LEAGUE OF NATIONS

REDUCTION OF ARMAMENTS

COMMUNICATIONS OF IMPORTANCE TO THE LEAGUE OF NATIONS IN CASE OF EMERGENCY

Note by the Secretary-General:

The Secretary-General has the honour to forward for the information of the Assembly, in accordance with the Council's decision of September 8th, 1927, the second Report to the Council of the Advisory and Technical Committee for Communications and Transit concerning communications of importance to the League of Nations in times of emergency and M. Guerrero's report adopted by the Council on September 8th, 1927.

SECOND REPORT TO THE COUNCIL OF THE ADVISORY AND TECHNICAL COMMITTEE FOR COMMUNICATIONS AND TRANSIT.

The Council, at its session in December, approved the report submitted by the Advisory and Technical Committee for Communications and Transit concerning communications of importance to the League of Nations at times of emergency. This report dealt with the measures to be taken in order that full use might be made of the existing means of communication by rail, air, telegraph and radio-telegraph, with a view to meeting the requirements of urgent communications affecting the working of the League organs in case of emergency.

The Council adopted the following resolution:

"1. The Council requests the Secretary-General to invite the Governments of the States Members of the League to consider favourably the technical measures proposed in the report of the Advisory and Technical Committee for Communications and Transit as regards communications by rail, air, telegraph and radio-telegraph of importance to the League at times of emergency, and to take such measures as they deem possible to facilitate the application of these measures.

2. The Council thanks the Advisory and Technical Committee for Communications and Transit for the remarkable report which it has submitted, and requests it:

(a) To communicate as soon as possible the supplementary report which it is preparing on long-distance telephony in Europe;

(b) To keep in touch with all the administrations and organisations concerned, in order to facilitate the application of the measures named in its report, and to ensure that every possible improvement shall be effected in communications of all kinds between the seat of the League and the different capitals;

(c) To institute immediately, in co-operation with the Secretary-General, with a view to submitting a report to the Council at the earliest possible date, the necessary enquiries in order that the League may have at its disposal a radio-telegraphic station of its own sufficiently powerful to enable it to communicate independently with the greatest possible number of States Members of the League."

Since this resolution was passed by the Council, the Advisory and Technical Committee has carried out certain supplementary enquiries, and it desires to report at once to the Council on these enquiries so far as they have gone.
I. Action Taken on the First Report Submitted by the Committee.

At its March session, the Committee decided, pursuant to the Council resolution (Article 3, paragraph (b)), to communicate separately to every administration concerned the report on communications by rail, air, telegraph and radio-telegraph of importance to the League in times of emergency which it submitted to the Council, and which was approved by the latter at its session in December 1926, and further to request the said administrations to forward, not later than July 15th, 1927, any suggestions which they might think of value with a view to ensuring that the measures advocated may be carried out as speedily and as completely as possible.

The replies already received, which will be published as soon as the remainder arrive, show that the measures suggested in the Committee's report, as approved by the Council, have given rise to no practical objections. The Committee will complete the details of the scheme, with due reference to the suggestions submitted, and expects to be able to submit to the Council, at a session in the near future, a complete table of the measures proposed, in order that full use may be made, at times of emergency, of the general system of communications by rail, air, telegraph and radio-telegraph.

The Committee has already undertaken supplementary studies with a view to the detailed application of the measures set forth in its general report. These studies include:

(a) The question of the identification of the aircraft employed in a service of importance to the League at times of emergency and thus entitled to special facilities. A report on the work done in the matter by the International Air Navigation Commission, at the request of the Advisory Committee, is annexed to the present report (Annex A).

(b) The laying out of a landing-ground for aircraft situated near the seat of the League and adequate for all the League's requirements at times of emergency (Annex B).

Enquiries have also been undertaken on the following questions:

(a) The question of the identification of persons entitled to the transport and communication facilities in question;

(b) Conditions for the flight in transit of aircraft doing service for the League in times of emergency;

(c) Arrangements for placing at the disposal of the League in times of emergency, such aircraft as it may need;

(d) Maritime transport.

The Committee has now arranged to be represented on the European Time-Table Conference, as recommended in its previous report, and notes with satisfaction that the Swiss Government whose railway administration is responsible for the arrangements for the Conference, has declared itself in full agreement on this point.

2. Telephonic Communications.

The Advisory and Technical Committee communicates to the Council (Annex C) a note on the present position of European telephone communications, which is intended, in accordance with the Council's wishes, to supplement its previous general report, as the latter did not deal with telephone questions. There seems no reason, at all events for the time being, to ask the Council to take action in the matter, as the situation is continually improving.


The Advisory and Technical Committee is of opinion that at a time of general emergency — for example, immediately before mobilisation and, above all, during the actual period of mobilisation — the total or partial taking over by the State of the means of communication must inevitably mean that, in many cases, communications of importance to the League might be rendered less rapid or less certain despite the successful application of the measures laid down in the report approved by the Council at its December session, unless some special means, independent of the general system of national communications, can be found. It accordingly welcomed the resolution adopted by the Council concerning the establishment of a radio-telegraphic station at the seat of the League for the latter's use, and has undertaken preparatory studies, the progress of which is indicated in the note annexed hereto (Annex D). The Committee will submit a full report to the Council on the conclusion of this preliminary work. Similarly, in view of the possibility of a more general emergency, the Committee attached importance to the studies for the establishment or adaptation of a landing-ground for aircraft and the placing of aircraft at the League's disposal, should this be necessary.
Annex A

IDENTIFICATION OF AIRCRAFT DOING WORK OF IMPORTANCE TO THE LEAGUE OF NATIONS AT TIMES OF EMERGENCY.

In accordance with the decisions taken by the Advisory and Technical Committee for Communications and Transit at its last session, the Secretary-General of the Committee requested the opinion of the International Air Navigation Commission as to the measures to be taken to enable aircraft doing service for the League of Nations at times of emergency to be identified.

The International Air Navigation Commission has discussed this question, and the following letter has been received from the Secretary-General of that Commission:

[Translation.]

"Paris, June 9th, 1927.

With reference to my letter No. 277 of March 28th, 1927, I have the honour to inform you that the International Air Navigation Commission examined your letter dated March 7th, 1927, at its twelfth session, held in London on March 25th to 27th, 1927, and adopted the following resolution regarding the question raised by your Committee:

"The Commission decides that, if the League of Nations asks for a special identification mark for national aircraft doing service for it at times of emergency, such aircraft should be rendered identifiable by being marked, across the ordinary nationality and registration marks, with a horizontal black bar, readily effaceable, having the same thickness as the letters forming the marks in question, and being drawn at one-third the height of the letters and passing completely through them."

"As regards wireless communications, the call sign would consist of:

'(1) The letters of the aircraft's nationality mark;
'(2)  in one group;
'(3) The four letters of the aircraft's registration mark.

"The Commission further decides to study the question of the position of aircraft used by the League of Nations and not registered in any State."

"If the Council of the League of Nations, when deciding on the measures to be taken to facilitate communications of all kinds of importance to the League of Nations at times of emergency, desires that a special identification mark should be reserved for national aircraft doing service for the League, it will only require to ask the International Air Navigation Commission to register such identification mark, which would then be included in the table of marks to be borne by aircraft which has been drawn up by the Commission and is published from time to time.

"The question referred to in the last paragraph of the above resolution has been referred for examination and report to the Legal Sub-Committee, which will meet next July."

(Signed) Albert Roper,
Secretary-General."

Annex B.

FACILITIES FOR THE LANDING OF AIRCRAFT NEAR THE SEAT OF THE LEAGUE

In accordance with the decision taken by the Advisory and Technical Committee for Communications and Transit at its last session, the Secretary-General of the Committee has made a preliminary study of the question of facilities for the landing of aircraft near the seat of the League of Nations. He approached the competent Swiss authorities with a view first of all to examining from the technical point of view how far the existing aerodrome could be used, particularly at times of crisis. He consulted experts, who proceeded to carry out an examination on the spot. The experts consulted were the following:

M. Milch (Germany), member of the Board of Directors of the Deutsche Luft Hansa;
M. Duval (France), Head of the Airways Section of the Air Navigation Service at the Ministry of Commerce and Industry;
M. Marescalchi (Italy), General Manager of the Aeronautical Construction Company, Ltd., assisted by M. Tarantini, Engineer;
M. Nieuwenhuis (Netherlands), General Manager of the Koninklijke Luchtvaart Maatschappij.

The following also took part in the enquiry:
M. Boissonnas, Councillor of State, Head of the Department of Public Works, Canton of Geneva;
M. Ed. Lacroix, Engineer in the above Department;
M. Weber, Director of the Cointrin Aerodrome;
M. Gsell, Supervisory Engineer at the Air Office.
The competent Swiss Federal authorities had already carried out a preliminary expert examination. The experts were of opinion that, without entirely ruling out other possible solutions, it would undoubtedly be advantageous to use the existing aerodrome, provided that certain extensions and improvements which they have provisionally planned were carried out.

Supplementary enquiries will now be undertaken by the Swiss authorities concerned as to the probable cost of the work suggested by the committee of experts. As soon as the technical improvements are completed, negotiations will be entered into with the Swiss authorities regarding the various conditions as to the use of the aerodrome in times of emergency.

A general report will then be prepared.

Annex C.

TELEPHONIC COMMUNICATIONS BETWEEN THE SEAT OF THE LEAGUE AND VARIOUS EUROPEAN CAPITALS.

In accordance with the decisions taken by the Advisory and Technical Committee for Communications and Transit, the Secretary-General of the Committee carried out an investigation — including in some cases actual audibility tests — of telephonic communications between the seat of the League and the various European capitals. This investigation was conducted in co-operation with the Swiss telephone services, information being also supplied by the administrations of various countries concerned.

The present position may be summarised as follows:


2. Communications will be very satisfactory in the near future between the following: Geneva and London (an underground cable will be in operation in the course of 1927); Geneva and Vienna and Geneva and Budapest (as soon as the underground cables at present being laid are in operation. It is expected that they will be available for service in the spring of 1928).

3. Observations as regards other communications.

Very good communications will be established between Geneva and Rome as soon as an underground line from Chiasso to Rome comes into operation in Italian territory. The Swiss and Italian administrations are negotiating in this matter. Steps have already been taken to obtain reasonably satisfactory communications by overhead wire.

Very good communications will be established between Geneva and Madrid as soon as a cable has been laid between Paris and Madrid (this will probably be in 1928-30).

As regards communications between Geneva and Warsaw, tests were made with the existing overhead wires, but the results were not satisfactory. There appears at present to be no prospect of an underground wire between Warsaw and Vienna, but as soon as the new underground line between Zurich and Vienna comes into operation (in the spring of 1928) tests will be resumed, using that cable as far as Vienna and the existing lines from Vienna to Warsaw. It is hoped that by this means reasonably good communications will be established from 1928 onwards. Communications will not, of course, be wholly satisfactory until an underground line is laid between Vienna and Warsaw.

As regards communications with Bucharest, the Roumanian administration contemplates linking up its system in the next five years with Vienna and Budapest and laying an underground line from Bucharest to Belgrade. It has not yet, however, obtained the necessary credits.

As regards communications with Belgrade, the Serbian administration states that telephonic communications will not be satisfactory until underground telephone cables have been laid. A scheme has been drawn up to lay such cables between the Austrian frontier and Zagreb, between Belgrade and Nish and between Belgrade and the Hungarian frontier. By this means the Serbian system would be linked up with the European system via Austria and Hungary. The contract for the execution of this scheme will be placed on July 1st next. The first scheme does not go beyond Nish, but, as soon as the Bulgarian and Greek administrations have reached a decision in the matter, it will be extended by mutual agreement to the Bulgarian and Greek frontiers. The projected lines will be completed in three or four years.

Lastly, the Secretary-General of the Committee has not received any information to the effect that communications by underground cables will be established with Lithuania, Latvia, Estonia, Finland or the Union of Socialist Soviet Republics.

To sum up: From 1928 onwards it may be assumed that European telephonic communications will be quite satisfactory as regards Central and Western Europe and the Scandinavian countries. Communications with Warsaw will probably become possible by that time also. In four or five years' time, if the financial situation of the various countries concerned permits of the execution of the works contemplated, communications will be quite satisfactory with Poland, Roumania, the Serb-Croat-Slovene State, Bulgaria and Greece. The difficulties in the way are not technical but merely financial.
ESTABLISHMENT OF A WIRELESS TELEGRAPH STATION FOR THE USE OF THE LEAGUE OF NATIONS.

In accordance with the decisions taken by the Committee at its last session, the Secretary-General of the Committee undertook a preliminary study of the question of establishing a wireless telegraph station for the use of the League of Nations. In accordance with the procedure contemplated, he requested the Chairman of the Committee to nominate a number of experts. In view of the purely preliminary character of the enquiry, it seemed preferable to consult these experts individually. The enquiry showed that on the whole a remarkable concordance of views existed among the various experts.

The experts consulted were:

- M. EINTHOVEN, Wireless Telegraph Engineer, The Hague;
- General FERRIÉ, Director of Military Wireless Telegraphy at the French Ministry of War, President of the International Wireless Telegraph Committee;
- Dr. JAEGGER, Councillor at the German Ministry of Posts;
- Colonel LEE, of the General Post Office of Great Britain;
- Professor VALLAURI, of the Royal Naval Academy, Leghorn.

After a number of conversations with the experts, the following programme, with which all of them were in agreement, was drawn up.

It is proposed to establish at the seat of the League a wireless telegraph station which in time of crisis would enable urgent wireless telegraphic communications to be carried on with the countries concerned (in particular European countries), and also, in ordinary times, to be as serviceable as possible for the purpose of telegraphic correspondence connected with the League (the Secretariat, delegations, and possibly even other correspondence).

As it is essential that the station should be in operation at times of crisis, it should, generally speaking, be able from the technical point of view to provide communications at any moment between Geneva and any European station; and, as a second consideration, it should as far as is feasible, enable communications to be carried on during a large part of the day, or at any rate at certain hours, with the greatest possible number of non-European stations.

The station would not, of course, work satisfactorily at times of crisis unless it were fully utilised at ordinary times. Moreover, the running costs could not be covered, either wholly or in part, unless it were used at ordinary times.

In these circumstances, the uses made of the station would probably be as follows: In ordinary times information would be transmitted in accordance with a time-table communicated to all stations within range. Telegraphic correspondence would be exchanged in accordance with a time-table drawn up in advance with certain stations which would be most interested in the transmissions and would be most disposed to receive transmissions from the League station at the prescribed hours; these would, if possible, be extra-European stations. The importance of correspondence of this kind would be greatly increased as regards the transmission of circular letters and documents if telephotography, which is at present in its early stages of development, could be used. In addition to these direct communications, for which special agreements would have to be concluded with the various official or private radio-telegraphic undertakings, arrangements would also be made for the establishment of a system of relays. Stations would receive and retransmit signals to other stations situated in their neighbourhood, or with which they were in communication at the time of day when they were also in communication with the League station. These relayed communications would be used for the despatch or receipt of urgent telegrams in cases when direct communication would not be possible at the time of the despatch or receipt of the telegram.

Lastly, in addition to these organised communications, at least one receiver for a permanent general reception would be in operation at all times on a specified wave-length known to all other stations. At a time of emergency, special receivers at the stations of the countries directly concerned would be organised forthwith and also, at most of these stations, permanent or semi-permanent receivers for the League station.

The establishment of a powerful station with a world-wide range and using a very long wave-length is impossible on the ground of expense. It would be desirable to have some idea, even if only a very approximate one, as to the cost of establishing such a station and of its upkeep and operation. If the additional expenditure were not very great, the transmission of information and debates by wireless telephony might also be contemplated. In that case, the wireless station should have a range covering at least the whole of Europe.

The experts were unanimously of opinion that this programme could be carried into practice in the present state of wireless development. They also unanimously agreed that a relatively powerful short-wave transmitter would give the required results as regards communication with non-European countries. Most of the experts also thought that a transmitter of this kind would give the required results for communications even at a short distance, although hitherto it has generally been held that the use of short wave-lengths is most suitable for long distances.

Further, the experts were unanimously of opinion that it would be desirable for the purpose of European communications to instal a transmitter using a medium wave-length, either as the
main transmitter for such communications or as an accessory supplementing a short-wave transmitter. This transmitter could also be used for wireless telephony, which, generally speaking, is at present confined to this wave-length band.

A great deal of the work of construction would be common to both transmitters (e.g., the buildings, provision of electrical power, etc.). Moreover, it would perhaps be possible to arrange for the construction to be carried out in two stages: the short-wave station would be built first, and then, after communications with European countries had been tested, the question of adding a medium wave-length transmitter would be considered.

It is impossible at the present stage to go into technical details as to the organisation of a transmitting station as contemplated or of a receiving station and central office; but it may be stated at once that, even as regards almost all the executive details, the opinions of the experts, who were consulted individually, coincided in a remarkable manner.

As a preliminary estimate of expenditure, the total cost of installation, including the purchase-price of the ground, may be estimated at between 1 million and 1½ million francs. The cost would, of course, be several hundred thousand francs less if a short-wave length station alone were erected.

The cost of upkeep would naturally vary with the quantity of messages transmitted, and the estimates given still differ, particularly as regards the number of staff required. The highest estimate for the annual cost (of both short and medium wave-length transmitters), including interest and amortisation of the initial capital outlay in ten years, was 500,000 francs. Traffic receipts would, of course, have to be deducted from this sum in calculating the annual cost chargeable to the League budget.

Before a final report could be sent to the Council it would be necessary:

1. To form the experts consulted into a committee to prepare draft specifications for the construction of the station;
2. To obtain tenders on the basis of these specifications from firms which could, if necessary, construct the station required;
3. To estimate as closely as possible the probable amount of messages transmitted and more particularly to define the terms of the agreements which would have to be concluded with the various officials or private wireless telegraphic undertakings as regards the conditions governing the exchange of messages.

REPORT BY M. GUERRERO AND RESOLUTIONS

adopted by the Council on September 8th, 1927.

The Advisory and Technical Committee for Communications and Transit laid before the Council, at its session in December last, a first report on communications of importance to the League of Nations in times of emergency. It contained proposals for the adaptation of the normal system of national railway, telegraphic, wireless and air communications to the needs of the League at times of emergency; and these proposals were approved by the Council.

They have since been communicated to the various Governments with the request that any Government wishing to make suggestions should send them in before July 15th. All the replies received (some of which arrived after the specified date) show that, subject to a few minor readjustments, the Advisory and Technical Committee’s proposals raise no difficulty of any kind, and the Committee intends to make the final detailed arrangements for all the measures contemplated in its first report during the last few months of this year, as soon as the Assembly has defined the undertaking given by the States Members of the League to facilitate the working of the organs of the League in times of emergency.

With a view to the detailed application of the measures contemplated in the first report, the Committee has already undertaken certain additional investigations, to which reference is made in the report now submitted. They concern the identification of aircraft making journeys of importance to the League in times of emergency, and the establishment of a landing-ground for aircraft near the headquarters of the League and guaranteed to be entirely at the League’s disposal in times of emergency. Enquiries are also being made into the question of the identification of persons entitled to use the transport and communication facilities in contemplation; into the conditions governing the flight of aircraft making journeys of importance to the League in times of emergency; into the arrangements to be made for placing at the disposal of the League in times of emergency such aircraft as it may need, and into the question of sea transport.

Further, in compliance with the Council’s request, the Advisory and Technical Committee presents to the Council a note on the present state of European telephonic communications; this note is supplementary to the first report, which did not deal with the telephone question. On this subject, the Council is not, for the moment, asked to take any action.

In conformity with the resolution adopted by the Council at its December session, the Committee has studied the question of communications independent of the general system of national communications. The Committee is of opinion that, at a time of general emergency—for example, immediately before mobilisation—and above all during the actual period of mobilisation, the total or partial taking over by the State of the means of communication must inevitably mean that, in many cases, communications of importance to the League would be rendered less rapid or
less certain, despite the successful application of the measures laid down in the report approved by
the Council at its December session, unless some special means independent of the general system
of national communications can be found. It accordingly welcomed the resolution adopted by the
Council concerning the establishment of a radio-telegraphic station at the seat of the League for
the latter's use, and has undertaken preparatory studies, the progress of which is indicated in the
report now forwarded to the Council. For the same reason the Committee attached importance
to the studies already referred to concerning the establishment or adaptation of a landing-ground
for aircraft and the placing of aircraft at the League's disposal should it be necessary.

The technical study of this series of questions is not yet completed, and accordingly the
Committee is only laying before the Council an informatory report, and is not at present making
any definite proposal. In these circumstances there seems no need for the Council to discuss these
questions in detail at present, and I am sure the Council will be entirely satisfied with the manner
in which the Advisory and Technical Committee has undertaken and pursued its enquiries. The
Council will doubtless consider—particularly as it has not been possible to mention the Advisory
and Technical Committee's present report in the report on the work of the Council and the Secre-
tariat, nor in the supplementary report—that it would be desirable to lay before the Assembly the
Advisory and Technical Committee's special report on communications of importance to the League
of Nations in times of emergency.

I have accordingly the honour to propose that the Council adopt the following resolution:

"The Council expresses its satisfaction with the manner in which the Advisory and
Technical Committee for Communications and Transit has continued its investigations in
regard to communications of importance to the League of Nations in times of emergency, in
conformity with the resolution adopted by the Council at its session in December 1926, and
decides to lay before the Assembly the second report of the Advisory and Technical Committee
on communications of importance to the League of Nations in times of emergency.

"It requests the Advisory and Technical Committee for Communications and Transit
to complete, as soon as possible, the details of the measures proposed in its first report to the
Council, in order that the various administrations concerned may be given all practical
indications without delay.

"The Council requests the Advisory and Technical Committee to hasten its examination
of the supplementary measures contemplated in the Committee's second report, and in
particular the examination of the questions relating to communications independent of the
general system of national communications, in order that the Council may acquaint itself in
sufficient time with all the Advisory and Technical Committee's proposals on this subject."

The draft resolution was adopted.