SUMMARY OF DISCUSSIONS

OF THE

EIGHTH MEETING OF THE NAT SYSTEMS PLANNING GROUP

(Paris, 15 - 21 February 1972)

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INTRODUCTION

1. The Eighth Meeting of the NAT Systems Planning Group was held in the European Office of ICAO from 15 to 21 February 1972. It was chaired by Mr. J.F. Sapin, Member from France.

2. In the morning of 15 February 1972 the Group met in closed session in order to discuss matters of internal interest to the Group only. A further closed meeting was held on 18 February 1972 in the afternoon in order to discuss Agenda Items 5 and 6 which were reserved for consideration by Members only. All other Agenda Items were discussed in full meetings with all participants listed on page iv.

3. Mr. P.G. Berger served as secretary of the meeting, assisted by Mr. C. Eigl. Mr. F.E. Sperring also participated part-time in the meeting and acted as advisor to an ad hoc working group which developed specific material for the Summary on Agenda Item 1. All three are members of the European Office of ICAO in Paris.

AGENDA

Item 1 : Review of the air reporting procedures applicable in the NAT Region and related communication questions, especially as regards the critical loading of the HF air-ground communication channels.

Item 2 : Review of the situation with regard to :

a) the use of composite separation in the NAT Region and those problems in the adjacent transition areas resulting therefrom ;

b) traffic joining or crossing the organized track system in the light of measures agreed at the 7th Meeting of the Group.

Item 3 : Review of the situation regarding traffic forecasting for the NAT Region resulting from the proposals made by the Group at its 7th Meeting.

Item 4 : Any other business.

*Item 5 : Arrangements for the next Meeting.

*Item 6 : Election of the next Chairman.

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*Reserved for consideration by Members of the Group only.

LIST OF PARTICIPANTS

Note : Names marked with an asterik are those of Members of the Group.

Names marked with a cross are those of Members of the NAT Air Traffic Forecasting Group.

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Summary of Agenda Item 1 : Review of the air reporting procedures applicable in the NAT Region and related communication questions, especially as regards the critical loading of the HF air-ground communication channels.

INTRODUCTION

1.1 Before proceeding with the detailed consideration of the subject of air reporting procedures in the NAT Region, the Meeting noted that Ireland had recently formally proposed an amendment to the NAT COM Regional Supplementary Procedures which envisaged that, by the peak traffic period of 1972, NAT Family C should be converted exclusively to SSB operation.

1.2 It was noted that the procedures associated with the proposal for amendment will result in the arrangement shown schematically below :

Route	Equipment/State	Family
North	SSB (E States) SSB (W States) DSB (All States)	C A D
Centre	SSB (E States) SSB (W States) DSB (All States)	C A B (with overload transferred to D)
South	SSB (All States) DSB (All States)	A A

Note : "E" States = Aircraft registered in States E of 30°W
"W" States = Aircraft registered in States W of 30°W

1.3 As to the consideration of this agenda item itself, the Group agreed to consider the NAT HF enroute radio-telephony system from the following three aspects :

a) To determine the load on and capacity of the current system and the distribution of load between the different families ;

b) To make proposals, if necessary, for a data-collection exercise, the data to serve as a basis for proposals for revised frequency usage, deployment of a new family, etc.;

c) To determine the action to be taken in the short and medium term to improve the system and to assure its ability to meet requirements.

1.4 Even though there are at least six HF network stations, each playing a vital part in the NAT AMS, it was agreed for the purpose of discussions to concentrate on Gander and Shanwick (referred to below as Shannon, this being the geographic location) as these cover the area of greatest AMS density. However, since it is evident that, when two stations operate the same Family (e.g. Gander and New York on Family A) a contact with one station usually prevents the other from using that frequency, the busy-hour figures listed refer to the whole NAT area and not just the Gander/Shanwick area. It was also realized that, in any data-collection exercise, the participation of New York would be essential, and that participation by Reykjavik, Santa Maria and San Juan would be desirable.

THE PRESENT SITUATION

Length of air-ground contacts

1.5 The Group noted that the length of individual contacts between an aircraft and a ground station was very variable, ranging from less than 20 seconds up to as much as 1 1/2 minutes. These contact lengths were to be taken as overall times (including call-up, reply, readback, etc. to sign-off). It was agreed, on the basis of data provided by the Members from Canada and Ireland, that the average duration, including all categories and types of messages, (full air reports, position reports, company messages, SIGMETs, SELCAL checks, etc.) was of the order of 40 ± 10 seconds. This value was not greatly affected by propagation conditions. It was agreed, at this stage, to calculate initially on the basis of 50 seconds contact length.

HF Contacts per aircraft crossing the NAT Region

1.6 Noting again that the numbers were rather variable, it was observed that about 3 1/2 contacts and intercepts per flight were made by Gander and 4 1/2 per flight by Shannon i.e. 8 contacts and intercepts per flight on average. Although it was not possible to establish a clear-cut breakdown into the number of contacts (relative to channel occupancy) and that of intercepts. In fact, in 1971, Shannon made 464,000 HF contacts and intercepts and Gander 348,000 for some 110,000 crossings. It was noted that the difference between Gander and Shannon resulted from the increased enroute VHF coverage of Gander as compared with Shannon.

Ground operator capacity expressed in number of contacts

1.7 Although, on some peak occasions, operators at Shannon had been engaged in contacts (or intercepts) on no less than 74 occasions during 1 hour, (i.e. for some 50 to 60 minutes of the hour), it was agreed that the proper planning value for air-ground activity, which might be sustained, was 30 minutes per hour. This corresponded to 36 contacts of 50 seconds per operator per hour. Since, at such periods, each operator guarded a separate channel, this meant that the acceptable channel load at any station was 36 contacts per hour.

Channel capacity expressed in number of aircraft handled

1.8 It was agreed that a reliable figure for the total number of messages originated by or for a crossing aircraft was about 1 1/2 per hour. For 36 contacts per hour admitted on a channel this was equivalent to 24 aircraft per channel for acceptable loading.

Family capacity expressed in number of aircraft handled

1.9 It was usual that, at any one time, two frequencies of a family were usable for communications. The maximum number of aircraft that could be handled per family without overload thus appeared to be about 48 (say 50) in any one hour period.

NAT HF System capacity expressed in number of aircraft

1.10 Assuming that all families carried equal loads, the total system capacity using four NAT families would be 200 aircraft per hour. However, since this situation was difficult to achieve in practice, the practical figure use would have to be somewhat lower.

Message delivery time

1.11 The order of channel and family loading currently experienced resulted in a situation where some 75 to 80% of all position reports were being delivered within 6 minutes of the time the aircraft concerned were due to make a report. It was not known what proportion of this time was due to flight-deck and/or communication delay, but it was stated that this was currently acceptable from an ATC point of view.

Current aircraft flow data

1.12 It was agreed that the average length of time an aircraft spent in HF coverage per crossing was 3 hours. Furthermore, the 1971 traffic flow statistics showed that, during the peak eastbound flow of traffic, the "busy hour" figure for eastbound aircraft entering the system was 52 while the simultaneous westbound flow was negligible. It was also assumed that this flow of 52 aircraft per hour was maintained at the busy peak periods. This indicated that there were approximately 150 aircraft using the HF system at any one time during these conditions. Taking 50 aircraft as the maximum normal load per family meant that, in 1971, the traffic at peak periods would have fully loaded 3 families.

Future air traffic data and resultant system loading

1.13 As the actual situation in 1971 corresponded closely to, or was slightly better than, the foregoing calculated situation, it was agreed that 50 aircraft per family at any one time was reasonably accurate (even if slightly conservative) as a planning figure at this stage.

1.14 It was noted that the latest traffic forecasts prepared by the NAT Traffic Forecasting Group showed a "busy hour" flow into the system of 67 westbound aircraft in 1976. Assuming a 3 hours exposure to HF communications as stated in paragraph 1.12 above, this corresponded to some 201 aircraft in the system at one time, i.e. a full load for four families. On the other hand, as mentioned in paragraph 1.10 above, a balanced full load on a number of families at any one time was an unlikely situation in practice unless means could eventually be devised to make practicable small relative adjustments in family loadings - which also seemed unlikely.

1.15 Thus four families would become inadequate before 1976, and taking a reasonable hypothesis for lack of balanced loading it was clear that five families would be needed (if the current values of message length, operator loading, etc., still obtained) by the Summer peak of 1974. It was observed, in passing, that the corresponding forecast flow rate for 1981 was 83 aircraft per hour, i.e. 249 aircraft in the system which would fully load 5 families, assuming again that no procedural changes or changes to air reporting were made.

1.16 The Group wished to emphasize that short-term peaks in excess of the values quoted could be absorbed. However a more sustained load would probably pose difficulties. It also wished to draw attention to the fact that, in future, traffic flow operating in the opposite direction of that of the main flow would also have to be taken into account.

DATA COLLECTION

1.17 The data currently available to the Group were found to be insufficiently detailed and were not presented in a standard manner. It was therefore agreed that a data-collection exercise should be organized for 1972 and that the data collected during this exercise should be presented in as uniform a manner as was possible.

1.18 It was agreed that the data-collection exercise should be based on the analysis of actual recordings of HF channels in relation to hard-copy records of the traffic concerned. The duration of the exercise should be sufficient to provide the size of sample required. In this connexion the Canadian, Irish and UK Members agreed that the analysis should preferably be made by an independent agency having no NAT HF communication responsibility. This agency would coordinate the exact details of the data-collection exercise following a pre-exercise "dummy run" which should be made at an early stage (paragraph 1.19 b) refers).

1.19 Broad lines of the exercise would be as follows :-

a) Each participating station in the data collection should arrange for voice recordings, with time insertion, of designated channels. The hard-copy records of the traffic concerned, as put on the fixed service by the communicators concerned (i.e. the operators' logs), should be retained for examination and analysis. Gander, New York and Shannon at least should take part in the exercise and, if at all possible, also Reykjavik, Santa Maria and San Juan.

b) A "dummy run" should be made on two channels for an 18 hour period some time in May 1972 determined by direct coordination between the stations concerned. The results should be passed to the analysing agency to coordinate with that State, having contracted the agency, in what way the sampling during the main data collection need to be modified.

c) The main sample should be taken on four consecutive Tuesdays and Fridays in July and August 1972 as determined by direct coordination between the stations concerned. The sampling should be made on the two busy channels both of a DSB and of an SSB family (probably families B and C). The sample should be taken at 0000-0600 and 1400-2000 GMT at Gander and New York and at 0200-0800 and 1200-1800 GMT at Shannon. For Reykjavik and Santa Maria the sample periods should be those of Shannon while San Juan should use the same periods as New York.

d) A subsidiary sample of a few hours could usefully be taken on the initiative of one of the stations concerned (who should coordinate with the others) when a period of bad propagation is encountered at any time in the second half of 1972.

e) During the latter 2 weeks of the main sampling period pilots should be requested to cooperate by providing information on delays encountered in passing messages on the HF air-ground communication channels. The type of data to be recorded and the detailed type of format used for this purpose should be determined between States, IATA and IFALPA based on the format shown below :

Date . . . . . Operator and Flight No.			
NAT Track letter			
Airport of Departure and Departure time			
Time of assuming HF communications			
Position (or meridian of position report)	Time message ready for transmission	Time message passed	Delay, if any

The final form should be sent to the operators with a request to issue sufficient copies to their crews on the occasions concerned. (It was understood that IFALPA was willing to cooperate, as necessary, in organizing this survey.)

1.20 The data required from the analysis should include the following :

a) The average contact time (subdivided by classes of messages) and its relationship to the length of the hard copy message taking into account propagation conditions and the use of DSB or SSB ;

b) Overall frequency loading per channel (% time) ;

c) Rate of contacts and its relationship to any delays encountered in clearing messages ;

d) An assessment of the validity of the loading predictions made in paragraph 1.10 above.

1.21 The outcome from the 1972 data-collection exercise should be used to establish guidelines for future routine (annual) NAT HF communications analyses. In this connexion it was stressed that it was not intended to impose undue efforts either on ground stations or on pilots in such data-collection exercises.

1.22 It was also noted that supplementary analyses, which could be established from statistical material available at stations, could be performed if considered desirable. It could for instance be determined how many aircraft, operating in the organized track system and not designated to send MET reports, were doing so nevertheless etc.

SHORT-MEDIUM TERM ACTION

1.23 Under this subject, the Group considered ways and means in which the capacity of the system be improved, both in the short and medium-term, by reducing the length of air-ground communications and the elimination, as far as possible, of the use of air-ground channels for purposes other than position reports.

Reduction in the length of reports from aircraft

1.24 One possibility considered under this item concerned the reduction of position coordinates by the elimination of latitude in the present position and of longitude in the next position as these were not believed to be essential elements in the position report. It was however appreciated that this could apply only to aircraft operating in the organized track system and not to others operating on "random" tracks.

1.25 The same applied to the possible elimination of the ETO from position reports because such information was essential, especially also to those OAC's faced with appreciable numbers of aircraft crossing or joining the organized track system.

1.26 It was agreed, not to complicate the existing position reporting procedures by the introduction of different possibilities depending on whether aircraft were operating within or outside the organized track system as past experience had shown, that this could result in confusion and thus off-set the possible benefits.

1.27 It was however believed that, in the longer term, this would not necessarily continue to be the case, as developments in the designation of the tracks and the extended use of automation in ATC might make it possible to obtain worthwhile reductions in position reporting without detriment to the operation of ATC.

Reduction in the number of aircraft designated to send MET Reports

1.28 The Group agreed that the present provision in the NAT RAC Regional Supplementary Procedures regarding the designation of aircraft required to send meteorological reports should refer to aircraft operating on "main" tracks of the organized track system but not to those operating on "composite" tracks for which even numbered flight levels are used (e.g. FL 320, 340, etc.).

Elimination of messages other than position reports

1.29 Statistical data from Shannon suggests that ground initiated traffic forms approximately 10 % of the total traffic and that company originated ground-to-air messages form approximately 30 % of this traffic or 3 % of the total traffic. Company addressed air-to-ground messages, thus constitute only 0.3 % of the total traffic handled.

1.30 It was therefore agreed that a reduction in either the total ground-to-air or in Company interest traffic offered only limited scope to increase the system capacity. The Group however strongly advocated continued vigilance by operators to restrict this traffic to a minimum.

SELCAL checks

1.31 The Group agreed that the present procedures for performing SELCAL checks, which largely conform with Recommendation 16/25 of the NAT V RAN Meeting, leave little scope for further reduction in channel occupancy.

SIGMETs

1.32 The Group noted that, while the procedures specified in NAT V, Recommendations 16/29 through 16/32 are generally observed, there is no worthwhile possibility of reducing communications by changes to the present procedures.

Section 2 of the Air Report

1.33 Based on information provided to the Group, it came to the conclusion that there was still room for improvement in the application of NAT V Recommendation 16/33 regarding the reduction of requirements for Section 2 of the Air Report. In fact, it appeared that while the majority of operators had reduced their requirements to a reasonable minimum, the majority of this type of message was originated by pilots of a comparatively small number of operators.

Publication of repetitive air traffic control information

1.34 The Group noted that there was now a certain amount of air traffic control information included in air-ground communications which, because of its repetitive nature, could just as well be either published in the form of NOTAMs or, if appropriate, be included in the track message, thus relieving both controllers and communicators from repeating it for each individual aircraft. This applied particularly to the need to specify the VHF frequency on which aircraft are to communicate upon leaving the NAT area etc.

Greater use of VHF for air-ground communications

1.35 The Group was informed that late in 1972 or early in 1973, extended range VHF GP frequencies will be put into operation at Frederiksdal in Greenland and at Saglek in Canada. Since a significant number of NAT flights will pass through the area of coverage of these two Stations, their communications which are now handled on HF will be transferred to VHF. At present, it was however not possible to assess what impact this development will have on the HF frequency loading in the NAT Region.

Reduction of read-back

1.36 In view of the improved quality of HF communications, especially when SSB techniques are used, the Group believed that it would be worthwhile if States concerned were to investigate whether more discretion could be left to communicators regarding the requirement for read-back of messages.

Summary

1.37 Although any reduction in the loading of channels, obtained when applying the above measures, would result in some relief, the Group felt that it was not possible to indicate quantitatively the extent of traffic reduction that would result therefrom. In fact, it cannot be stated with any degree of certainty at this time whether the combination of all the above measures would materially extend the life of the system. It is however fairly certain that their application would give some worthwhile load reduction during peak loading conditions.

1.38 It was also noted that air-ground messages received at Gander and Shannon are fed by the communicators directly into the message switching computers and become available almost immediately to the associated ATS units. It was agreed that it would be desirable to provide this facility at all NAT HF air-ground stations.

IMPROVEMENTS IN THE PRESENT SITUATION

1.39 The Group discussed ways in which the present situation, resulting mainly from a pronounced lack of balance in loading between the 4 NAT families, might be improved. The message traffic loading of the various families, as reported for 1971, was as follows :

Family A -	40 to 50 %	A3H/A3J/A3
Family B -	approx 30 %	A3
Family C -	" 15 %	A3
Family D -	" 15 %	A3

Interim action

1.40 The Group felt that the problem of achieving an equitable balance was complicated by the withdrawal of Family D at New York. However it noted that the proposal by Ireland presented to ICAO in early February 1972 and mentioned in paragraph 1.1 could, if approved, result in 1972 in approximately the following loadings :

Family A -	26 %	(A3H/A3J/A3)
Family B -	43 %	(DSB)
Family C -	22 %	(A3J)
Family D -	9 %	(DSB)

1.41 Whilst not entering into a detailed consideration of the proposal, which was undergoing processing within ICAO, the Group first noted the view that the Family B estimated loading (which amounted to a calculated loading of 70 aircraft - i.e. an overload) would tend to decrease somewhat as DSB equipped aircraft were replaced by those equipped with SSB. Secondly, the Group noted the intentions of Gander and Shannon/Shanwick to make arrangements to transfer (offload), as and when appropriate, DSB aircraft from Family B onto Family D once the proposal by Ireland was adopted. This transfer would not only remove any overload on Family B but also help materially to balance the loadings on the four families, which was the primary short-term aim.

1.42 The question of how in the longer term, NAT families could be distributed between routes, and between aircraft of different States of Registry, so as to achieve equal family loadings was difficult to resolve. Indeed, there was a strong feeling that distribution of aircraft onto families based on their respective State of Registry was not a valid method, although it was easy of application. The view was held that ground station initiative to offload channels was the most promising solution. In any event, the Group was unanimous that some form of Network operation must be retained as an essential feature. Proposals to divide traffic between the families on the basis of tracks or flight-levels were rejected as leading to complicated arrangements and/or frequency changes.

Longer-term action

1.43 As has been mentioned in paragraph 1.15 above, the introduction of a fifth family was expected to be necessary prior to the traffic peak of 1974 unless some means of effecting much better distribution between families could be achieved. It was agreed that the proposal presented hereafter offered promise as a medium-term solution :

a) Distribution of families by areas of use and stations

Family	Area of use and stations
A : A3	Southern Routes and Main Flow not entering Reykjavik FIR. (Stations : San Juan, Santa Maria, Shannon, New York, Gander).
B : A3J	Main Flow and Southern Routes ; Aircraft registered W of 30°W. (Stations : San Juan*, Santa Maria, Shannon, New York, Gander Reykjavik**).

* San Juan to implement 3 channels.
** Reykjavik to convert to A3J on Family B.

Family Area of use and stations

C : A3J Main Flow and Northern Routes ; Aircraft registered E of 30°W. (Stations : Santa Maria, Shannon, New York, Gander, Reykjavik).

D : A3 Northern Routes and Main Flow not entering Santa Maria FIR. (Stations : Shannon, Gander, Reykjavik and other existing stations as required).

b) Traffic distribution

Families B and C would carry approximately 50% of the overall traffic in approximately equal proportions, and no special procedures would be necessary. Traffic loading on Families A and D could be equalized as necessary possibly by the allocation of Families at the same time as primary and secondary frequencies were notified. The procedures whereby pilots would be informed of the Family to be used could be worked out by the States concerned, and the Group made no proposals at this stage. (See also paragraph 1.42 above.)

1.44 With the above improved load sharing amongst families it could be hoped tha t the need for a fifth family might be postponed until Summer 1975 instead of arising in Summer 1974.

1.45 It was noted that the proposal had the advantage that, when a fifth family (Family E) was introduced, it could be added as an A3J family to supplement Families B and C. At that time the DSB load was expected to be substantially reduced, and an even spread of the traffic load over the five families appeared to be feasible.

CONCLUSIONS

1.46 With reference to paragraphs 1.1 and 1.2, the Group hoped that the proposal for amendment of the NAT/COM Regional SUPPs presented by Ireland would be found acceptable by all concerned and could be implemented in good time to be applied during the Summer peak travel season of 1972.

1.47 The Group agreed that the various values, developed in paragraphs 1.5 to 1.16 and relative to the calculation of the life expectancy of the HF communication system in the NAT Region, should be used in the interim in any further studies until such time as any of these values could be superseded by that or those resulting from the analyses of the data-collection exercise described in paragraphs 1.17 to 1.22.

1.48 The Group hoped that States concerned would, in consultation with each other, find it possible to agree to the data-collection exercise described in paragraphs 1.17 to 1.22 and also to designate that State which was willing to contract the independent analyzing agency described in paragraph 1.18. With respect to the latter it was understood that the United Kingdom might be willing to assume this task. It was also hoped that one of the States concerned would act as co-ordinator of this exercise and the Irish Member stated that his administration was willing to assume this role.

1.49 The Group expressed its hope that States concerned would make the results of the data-collection exercise and the subsequent analysis available to the Group as early as possible after their completion.

1.50 With regard to the short-term improvements described in paragraphs 1.23 to 1.38 the Group hoped that States concerned and operators would take appropriate measures in order to ensure optimum results.

1.51 The Group hoped that States concerned will study the longer-term solution described in paragraph 1.43 with a view to developing a mutually acceptable proposal for timely implementation by all concerned.

1.52 In the light of new statistical data available to the Group and in view of revised traffic forecasts, the Group agreed that, for its own purposes, the material contained in this Summary should supersede the diagram contained in Appendix C to Part 16 of the Report of the NAT V RAN Meeting (Doc 8879, NAT/V, page 16-31 refers). It requested its secretary to bring this fact to the attention of ICAO for information and consequent action.

1.53 Finally, the Group felt that the material contained in the Summary of this Agenda Item, and especially that part dealing with the future life expectancy of the HF communication system in the NAT Region could constitute useful background information for those concerned with the development of new communication techniques and systems especially as regards their availability in the specific environment of the NAT Region.

Summary of Agenda Item 2 : Review of the situation with regard to :

a) the use of composite separation in the NAT Region and those problems in the adjacent transition areas resulting therefrom ;

b) traffic joining or crossing the organized track system in the light of measures agreed at the 7th Meeting of the Group.

GENERAL

2.1 As shown above, discussions under this agenda item dealt with two main subjects :

a) the question of composite separation ;

b) the situation with regard to traffic joining or crossing the organized track system.

2.2 With regard to sub-paragraph a) above the Group considered the three following aspects :

a) experience gained with the use of composite separation since its application ;

b) possible extension of the use of this type of separation ;

c) the need to provide radar coverage in the entry/exit area of the NAT Region where "composite" tracks begin or terminate.

2.3 The sub-item mentioned in paragraph 2.1 b) above was primarily considered from the point of view of experience gained since the introduction of those procedures agreed at the 7th Meeting of the Group. (NAT/SPG Summary/7, paragraph 1.12 and paragraph 1.19 refer.)

USE OF COMPOSITE SEPARATION
Review of experience made with composite separation

2.4 There was unanimous agreement amongst all participants in the Meeting that the use of composite separation by the addition of one further track, as implemented in April 1971, had been found to be satisfactory as far as the NAT airspace was concerned. However minor problems had been observed in those areas where transition was effected between the continental ATS route network and the organized track system, particularly on the European side of the Atlantic.

2.5 These were mainly due to the fact that there were still an insufficient number of access routes provided between the entry/exit points of the NAT Region and those points where integration of traffic into the EUM ATS Route network was effected. It had also been noted that, at least in the beginning of the use of composite separation, its application posed certain problems to controllers which were however likely to disappear with more experience and with internal adjustments to the OAC's or ACC's concerned which would ease the particular control problems posed by this type of separation.

Possible extension of the use of composite separation

2.6 While the initial application of composite separation could not only be considered under the aspect of the control problems it posed but required also close review from the point of flight safety, it was now agreed that experience gained so far with this type of separation was such, that the latter aspect could be considered as being resolved, provided the safeguards established by the Group prior to its application were observed.

2.7 As a consequence, the extended use of this type of separation was now primarily an ATC problem and should be considered mainly under this aspect. The Group therefore agreed that any extension of the use of composite separation would have to be left largely to the discretion of the ATC units directly concerned with its application on the understanding that it was subject to the same consultative process between the OAC's concerned as was normally applied to the organized track system. In this respect it was hoped that both, Canada and the UK would take necessary administrative measures in order to permit Gander and Shanwick OAC's to assume their respective responsibilities.

2.8 As to the methods of application of composite separation, the Group noted two specific proposals :

a) the UK member proposed that composite separation may also be applied in those cases where its application within the NAT Region between points other than the entry/exit points would permit a compression of the organized track structure for a defined portion of its overall extent so that a greater proportion of peripheral tracks would avoid areas of unfavourable MET conditions;

b) the conversion into a "composite track" of the outermost track of the organized track structure in order to compress its overall lateral extent, thus facilitating the operation of flights on adjacent random tracks.

2.9 While the Group found that the proposal in a) above was perfectly feasible provided its application conformed with established procedures regarding the adjustment of tracks etc., it was however pointed out that the proposal made under b) above might sometimes raise more problems than it could be expected to solve. It was therefore agreed that it should be kept under consideration by the OAC's concerned for application whenever circumstances relevant to the actual operating conditions at the time of application so permitted.

Provision of radar coverage in the entry/exit area of "composite" tracks

2.10 Based on the satisfactory results obtained with the application of composite separation so far, IATA suggested to the Group that it might not be in all cases indispensable to provide for radar coverage of the entry/exit areas where composite separation is applied, especially in view of the marked improvement in navigational accuracy observed with those aircraft being equipped with INS. When considering this proposal the Group referred to Recommemdation 10/5 of the NAT V RAN Meeting, which prescribed the preparatory measures which should be taken by States prior to the application of composite separation and which, inter alia, contained the requirement for the provision of radar coverage of the entry/exit areas.

2.11 After considerable discussions the Group came to the conclusion that it was still too early to make a decision in principle whether radar coverage in the area where aircraft were aligned onto the NAT organized track system was required or not. But it was also agreed that the interpretation of the requirement in Recommendation 10/5 for the provision of complete radar coverage of the entry/exit areas was possibly too rigid. It should rather be interpreted to mean that appropriate radar coverage in the judgement of the State concerned was required in that part of the airspace where adjustments, either in track or in level, were required for integration of flights into either the NAT track system or the continental ATS Route network.

2.12 When applying the above interpretation the UK member stated that it might be possible to envisage, for example, the provision of a second "composite" track from 5600N at 1000W. The Irish member pointed out that the provision of a second "composite" track emanating from either Shannon or from Cork could not yet be considered because of internal problems in the Shannon ACC and because of integration problems of traffic operating on such tracks into the traffic flow between the Shannon UTA and UK airspace.

2.13 The Canadian member stated that, while they agreed with the above interpretation of the provision of radar coverage they also required such coverage before the use of composite separation could be extended north of the area of coverage of Gander radar. He indicated however that work was in progress to provide this additional radar coverage shortly.

SITUATION REGARDING JOINING OR CROSSING TRAFFIC

2.14 Under this item, the Group reviewed the situation regarding traffic joining or crossing the organized track system as it resulted from the application of the procedures agreed at its 7th Meeting in Dublin. (NAT/SPG Summary/7, paragraphs 1.12, 1.19 and 1.30 refer.)

2.15 The representative from Portugal informed the meeting that, while in 1969 69% of all flights joining the organized track system had been cleared as requested in the flight plan this figure had risen to 80% by 1971. In addition, some of the flights which had received a clearance different from the data requested in the flight plan had in fact been cleared at more advantageous levels so that it could safely be assumed that 90% of all flights joining the organized track system did so now in satisfactory conditions.

2.16 The representative from Spain also agreed that the situation had noticeably improved since the measures, agreed at the 7th Meeting of the NAT/SPG, had been put into effect and he expressed the hope that the OAC's concerned would continue to bear this problem in mind with a view to further improvements whenever these were possible. The same views were expressed by IATA.

2.17 A proposal by IATA to better accommodate traffic, emanating from the Iberian peninsula and bound for destinations in Canada and which was now obliged either to avoid or to cross the southernmost one or two tracks of the organized track system was reviewed by the Group but, while it could be accepted in principle, its application was subject to many variable factors which could only be assessed by the OAC's concerned in the light of existing circumstances at the time of application.

CONCLUSIONS

2.18 The Group agreed that, in the light of experience so far obtained, the application of composite separation in the NAT Region had given full satisfaction.

2.19 It was also agreed that further extension of this type of separation within the organized track structure should be left to the discretion of the OAC's directly concerned with its application based on appropriate coordination.

2.20 When extending the use of composite separation, the OAC's concerned should take into account all relevant factors having a bearing on this type of separation in order to ensure its safe application.

Summary of Agenda Item 3 : Review of the situation regarding traffic forecasting for the NAT Region resulting from the proposals amde by the Group at its 7th Meeting.

General

3.1 This Item was discussed in a joint meeting of the NAT/SPG and the NAT Traffic Forecasting Group (NAT/TFG) and was mainly devoted to a review of the new forecasts made by the NAT/TFG in accordance with the requests put forward at the 7th Meeting of the NAT/SPG in Dublin (para. 1.37 to 1.45 in NAT/SPG Summary/7 refer) and resultant requests from the NAT/TFG for minor modifications of actual traffic data provided to them.

3.2 At the same time a number of organizational matters concerning the relation between the NAT/SPG and the NAT/TFG and the latter's relation with ICAO were discussed on the understanding that this, in no way, infringed on the autonomy of the NAT/TFG but was merely done to improve the collaboration between all parties concerned.

Review of the Draft NAT Traffic Forecast for the period 1972-1981

3.3 The NAT/TFG presented to the NAT/SPG a first draft of its NAT Traffic Forecast covering the period from 1972 to 1981, which was the first one which had been prepared in accordance with the new specifications. There was general agreement that this new format of the forecast presented a vast improvement over the one previously used and would appreciably help in facilitating its application to technical planning because the data provided was much more meaningful in technical terms and could be applied without the need of conversion.

3.4 A number of questions were posed by the NAT/SPG and explanations were given by the NAT/TFG and these can be summarized as follows :

a) with respect to the reliability of the forecast it was once more emphasized by the NAT/TFG that, regardless of the accuracy achieved on specific occasions, any forecast should never be considered as more than an adjunct to planning and never as its replacement ;

b) as to the presentation of data for the sixth to the tenth year, the NAT/TFG stated that forecast figures for any intermediate year between the sixth and the tenth year could be obtained by simple linear interpolation ;

c) the NAT/TFG pointed out that, in their views, planners basing their planning on forecast figures beyond the sixth year in the forecast would be well advised to use a figure situated somewhere between the mid and the upper value given in the tables.

Modifications in the provision of actual traffic data to the NAT/TFG

3.5 In compiling the data for the new type of forecast, the NAT/TFG noted some difficulties. In order to overcome these and, at the same time, simplify the task for the data collectors as well as the NAT/TFG a number of proposals were made to the NAT/SPG and two new data-collection forms were presented for consideration, as follows :

a) due to the increasing difficulties to separate traffic into specific categories such as scheduled or non-scheduled operations, it is proposed to restrict classification into 3 categories only :

P = commercial passenger flights
C = commercial all cargo flights
O = other flights ;

b) for the busy period (July and August) daily records of flights along specific axes should be provided (the example in Appendix A, Table 1 refers) ;

c) for the 2 busy months (July and August) monthly summaries of flights along specific axes should be provided) (the example in Appendix A, Table 2 refers) ;

d) daily totals for each month of the year with the exception of the two busy months (July and August) should be provided (the example in Appendix A, Table 3 refers).

3.6 With respect to 3.5 a) above, it was stated that the differentiation into "P" and "C" flights was expected to create difficulties since the nature of a flight operation was frequently not apparent from the data available to ATC. Since it was however pointed out that this differentiation would be of considerable assistance to the NAT/TFG in cross-checking its data with that derived from other sources, it was agreed that attempts would be made to meet this requirement.

3.7 Otherwise members and representatives from States required to provide actual traffic data to the Group agreed that they would ensure that the requirements of the NAT/TFG, as stated above would be met. The secretary indicated that he would ensure that other States concerned would be contacted through the European Office of ICAO.

Organizational matters

3.8 In the light of past difficulties in establishing contact with the NAT/TFG, this Group agreed to nominate a spokesman who would serve as contact between the NAT/TFG and any other body and it was noted that this was Mr. L.G. Lennox, from the UK up-to 1 May 1972 and, after that date, Mr. W.S. Nasi from Canada. As to contacts between States and the NAT/TFG it was proposed that these would best be directed to the European Office of ICAO for onward transmission to the NAT/TFG.

3.9 As regards the submission of the traffic forecast to ICAO, the NAT/TFG stated, with the agreement of the member from the USA, that in future its spokesman would send copies of this forecast simultaneously to :

a) the Secretary General of ICAO ;

b) the European Office of ICAO.

It was hoped that this arrangement would assist in reducing the delays between the time of completion of the forecast of the NAT/TFG and its availability to all interested parties.

CONCLUSIONS

3.10 The Group noted that its Members and representatives present at this Meeting from those States required to provide actual traffic data to the NAT Traffic Forecasting Group will ensure that the requirements expressed by that Group and reflected in paragraph 3.5 will be complied with by their administration.

3.11 The Group hoped that the European office of ICAO will bring the requirements of the NAT/TFG, as stated in paragraph 3.5, to the attention of Iceland together with a request for compliance.

APPENDIX A
TO THE SUMMARY OF AGENDA ITEM 3

STATISTICAL DATA ON ACTUAL TRAFFIC TO BE PROVIDED TO THE NAT TRAFFIC FORECASTING GROUP

1. The attached forms should be used in order to provide actual traffic data to the NAT/TFG.

2. Form 1 is the daily summary of traffic. It should be prepared for the 62 days of July and August while these two months constitute the busy period.

3. Form 2 is the monthly summary of traffic for the busy period. It should be prepared for the months of July and August while these two months constitute the busy period.

4. Form 3 is the monthly summary of traffic for those months other than the busy period. It should be prepared for each of the ten months outside the busy period.

Note : The traffic figures shown in the attached forms are fictitious and have only been inserted for illustration purposes.

NORTH ATLANTIC TRAFFIC COUNTS

S A M P L E
(data is fictitious)

HIGH LEVEL WESTBOUND HOURLY COUNT

OCEANIC CENTRE SANTA MARIA

DAY
~~MONTH~~ 25 AUGUST 1971

HOUR GMT	NAT SPG TRAFFIC AXES																		HOUR TOTALS		
	3 W			6 W			9 W														
	P	C	O	P	C	O	P	C	O	P	C	O	P	C	O	P	C	O	P	C	O
0000-0059																					
0100-0159																					
0200-0259																					
0300-0359				1																	
0400-0459																			1		
0500-0559																					
0600-0659							1														
0700-0759						1													1		
0800-0859																					1
0900-0959							1														
1000-1059				11															1		
1100-1159				2				1											11		
1200-1259				2															2	1	
1300-1359				1															2		
1400-1459				1															1		
1500-1559																			1		
1600-1659							1														
1700-1759							2												1		
1800-1859																			2		
1900-1959																					
2000-2059																					
2100-2159																					
2200-2259																					
2300-2359																					
T O T A L				18		1	5	1													
																			23	1	1

DAY/~~MONTH~~ TOTAL

P = commercial passenger aircraft
C = commercial (all) cargo aircraft
O = other aircraft

S A M P L E (data is fictitious)

NORTH ATLANTIC TRAFFIC COUNTS

HIGH LEVEL WESTBOUND HOURLY COUNT

~~DAY~~ MONTH JULY 1971

OCEANIC CENTRE SANTA MARIA

HOUR GMT	NAT SPG TRAFFIC AXES																		HOUR TOTALS		
	3 W			6 W			9 W														
	P	C	O	P	C	O	P	C	O	P	C	O	P	C	O	P	C	O	P	C	O
0000-0059				42		1													42		1
0100-0159				93															93		
0200-0259	2			38															40		
0300-0359	2			28		1													30		1
0400-0459	3			18															21		
0500-0559	7			32															39		
0600-0659	3			19															22		
0700-0759	3			16															19		
0800-0859	2			7															9		
0900-0959				19															19		
1000-1059	1			7															8		
1100-1159				21															21		
1200-1259				12															12		
1300-1359				8															8		
1400-1459			1	3															3		1
1500-1559	7			12															19		
1600-1659	8			10															18		
1700-1759	5			4															9		
1800-1859	8		2	5															13		2
1900-1959	1		1	3		1													4		2
2000-2059				2		1													2		1
2100-2159	2			3															5		
2200-2259	2			3															5		
2300-2359	1			6															7		
T O T A L	57		4	411		4													468		8

~~DAY~~/MONTH TOTAL

P = commercial passenger aircraft
C = commercial (all) cargo aircraft
O = other aircraft

APPENDIX A
Table 3

Total Traffic Outside Busy Period

OCEANIC CENTRE SANTA MARIA

MONTH JANUARY 1972

SAMPLE
(data is fictitious)

WESTBOUND

DAY	P	C	O
1	25		
2	43		
3	20		
4	10		1
5	6		
6	19		
7	12		
8	9		
9	9	2	
10	9		
11	8		1
12	11		
13	10	4	
14	10		
15	20		
16	9		
17	8		
18	9	6	
19	14		1
20	12		
21	21		
22	9		
23	9		1
24	9	4	
25	30		
26	18		
27	22		
28	25		
29	19		
30	9		
31	12		
SUM	456	16	4

P = commercial passenger aircraft
C = commercial (all) cargo aircraft
O = other aircraft

Summary of Agenda Item 4 : Any other business

4.1 Under this Agenda Item the Group considered the following particular problems which had been raised in the course of discussions :

a) procedures used by the United Kingdom for the delivery of oceanic clearances ;

b) questions related to the summary of radar-observed deviations from track ;

c) future studies of questions related to the NAT organized track system ;

d) the ATS inter-area communication link between Stavanger and Reykjavik ;

e) future disposition of Loran A Chain "C" ;

f) questions related to developments in the field of aeronautical satellites.

The Summary of this Item is therefore recording the views of the Group on these subjects.

Procedures used by the United Kingdom for the delivery of oceanic clearances to westbound turbo-jet traffic

4.2 The NAT V RAN Meeting, in its Recommendation 10/23, had requested the United Kingdom to pursue, in consultation with all users concerned, a solution to the problem caused by communication congestion on the VHF channels used for the delivery of oceanic clearances to westbound turbo-jet traffic bound for the NAT Region. On 15 March 1971 the UK had implemented a system on a trial basis which, in essence, provides for a continuous broadcast of track information on one VHF channel while the other two channels are used for the negotiation of the oceanic clearances in an abbreviated manner because of the broadcast.

4.3 The UK member now reported that the three operators who had so far participated in this trial scheme had found it to work satisfactorily and they were therefore not only intending to continue this system but were interested in extending its application to two or three more operators (including one of the larger operators) in the NAT Region.

4.4 After some discussion, which centered primarily around the question whether it would be advisable to relate the hard-copy track message, given to pilots on departure, with the broadcast track message by means of a code word in order to facilitate determination of their congruence, it was agreed that :

a) the procedures now used should be continued on a permanent basis but restricted in application to designated carriers which are determined by mutual agreement between the UK and the carriers concerned ;

b) the UK would undertake to contact those operators it wished to join in the application of the procedures ;

c) a code word would not be added at this time either to the track message or to the track broadcast but that this question would be reviewed at a later date before use of the broadcast by more than a very limited number of operators was considered.

Questions related to the summary of radar-observed deviations from track

4.5 The Group had a brief exchange on some administrative problems which had been encountered by some States and operators with the Summary of radar-observed deviations from track by aircraft operating in the NAT Region. (NAT V, Recommendation 10/10 refers.) As it was found that most of these resulted from differences in the reporting method used and would, in any case, require more detailed review, it was agreed that this matter should be left to the secretary who would take it up with the States and operators concerned in the course of his routine occupation within ICAO with this subject.

Future studies of questions related to the NAT organized track system

4.6 Under this item, IATA raised the question whether it was intended to study the possibility of permitting aircraft operating above FL 290 to cross the tracks of aircraft in the organized track system with a separation of 1000 feet only on condition that the crossing of tracks is effected within a specified area and under specific traffic conditions. The Group agreed that this question would be reviewed in the required detail at a suitable occasion in the future.

The ATS inter-area communication link between Stavanger and Reykjavik

4.7 IATA informed the Group of the serious difficulties which one of their operators encountered in obtaining for its aircraft an ATC clearance from Reykjavik ACC for entry into their OCA while flying in the Stavanger FIR. This was due to the fact that no direct communication link exists between the two ACCs concerned and that, for a number of technical and operational reasons, the UK has not been able to provide for switching at Prestwick as intended at the NAT V RAN Meeting. (NAT V Recommendation 15/11 and paragraph 9.15.3 of the NAT V Report refer.)

4.8 As this was a straight-forward question of implementation, the Group agreed that this matter should be left to consideration between the States concerned and, in addition, appropriate follow-up action by the European Office of ICAO.

Future disposition of Loran A Chain "C"

4.9 With reference to paragraph 6.20 of NAT/SPG Summary/7 which deals with the continuation of operation of Loran A Chains in the NAT Region, the French member raised a question of the future disposition of Loran A Chain "C" after the military interest in this Chain ceased at the end of 1974. He stated that he required a clear indication from the users whether a continued operational requirement for this Chain existed after that date so that he would be able to request the provision of the requisite funds in the budget of his administration. He pointed out that, after 1974, the operating costs for this Chain, or the parts thereof situated in France, would be incorporated in the amount of expenses recoverable by user charges. To permit operators to appreciate the size of the financial burden he stated that the present civil part of the operating costs for the French part of Chain "C" were in the amount of 600,000 francs and would, in 1975 when the costs would be fully borne by the civil authorities, come to approximately to 2,400,000 francs. In addition, by that time, it would be necessary to envisage additional investments for the renewal of the equipment of this Chain because of its age and these could be rather heavy.

4.10 IATA, in their reply stated that the problem raised by the French member was one which, in their view, had to be seen primarily under the cost/benefit aspect, i.e. would the cost in user charges for the operation of this Chain (and probably all others) be offset by savings in re-equipment of aircraft resulting from the continued availability of navigational guidance provided by Loran. In order to answer this question, it was essential for the operator to have an appreciation of the overall costs involved and this not only with respect to

Loran A Chain "C" but with respect to all Chains since it could safely be assumed that the cessation of military requirements for the operation of these Chains was not limited to Chain "C" only but was a world-wide development. In addition, the provision of airborne navigation equipment by an operator for its fleet could not be done on a strictly local or even regional basis because of its utilization. As a consequence, IATA felt that this matter needed urgent attention by ICAO and that, as a first approach to the solution of this problem States operating Loran stations should be required to submit information on costs likely to occur after 1974 in relation with the operation of these facilities to permit operators to make an overall cost/benefit assessment. This should also include an indication of the sharing of costs by maritime users because of the services rendered to this type of transport.

4.11 With respect to the operational effect of a possible discontinuation of Loran A Chain "C", the UK member pointed out that its closure would, under the present navigational situation, imply that composite separation could not be applied to aircraft operating on NAT tracks emanating from the southern part of the United Kingdom. In addition, he stated that the withdrawal of all those Loran A Chains, in the NAT Region having been considered in the 1967/68 navigation data-collection exercise would require a re-assessment of the navigational environment of the entire NAT Region and, consequently, a review of the present separation standards used therein, which are based on this environment.

4.12 IFALPA pointed out that the withdrawal of certain elements of Loran A coverage would obviously modify the navigational environment in the NAT Region and that it would be necessary for them to re-assess the situation in the light of developments as they existed at the time of the withdrawal of this mean of navigation.

4.13 As a consequence of the above the Group agreed that this matter appeared to require study not only from the point of view of the future disposition of Loran A Chain "C" (and possibly also Chains "B" and "D") but from a point of view which exceeded the area of competency of the Group. It therefore hoped that measures would be taken to draw the attention of the appropriate bodies to the wider consequences of the situation regarding the continued operation of Loran as a means to navigation while the Group itself would continue to monitor carefully developments with regard to Loran A Chain "C" in this wider context.

Questions related to developments in the field of aeronautical satellites

4.14 The Group felt that the situation with regard to the use of aeronautical satellites in the NAT Region was still not sufficiently clear from the point of view of concept and with respect to a number of other related aspects in order for it to make a useful contribution. It therefore agreed, not to discuss this subject and not to take any initiative unless future developments so warranted or the Group was called upon to undertake specific tasks by other competent bodies.

4.15 It felt however that certain of the aspects developed under its Agenda Item 1 and reflected in the Summary on this item deserved attention by those concerned with the planning of an aeronautical satellite system in the NAT Region, especially as regards the life expectancy of the NAT HF communication system. (Paragraph 1.52 refers.)

*Summary of Agenda Item 5 : Arrangements for the next Meeting.

General

5.1 Before entering into a detailed discussion on this subject, the Group re-affirmed the position taken at the 7th Meeting i.e. that meetings should only be held if it could reasonably be expected that they would produce worthwhile results.

Date of next meeting

5.2 As to the arrangements for its next meeting, the Group felt that, since it had already been agreed at its 7th Meeting that one major item on its agenda would be the question of SST operations, its timing depended very much on developments in this field and on plans made by ICAO in this respect. It noted that present plans envisaged the start of commercial SST operations in the NAT Region in the latter part of 1974 and that a limited NAT RAN Meeting, devoted to this subject was tentatively planned by ICAO in early 1974 since it was expected that any action taken by such a meeting could speedily be introduced.

5.3 Further points, which had a determining influence of the timing of the next meeting of the Group, were :

a) the availability of studies now undertaken by a number of States in the field of SST, and in other fields likely to be considered during this meeting ;

b) the need to assess the results of the data-collection exercise, agreed under Item 1 of this meeting, fairly early after its collection in order to draw the necessary operational conclusions and propose resulting action.

5.4 As a consequence it was agreed that the most likely period for the next meeting of the Group should be some time between April 1973 at the earliest and middle of June 1973 at the latest.

5.5 As to a possible relation between the timing of the future meetings of the SST Panel of ICAO and the NAT/SPG, the Group felt that there was no domineering need to do this because the relationship of the work done by these two bodies was only comparatively limited.

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*This item was considered by members of the Group only.

Agenda

5.6 As to the points to be considered, it was agreed that the principal items on the agenda of this meeting should be :

a) development of proposals for definite operating procedures and other measures required to permit commercial operations of SST aircraft in the NAT Region ;

b) review of the actual and expected navigational performance of sub-sonic and super-sonic aircraft equipped with INS and operating in the NAT Region and assessment of its consequences on the ATS route structure ;

c) review of the NAT HF air-ground communication system in the light of latest information and development of proposals for resulting action,

on the understanding that points a) and b) would serve mainly to prepare appropriate supporting documentation for the LIM NAT SST Meeting of ICAO.

5.7 In addition, the Group stated that it was prepared to include, in the agenda of its next meeting, a point related to the use of satellite systems should, at that time, developments so warrant or the Group having been seized with a specific request for action in this field from any of the interested parties.

5.8 As regards the question of the possible establishment of a semi-fixed or fixed NAT ATS route network for sub-sonic aircraft, rqised at the 7th Meeting of the Group, the Canadian Member informed the Group that studies on this matter were still pursued in Canada but that it was not possible to state a definite date when tangible results suitable for review by the Group would become available.

Duration of meeting

5.9 Because of the importance and complexity of the subjects retained on the agenda, the Group believed that the next meeting should not last less than 2 weeks, and possibly slightly more, in order to be able to produce useful results.

Site of the meeting

5.10 As to the site of the meeting, the Group was unanimous in its wish that it should once more be the Paris Office of ICAO, especially in view of the fact that this will facilitate access to any required reference documentation.

Participation

5.11 The Group agreed that the question of participation in its next meeting should be left open at this time except that it was evident that the presence of IATA, IANC and IFALPA would be desirable. Further detailed consideration of this subject was however left to resolution by correspondence between members in the light of future developments.

Supporting documentation

5.12 It was believed that fairly substantial pre-meeting supporting documentation would be required on all of the three major items now retained for consideration by the next meeting and it was therefore hoped that members would make every effort to provide any material as soon as this was possible.

CONCLUSIONS

5.13 The Group agreed that :

a) its next meeting should be held some time between April and June 1973 with a duration of at least 2 weeks ;

b) the Meeting should be held at the Paris Office of ICAO ;

c) participation in this meeting be determined by correspondence between members well in advance of the meeting ;

d) the agenda should cover the following main items :

i) development of proposals for definite operating procedures and other measures required to permit commercial SST operations in the NAT Region ;

ii) review of the navigational performance of INS equipped aircraft and assessment of its consequences on the NAT ATS route structure ;

iii) review of the NAT HF air-ground communication system and development of proposals for resulting action.

e) supporting documentation on the above items should be made available as early as possible prior to the meeting

Request to ICAO

5.14 The Group hoped that, as has been the case in the past, IACO would find it possible, in the future, to provide the Group with secretariat and other assistance so as to permit it to continue its work.

*Summary of Agenda Item 6 : Election of the next Chairman

6.1 On a proposal by Mr. D.A. Blake, member of the United Kingdom, Mr. J.F. Sapin, the member of France, was re-elected unanimously as the Chairman of the Group.

6.2 At the same time the Group agreed that this election should be valid until the end of thatfuture meeting of the Group for which either the Chairman himself or anyone of the members of the Group had requested that the question of the chairmanship be placed on its agenda.

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*This item was considered by members of the Group only.

LIST OF NAMES AND ADDRESSES OF THE MEMBERS OF THE NORTH ATLANTIC SYSTEMS PLANNING GROUP/

LISTE DES NOMS ET ADRESSES DES MEMBRES DU GROUPE DE PLANIFICATIONS COORDONNEES ATLANTIQUE NORD

Name/ Nom	State/ Etat	Address/ Adresse	Remarks/ Observations
Mr. A.L. Elliott	CANADA	Ministry of Transport CATS Ottawa, Ontario K1A ON8 Canada Tel. 995-6533 Ottawa	
Mr. J.F. Sapin	FRANCE	Chef du Centre régional de la navigation aérienne Boîte postale 108 94 - ORLY Aérogare Tel. 331-92-32	Chairman/ Président
Mr. G. Jones	IRELAND	Department of Posts and Telegraphs Radio Division Leitrim House The Castle DUBLIN 2 Tel. 48888 Ext. 346 or 774836 (direct)	
Mr. J.G. ten Velden	KINGDOM OF THE NETHERLANDS	Chief, General ATC Affairs Bureau Ministry of Transport and Waterworks Department of ATC and Telecommunications 1-6, Plesmanweg THE HAGUE Tel. (070) 62-43-21	
Mr. D.A. Blake	UNITED KINGDOM	National Air Traffic Control Services The Adelphi John Adam St. LONDON W.C.2 Tel. (01) 836-1207 Ext. 1393	
Mr. G.G. Sink	UNITED STATES OF AMERICA	IA-110 Chief, Planning and Evaluation Branch Office of International Aviation Affairs WASHINGTON, D.C. 20591 Tel. (202) 426-3057	Mr. Sink to retain position until April 1972. After that date correspondence can be addressed to position however without reference to Mr. Sink.