1907.
(SECOND SESSION.)

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA.

WIRELESS TELEGRAPHY:

REPORT OF CONFERENCE;

TOGETHER WITH

APPENDICES.

(DATED MELBOURNE, 13TH JUNE, 1907.)

Presented by Command; ordered by the Senate to be printed, 18th July, 1907.

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1. The Conference has inquired into the questions remitted to it at the request of the Postmaster-General, and begs to report as follows:—

2. REASONS FOR THE ADOPTION OF A SYSTEM OF WIRELESS TELEGRAPHY.

The reasons for adopting Wireless Telegraphy may be summarized as follows:—

Defence. — The immensely added efficiency in Defence gained by the adoption of Wireless Telegraphy may be gauged from the following:—

Australia has a complete sea frontier. Wireless telegraphy advances the outposts—the means of gaining intelligence—at least 200 miles beyond that frontier. It thus not only may give notice of any possible danger of attack on ports, harbors, or centres of population—which is of direct, and may be of incalculable value—but, in addition, there is included within this area—thus made sensible to the approach of an enemy—the sea trade on the coast of Australia—a trade which comprises nearly all our oversea trade.

The advantage gained in rapid communication between the ships of our Defence and the shore over the distance covered by wireless telegraphy, in the means it affords of directing to any threatened point all available sea force, is one which, in the opinion of the Conference, should, from the Defence point of view, strongly recommend its adoption.

For general shipping and commercial purposes the advantages are no less important; it would contribute to the increased safety of life and property at sea, and also facilitate the notification of movements of ships and passengers.

The advantages as assisting in the administration and development of New Guinea are dealt with in paragraph 4 below.

3. The Conference is of opinion that the adoption of a system of wireless communication is to be justified by the undoubted increase in efficiency of Defence, and the increased security of life and property afloat, rather than by considerations of immediate financial results, which will, undoubtedly, be small, until there is a more extended adoption of wireless telegraphy by vessels of the mercantile marine.

4. The Conference has considered the proposals contained in the various papers before it, and is of opinion that the requirements which can at present be foreseen will be reasonably met by the provision of the stations, placed in the order of their importance, in the following list. It is not suggested that all these stations should be erected at once, but they should be put in hand successively—the Sydney, Cape York, and New Guinea stations being proceeded with first, the others, say, two yearly thereafter, as funds could be made available, until the whole scheme is completed.

The first station should be erected at Sydney—where the installation would be of immediate use for communicating with ships of war, the only ships at present fitted with wireless instruments. It would be of service, not only for communication with shipping in the neighbouring waters, but also for training operators, and for gaining important experience in the details of this special service.

The Cape York and New Guinea stations would be of immediate service for administrative and commercial purposes connected with New Guinea, as well as for purposes of Defence and shipping.

In this connexion the Conference desires to direct attention to the section of the Report of the Royal Commission on British New Guinea dealing with telegraphic communication with New Guinea (see Appendix A).

5. List of Suggested Stations, with Range and General Purposes. Stations Arranged in Order of Importance—

Approximate Location.	Minimum Range in miles.	Purposes.
I. Sydney	300	Defence and Shipping
II. (*a*) Cape York ...	350	Defence, Shipping, and General Purposes
(*b*) New Guinea (Port Moresby)	350	
(*c*) One or two subsidiary stations on adjacent islands, according to Defence requirements	50	Defence
III. Wilson's Promontory	300	Defence and Shipping
IV. Fremantle	300	" "
V. Cape Borda ...	300	" "
VI. Moreton Bay ...	300	" "
VII. Cape Leeuwin ...	300	" "
VIII. Tasmania (North Coast)	300	" "
IX. Geraldton, Western Australia	300	" "

Note.—These stations are exclusive of any which might be required for purely local Defence purposes, which stations should be separately considered as necessity arises.

A map is attached hereto which shows the approximate location of the suggested stations, and the areas of water within their minimum range.

It will be seen that from 300 miles north of Moreton Bay to 300 miles west of Cape Borda any ship fitted with appropriate apparatus would be continuously within range of one or other of the suggested stations. The areas served by the other stations are also indicated.

6. Sites.

The exact site of any wireless station in any of the localities mentioned above should not be definitely fixed without first consulting the Department of Defence.

7. Communication with New Zealand.

Communication by wireless telegraphy between Australia and New Zealand would be of use for Defence purposes only in the remote contingency of all the three existing cables being cut.

It therefore does not appear to be justifiable to incur the increased expense for the high power stations necessary for communicating between the two countries.

For ordinary shipping purposes no immediate demand is anticipated for wireless communication throughout the whole distance from Australia to New Zealand. It would appear that stations having a minimum range of 300 miles—one in Australia, and one in New Zealand—would meet all present shipping requirements.

It is considered that a range of 300 miles will meet all the requirements of present methods and apparatus usually adopted on ships. If the development of the art enables ships to communicate in both directions over greater distances than 300 miles, it will be a simple matter to remove the installation from Sydney to one of the less important localities, replacing it with a station having a minimum range of 500 miles. A similar station in New Zealand would enable communication to be maintained by ships over the whole distance between the two countries.

8. Cost of Construction, Operating, and Maintenance of the Proposed Stations.

The Conference is of opinion that the cost of constructing, operating, and maintaining the stations should be met by a special vote under the estimates of the Postmaster-General's Department.

The cost of an installation cannot be definitely ascertained until tenders to stated requirements have been received.

It is therefore recommended that tenders be called forthwith for the stations at Sydney, Cape York, Port Moresby, and one subsidiary station in the Torres Straits.

9. Requirements.

The statement of the general and technical requirements of the stations should, it is suggested, be prepared by the technical officers of the Postmaster-General's Department, regard being had to the primary essentials—

(*a*) Of a minimum range for each station, as shown in the list of stations under paragraph 5, and

(*b*) Such a range of tuning and general operating characteristics as will enable the stations to communicate with any normal wireless installation carried by ships at sea. The normal characteristics may be taken as being those determined by the recent Berlin Convention, subject to ratification by the British Government.

The views of the Admiralty are contained in a telegram, a copy of which is attached to this report as Appendix B.

10. The Conference is of opinion that if the Berlin Radio Telegraphic Convention is ratified by the British Government, the adoption of a system of wireless telegraphy should—subject to compliance with the conditions referred to in paragraph 9—be decided by cost as determined by the tenders it is recommended in paragraph 8 should be obtained.

In the event of the Convention not being ratified, and some one particular system being adopted by the British Government, the question as to what system should be adopted by the Commonwealth might then require reconsideration.

This consideration in no way affects the recommendation made in paragraph 8, that tenders should be invited immediately.

Signed at Melbourne, this 13th day of June, 1907.

W. R. CRESWELL, Captain and Naval Director, Chairman.

W. T. BRIDGES, Colonel,
JOHN HESKETH, Chief Electrical Engineer, Postmaster-General's Department,
CYRIL PEEL, Lieut., R.N.
Members.

Melbourne, Victoria, Australia,
13th June, 1907.

APPENDIX A.

EXTRACT FROM PAGE LVII. OF REPORT OF THE ROYAL COMMISSION, NEW GUINEA.

Telegraphic Connexion with Australia.

When under examination, the Chief Postmaster of Papua gave the following evidence:—

> "As regards telegraphic communication, I am of opinion that if any considerable development is to take place here telegraphic connexion with some point in North Queensland is imperative. Systems of wireless telegraphy would probably not earn much for some time, but after the initial expense the system is inexpensive to work, and the advantages from an administrative point of view would be material. If funds are available, I recommend the institution of the system."

Your Commissioners entirely concur with the view above expressed as to the advantages of the system suggested. They would also go further than Mr. Ballantine, and say that, not only is such connexion imperative if any considerable development is to be looked for, but also that the absence of telegraphic communication with Australia will tend to retard development. The knowledge that speedy means of communication exists will be, in your Commissioner's minds, a no small factor in deciding intending settlers to migrate to Papua, and this is so more by reason of domestic ties than business relationships. Your Commissioners think that no steps which may be reasonably adopted to render administration more thorough, or tend to induce settlement and development, should be postponed until such time as those steps are justified, merely from a financial point of view. For that reason, therefore, they strongly recommend that an installation of the wireless system of communication be effected between Port Moresby and Thursday Island. Provided the Commonwealth authorities are prepared to bear the cost of equipment of a station at Thursday Island to communicate with Port Moresby, the first cost to Papua of a single station would, it is believed, not exceed £6,000. The annual cost of the station is estimated at £1,450, made up as follows:—

Interest and Sinking Fund, 7½ per cent.		£450
Maintenance, 5 per cent. ...		300
Operating—		
Salaries	£600	
Stores	100	
		700
		£1,450

It is impossible to calculate what the immediate returns for such an expenditure would be, but it is reasonable to expect that the very moderate annual expenditure now recommended would be, even at the outset, materially reduced by receipts, and that in a comparatively short space of time the system will become self-supporting.

In this connexion, your Commissioners desire to point out that telegraphic communication with Australia would greatly assist in perfecting the Australasian Meteorological scheme, which they understand is now being prepared.

APPENDIX B.

COPY OF TELEGRAM.

From

Milsons Point, Sydney, N.S.W.

To

Lieutenant Peel,
Attending Wireless Telegraphy Conference,
Melbourne.

Pending ratification of Radio Telegraphic Convention, it is not possible for Admiralty to recommend any particular system in preference to another; but whatever system is selected, it is essential that it should be able to readily communicate with H.M. Ships and to intercommunicate with any other system in use, and that such intercommunication should be allowed. Subject to above, Admiralty consider that Commonwealth may adopt what system they please, and, indeed, not confine themselves to any one system exclusively.

(Sgd.) ADMIRAL.

Lodged 1.20 p.m., June 12th.
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