

(2.) That the full automatic system of giving telephone service be adopted for Auckland, Christchurch, Dunedin, and Wellington.

(3.) That the full automatic system be adopted also for any exchanges at smaller places that may be requiring new equipment—in all cases where after a study of the conditions it may be found that the operation and economic features and the general advantage to the public in respect of the character of the service given would justify it.

(4.) That the Western Electric Company, London; Messrs. Siemens Bros., London, who supply the Siemens-Halske system; and the Automatic Electric Company, Chicago, who supply the Strowger system, be invited to tender for a full automatic equipment for Wellington.

(5.) That studies be made of the four large cities to obtain some idea of what may be the expected development in each—whether it is likely that it will be general throughout an area or more congested in particular parts of the area, and whether any particular parts will be specially difficult and therefore expensive to reach.

(6.) That the question of multi-office or satellite exchanges for the larger places be considered in their economic aspect as compared with giving service from, say, two or three exchanges in the area.

(7.) That, as development must to a large extent depend upon rates, the rate question be considered after the development has been considered, so that if necessary a scale of rates may be drawn up that will promote development, be a reasonable charge for the area available, and provide reasonably for interest and depreciation of the plant and apparatus.

(8.) That suitable appliances be obtained for determining the effect upon speech of apparatus that must be introduced into telephone circuits, and for enabling the results that may be expected from combinations of circuits which introduce varied kinds and quantities of apparatus to be definitely known.

(9.) That negotiations be opened with the representatives in the United States of the Wright and of the Morkrum typewriter telegraph apparatus to judge of their suitability for our conditions. These instruments are leased in the United States; they are not sold.

(10.) That quadruple Baudot apparatus be considered for use on the main circuits of the Department throughout the Dominion, and that two sets each for Auckland and Wellington be obtained for use over the circuits between those cities. The cost will be about £1,400 for apparatus.

(11.) That accumulators be installed for line batteries at the four large centres and a few other places where large numbers of primary cells are now in use. This would be more economical than present methods, and would improve working considerably.

(12.) That the technical staff be increased as may be necessary to give effect to the foregoing and to cope with expected developments.

Referring to the application of full automatics to Wellington as compared with common battery manual apparatus, the cost of equipment would work out about as follows. The approximate annual saving in operating-expenses by the use of automatics over the present system is estimated at £2,000, and over the more modern system of common battery at £1,500. These represent a capital cost of £50,000 and £37,000 respectively. There will be a further saving by the reduced quantity of copper necessary.

Automatics: It would be necessary to install about 5,700, so as to take care of existing main lines, extension telephones, and private branch exchanges. These would be in a main exchange, a branch exchange, and a few sub-exchanges as, after consideration of the area, would be found advisable. The American company can supply apparatus for extensions to switchboards within a couple of months, so that much stand-by equipment would not be necessary. The cost installed would be, approximately—5,700 at £6, £34,200; 5,700 dials at £1 1s. each, £5,985: total, £40,185.

Manual common battery: It would be necessary to install about 6,000 lines, as this system takes longer time to get extra plant and to get it fitted into service. Extensions and private-branch-exchange equipment being considered, the cost per line fully installed and ready for use would be approximately £4 a line: 6,000 at £4, £24,000.

Buildings would be required to accommodate the switchboard and for general telephone purposes whichever system was adopted, at a cost of about £10,000.

There is at present a good deal of aerial cable in Wellington. This is more subject to injury than if it were underground, and the maintenance of overhead cable or telephone plant of any kind is greater than that of underground. It will be necessary to make considerable additions to the underground to reach the site of a new principal exchange that will be necessary, and other deviations and additions will be required to reach any second exchange which would have to be considered if manual were adopted. If automatics were adopted the underground would be expected to be less extensive, but there would be several deviations (which might or might not be underground) from existing routes called for to lead subscribers to the sites of whatever exchanges may be decided upon.

It would probably be convenient and economical to make any additions to underground work at the time that alterations and deviations may have to be undertaken in connection with the connecting-in of subscribers to the new equipments. The cost of these works cannot be more than approximated at present, as these several sites are not determined, but it may be taken as not less than £15,000.

New telephones would be required for any new system, but as these would release the whole of the telephones now in use in Wellington, which could be used elsewhere, the cost of them need not be considered.

These considerations deal only with *first* cost. The annual charges and economic features have been dealt with in the general report, which should be consulted.

The Secretary, General Post Office, Wellington.

T. BUCKLEY.