*] You mention "peak load": is that the maximum amount of energy?—It is the maximum demand on the station.

53. *Mr. MacGregor.*] It is the maximum amount. What is the average amount—more than half that?—Less than half. I was referring to the comparison between Wellington and Dunedin. In Wellington there are public buildings which are sufficient in themselves to support an electric-light station, and a payable electric-light station, even with steam-power. Why, the demand for supplying these buildings for the current year is nearly what it would be for the whole of Dunedin altogether. Then, in regard to street-lighting, the streets in Dunedin are at present lit by gas, which is supplied by the Corporation from their own works. They have their gas-mains laid through all the streets; the lamp-pillars are erected and fitted with burners, and it is hardly likely the Corporation will go to the expense of lighting all the by-streets with incandescent electric lamps. As a matter of fact, incandescent electric lighting is not so good as incandescent gas lighting for street purposes. I am of the opinion it can safely be taken that the outside demand in the City of Dunedin will be 700-horse power.

54. The average demand will probably be about half of that?—Less than half of that. The maximum lighting will be required in the winter-time, and will be between 5 and 6 o'clock, when the shops are open, and on Saturday evenings from 5 to 10; but on the other evenings of the week and on Sundays private houses alone will require power. Another point arises in connection with electric light in a private house: A man may have, say, twenty gas-jets installed in his house, and when his family go from room to room they do not take the trouble to turn the jets off; but with the electric light it is altogether different. The lights are seldom kept on unless the rooms are occupied, as to turn off or on the light simply means turning a switch. This necessarily considerably reduces the householders' demands.

55. So much for the demand. Then as to the supply. We have already heard in regard to that that the Lee Stream supply will be 2,000-horse power, the stand-by steam plant supply will be 900-horse power, and the Taieri supply, if it is required, will be 2,000-horse power, making 4,900-horse power?—Yes.

56. Out of that you require 580-horse power for the tram service, including light for the principal streets, so that leaves 4,320-horse power available for public and private purposes?—Take it as 4,000—you can ignore the steam plant. The steam plant could, of course, easily be utilised at times of peak loading.

57. Ignoring the 900-horse power, that leaves about 3,400-horse power available for city use?—Yes.

58. I need scarcely ask you whether that will be more than sufficient for all lighting purposes, because you have already told us that the demand will not be more than 700-horse power?—Yes. But realise what that means: that 700-horse power would operate no less than about fourteen thousand eight-candle-power incandescent lamps.

59. And the total population of Dunedin City is about twenty-five thousand people?—Yes.

60. So that according to your evidence the supply will be at least five times the amount that is ever likely to be required for lighting purposes—that is, taking the supply at 3,500-horse power, or, taking the Lee Stream only, the supply from it will be 2,098-horse power—that is exactly three times the total requirements for lighting purposes?—Yes.

61. Now, just one general question: Notwithstanding all the evidence you have heard here, are you still of opinion that the power available to the City of Dunedin will be amply sufficient for all power and lighting purposes within the city?—Yes.

62. *Dr. Findlay.*] You are familiar with the Dunedin City and Suburban Tramways and Water-power Act of last year, I take it?—Yes.

63. In the event of your bringing in the Taieri, you have to give certain local bodies the surplus power, as defined by the Act?—Yes.

64. So that the figures you have given Mr. MacGregor will be subject to the demands of the local bodies, which have a right to call for the surplus that Mr. Fowlds referred to this morning—that is, if the Taieri is brought in. That is so, is it not?—Yes, if the Taieri is brought in.

65. Have you made up your mind as to what demands will be made on that surplus power?—Outside of the city?

66. Yes?—No, I have not gone into that.