

ADDRESS CHIEF CABLE CENSOR  
NAVY DEPARTMENT, WASHINGTON, D. C.

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5040-034-W

NAVY DEPARTMENT  
OFFICE OF CHIEF CABLE CENSOR  
WASHINGTON

April 2, 1918.

TO: Captain J. E. Whitehead, U. S. A., Signal Corps,  
1607 H Street, Northwest, Washington, D. C.

SUBJECT: British GPC memorandum of February 7, 1918, on  
Atlantic Cable Communications.

ENCLOSURE: (3)

1. Reference telephone conversation with Lieutenant  
Wilstach today. Herewith enclosed please find memorandum referred  
to above.

*Thomson*  
By direction.

*Gen. Salinger*

*Does Gen. Squier wish to see this  
Really*

MEMORANDUM

COPY-JEX

ATLANTIC CABLE COMMUNICATIONS.

There are 17 cables between Europe and North America (including the 2 German Cables), and these have a theoretical capacity of about 2,600 letters per minute in each direction. Cable experts consider that, in actual practice, the theoretical speed is reduced by 40%; and the practical capacity of the cables in terms of effective traffic, may therefore be taken as 1,560 letters, or (say) 240 words per minute. This gives a working capacity, in each direction, of just over 2,400,000 words per week.

This estimate is confirmed by the experience of the Post Office in connection with its own "Imperial" Atlantic Cable, which, with a theoretical speed of 130 letters per minute, recently carried about 120,000 words per week in the outward direction, without any serious difficulty, and with a margin of safety for daily fluctuations of traffic.

It must of course be understood that an actual traffic so nearly approaching the theoretical speed must be spread over the whole 24 hours; and if much of it is handed in at particular hours, there must inevitably be considerable delay in disposing of a portion of it. This difficulty, however, is not a serious one so long as a large proportion of the traffic is, and is known to be, of a non-urgent character.

At present, 7 out of the 17 cables are interrupted, and 3 others are faulty. The result is that the effective carrying capacity is reduced to about one half, or say 1,200,000 words in each direction. The actual traffic carried during a fairly representative week in the middle of October was about 970,000 words in each direction.

It would appear, therefore, that there is still spare capacity on the cables now working, to the extent of some 230,000 words per week in each direction.

The traffic on the Western Union and Commercial cables during the week in question was distributed among the various classes approximately as follows:-

	<u>Westward</u>	<u>Eastward</u>
Government ...	58,000	90,000
Ordinary ...	526,000	628,000
Press ...	172,000	65,000
	<u>756,000</u>	<u>783,000</u>

(Other classes of traffic are suspended)

The delay on Government traffic, which of course receives absolute priority, was practically nil; and that on press traffic, which receives a sort of secondary and incidental precedence, was less than 2 hours. The maximum delay on ordinary traffic is said to have ranged from 10 to 20 hours. In the case of the Imperial cable (now interrupted), the bulk of the traffic is Government, and when it is working there is a delay of some hours on a proportion of it. Any ill effects from such delay has, however, been overcome by an arrangement under which the various Departments mark their more urgent traffic with the word "priority" - an indication which ensures its receiving special priority on the cable. If the proportion of Government traffic on the Companies' cables were to increase very largely, some arrangement of this kind would probably have to be adopted in their case.

As regards the repair of the cables which are now wholly or partially interrupted, arrangements are in hand which, with reasonable good fortune, should result in the early repair of 3 cables. Five of the interrupted cables are broken in deep or comparatively deep water, and in the case of two of them the repair will involve the laying of long sections of new cable (which in one case has to be manufactured); so that in these cases it is not safe to count upon the cables being brought into use until early next summer. By then the second German cable should also have been brought into use as a line between Brest and New York.

Other interruptions, however, may occur at any time; and even with good fortune it would be imprudent to assume that more than 12 or 13 cables can be kept working simultaneously. If we assume 12, they should give an effective capacity of about 1,700,000 words a week in each direction (a little more or a little less according to which of the cables were broken), as compared with the present load of about 970,000 in each direction - a difference of about 730,000 words a week.

The next question is, what is likely to be the load when the American troops are operating at full strength in Europe? Hitherto, it appears, the American Government have discouraged unnecessary use of wires, and this no doubt is one of the reasons for the comparatively small amount of Government traffic now passing. But in the future there must inevitably be a great increase in the amount both of Government and press traffic, and to some extent in that of ordinary traffic (including cheap "soldiers' messages", if they are adopted).

Any estimate must necessarily be highly speculative, but if the traffic arising from the American Expeditionary Forces should be expanded to say 500,000 urgent and 200,000 non-urgent words per week, there would still be a margin (assuming efficient traffic management) of say 250,000 words a week. These figures might of course be modified if the number of effective cables could be put higher than 12. If it fell below 12, it would probably be necessary to reduce the traffic in certain directions, say by cutting down the messages concerning casualties and admissions to hospital, and the cheap soldiers' messages, and possibly putting a limit on the press traffic.

Under present conditions, it would of course be difficult to make and lay new cables.

General Post Office.

7 February, 1918.