SUMMARY OF DISCUSSIONS AND CONCLUSIONS

OF THE

SIXTEENTH MEETING OF THE NAT SYSTEMS PLANNING GROUP

(Paris, 1-10 October 1979)

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1. Introduction

1.1 Convening and Conduct of the Meeting

1.1.1 The Sixteenth Meeting of the NAT/SPG was held in the European Office of ICAO from 1 to 10 October 1979. Further to the usual participation by the Members of the Group, and IATA and IFALPA, the Group had also invited Denmark, Iceland, Norway, Spain, Portugal and the USSR, as well as ACCA, IACA and IAOPA to attend this Meeting because it was felt to be useful if their views were also taken into account on some of the subjects discussed. With the exception of ACCA, IACA and IAOPA, the latter having notified the Group of its non-acceptance of the invitation, all invited States and International Organizations were present.

1.1.2 The Meeting was chaired by Mr. J.G. ten Velden, the Member of the Netherlands and a list of participants is given on page vi. The Meeting of the Group was conducted throughout as an open Meeting with all participants present.

1.1.3 For some subjects, the Group created ad hoc drafting groups of varying composition. The more important groups were :

a) a drafting group charged with the scrutiny of observed gross errors of which Mr. R. Peel of IATA acted as Rapporteur; and

b) a drafting group dealing with mathematical aspects of lateral and longitudinal separation of which Mr. A. Pool of the Netherlands acted as Rapporteur.

1.1.4 Mr. P. Berger served as Secretary of the Meeting, assisted by Mr. C. Eigl. Messrs. W. Arcangeletti and E. Cerasi also participated part-time in the Meeting. All four are Members of the European Office of ICAO.

1.2 Composition of the Agenda

1.2.1 Prior to the Meeting, a draft Agenda had been circulated, which had been prepared based on proposals received from Members of the Group for Items which needed consideration at this Meeting. In the course of the Meeting it became however apparent that a number of operational matters of current interest needed also review by the Meeting and they were therefore included in the Agenda as they were brought forward.

1.2.2 As a consequence, the Agenda as shown in pages iii to iv presents the Items considered by the Meeting in the Summary in the most logical sequence and in the order of their relative priority.

AGENDA

Item 1 : Lateral separation in the NAT Region

1.1 Introduction of 60 NM lateral separation in MNPS airspace of the NAT Region and proposed action.

1.2 Review of a proposal by the USA to amend Annex 6 regarding compliance with MNPS.

1.3 Extension of the MNPS airspace in the New York OCA.

1.4 Reduction of lateral separation between SST aircraft at or above FL450 to 30 NM.

Item 2 : Longitudinal separation in the NAT Region

2.1 Review of the results of the 1978 data collection on longitudinal separation.

2.2 Proposals regarding changes to the NAT RAC SUPPs relating to longitudinal separation.

Item 3 : Problems created by crossing and joining traffic in the NAT Region

3.1 Review of developments since NAT/SPG 15.

3.2 Proposals for further action.

Item 4 : NAT aeronautical telecommunications

4.1 Review of the situation of the aeronautical fixed services in the NAT Region after the LIM EUR/NAM/NAT RAN Meeting (1979).

4.2 Review of the situation regarding the use of DSB and SSB in HF air-ground communications in the NAT Region.

4.3 Review of the results of the trial application of the use of fixed message formats in pilot's reports.

Item 5 : NAT Air Traffic Forecasts

5.1 Review of the revised NAT Air Traffic Forecasts for the period 1979 - 1984.

5.2 Co-operation of States with the NAT/TFG and supporting action by the NAT/SPG.

Item 6 : Operational matters of current interest

6.1 Status of proposals for amendment of the NAT RAC SUPPs.

6.2 Provision of tracks in Santa Maria OCA to cater for traffic operating between North-Western Europe and Madeira and the Canary Islands.

6.3 Provision of a track between Lands End and Santiago in oceanic airspace.

6.4 Delegation of airspace South of Ireland consequent to the implementation of SSR in this area.

6.5 Provisions regarding airspace reservations in the NAT Region.

6.6 Fuel conservation

6.7 Provisions regarding unlawful interference with aircraft in the NAT Region.

6.8 Use of 5-letter name-codes in the NAT Region.

6.9 Consolidated presentation of VHF GP coverage in the NAT Region at 15 000 feet.

6.10 AIS in the NAT Region.

6.11 Liaison between the NAT/SPG and OAC Chiefs.

6.12 Review of the situation regarding the use of satellite and other techniques for navigation purposes in the NAT Region.

Item 7 : Future work programme and arrangements for the next Meeting

LIST OF CONCLUSIONS

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LISTE DES PARTICIPANTS

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Agenda Item 1 : Lateral separation in the NAT Region

1.1 Introduction

1.1.1 Under this Item the Group dealt with four specific subjects related to lateral separation in the NAT Region. These were :

a) Introduction of 60 NM lateral separation in MNPS airspace of the NAT Region and proposed action.

b) Review of a proposal by the USA to amend Annex 6 regarding compliance with MNPS.

c) Extension of the MNPS airspace in the New York OCA.

d) Reduction of lateral separation between SST aircraft at or above FL450 to 30 NM.

1.1.2 For obvious reasons, the Item listed under a) above was the most important subject to be considered by the Meeting because the actual application of 60 NM lateral separation in MNPS airspace in the NAT Region had already been postponed twice because it had been found that, based on a specific use of the accepted methodologies for the assessment of the collision risk, the observed performance of an exceedingly small minority of flight operations in the NAT Region, had, in the past, prevented the introduction of that separation in the Region.

1.2 Introduction of 60 NM lateral separation in MNPS airspace

1.2.1 Consideration of this Item was sub-divided into the following main subjects :

a) review of the actual performance of flight operations in the NAT Region as observed by the designated monitoring units;

b) scrutiny of observed errors in the light of operational considerations and their classification according to causes;

c) continued review of the suitability of the mathematical-statistical methods for the assessment of collision risk;

d) development of corrective action aimed at the reduction of specific categories of errors; and

e) proposed action regarding the application of 60 NM lateral separation in MNPS airspace of the NAT Region resulting from the above.

Review of actual performance of flight operations

1.2.2 The Group noted that, in its Conclusion 15/3, it had agreed at its 15th Meeting to retain the date of 24 January 1980 as the new date of application of 60 NM lateral separation in MNPS airspace of the NAT Region, provided that this date could be confirmed by the Group at its 16th Meeting in the light of data obtained on observed gross errors collected during the period from 2 November 1978 to 31 August 1979.

1.2.3 The Group had now before it the result of this data collection which showed a total of 37 gross errors i.e. deviations from track of 30 NM or more out of some 62 000 flights which had been observed within the observation area agreed at NAT/SPG 15. The Group therefore agreed that the above should be taken as the basis upon which the present assessment of the situation in the NAT Region should be based.

Scrutiny of observed errors and their classification

1.2.4 During NAT/SPG 15, it had already become apparent that one of the major difficulties in taking a decision regarding the use of separation minima was due to the fact that such a decision conditioned, by necessity, future developments but could, for obvious reasons, only be based on the assessment of an existing situation. The dilemma was therefore to judge, with reasonable assurance, what future developments were likely to be when assessing it from the present. At NAT/SPG 15 this had already led to considerable discussion on the way in which actually observed errors could be interpreted to represent a trend for repetition in the future or to what extent such observed errors were non-repetitive, i.e. that they represented single ad hoc events and/or were likely to disappear because of improvements made to the elements having caused such errors.

1.2.5 It was for this reason that, already at NAT/SPG 15, efforts had been made to classify errors into different categories and to determine, for each category of errors so established, whether it was repeatable or non-repeatable. At this Meeting the Group agreed that, based on a proposal from its Member of the UK, the following categories of errors should be adopted :

Errors due to :

A. Non-compliance with the MNPS;

B. Non-compliance with MNPS but corrective action in hand;

C. Classical navigation errors including equipment failure;

D. ATC system loop errors; and

E. Equipment control errors, including waypoint insertion errors.

In addition, it was agreed that Category C should be sub-divided into errors on which notification had been received by the ATC unit concerned and those on which ATC had not received any notification.

1.2.6 Consideration was also given to sub-divide those errors on which ATC had received notification into those where the ATC unit had had an opportunity to intervene and take corrective action and into those where the notification had been received at a stage of the flight where no time was left for ATC to take appropriate corrective action.

1.2.7 Once this classification had been agreed, the Group proceeded to assign the 37 observed errors to the various categories and this gave the following breakdown :

Category	Number of gross errors
A	3
B	4
C (ATC not notified)	9
C (ATC notified in time)	2
C (ATC notified too late)	2
D	9
E	8
Total	37

1.2.8 As a consequence of the above, the Group agreed that the following 3 calculations should be made :

a) a primary analysis in which all 37 observed errors would be included;

b) a secondary analysis in which 3 of the Category B and one of the Category C errors would be excluded. This was believed to represent what could be expected with some confidence for the near future; and

c) a third analysis in which, further to the exclusions in b) above, 4 Category D errors would be excluded. This analysis would be illustrative of the situation in the near future if reasonably effective measures could be taken to reduce the numbers of ATC system loop errors.

Review of the mathematical-statistical methods

1.2.9 During the 15th Meeting of the NAT/SPG, considerable discussion had taken place whether the mathematical-statistical methods, used for the assessment of the collision risk in the NAT Region were still responsive to the actual situation as it exists to day. At NAT/SPG 15 discussions had revealed that there were, essentially, three points on which a difference of views appeared to exist. These concerned :

a) the question, whether it was permissible to exclude certain observed errors from insertion in the mathematical-statistical assessment of errors with regard to the expected collision risk because the nature and effects of the errors were such that they were not related to the separation minima under discussion but were independent of this question and were likely to occur regardless of the separation minima applied;

b) the question of the treatment which should be afforded to errors of 50 NM or more; and

c) the validity of the snap-shot principle, as developed in 1967, with respect to specific types of errors now being recorded.

1.2.10 With regard to a) above, IATA had already pointed out at the 15th Meeting of the Group that they felt that the inclusion of errors which appeared to be independent of a specific separation minimum in the mathematical-statistical analysis of the relative safety of a specific separation minimum appeared to be overcautious and tended to influence the conclusions regarding the relative safety of that specific separation minimum in an unfavourable way. In the view of IATA, the same reasoning applied to errors which were non-repeatable because, as they tended to disappear, their inclusion in the assessment of future collision risks rendered the mathematical-statistical assessment of collision risk also overcautious. However it was realized that :

a) there would be extremely few errors where the risk involved was independent of the separation minima applied; and

b) in order to compare the risk with the target level of safety, it would be necessary to take all errors into account.

1.2.11 While some Members of the Group felt that the points made by IATA merited consideration, no unanimous view could be reached on how this could be taken into account within the present mathematical-statistical methods. It was therefore believed that further study was required before a firm conclusion could be reached on this subject.

1.2.12 As to the point mentioned in para 1.2.9 b) above, i.e. the treatment afforded to observed gross errors of 50 NM or more, this was a more complex subject because this referred to those errors which, when occurring in a 60 NM lateral separation environment, had the most significant effect on safety. It was also noted that this question covered two distinct aspects :

a) the question of how long it should be assumed that an aircraft, having deviated by 50 NM to 70 NM from its assigned track, had been operated within this band and thus in close proximity of the adjacent track in an organized track system based on 60 NM lateral separation; and

b) the question of how to deal with errors which were in excess of 70 NM when related to a multi-track organized track system based on 60 NM lateral separation.

1.2.13 With regard to the question raised in a) above, some Members of the Group held the view that, with the improvements made to the navigation equipment available on board aircraft operating in MNPS airspace and the improvements made regarding cockpit discipline and operation of such equipment by aircrews, a significant change in the situation had taken place since 1967. In fact, at that time it had been assumed that an aircraft, which was observed as having deviated from its assigned track between 50 NM and 70 NM, spent a considerable time of its total flying time in the NAT Region on this wrong track because the possibilities to detect this error and to take appropriate corrective action were much more limited than was now the case and it was therefore essential to make appropriate allowances for this state of affairs in the mathematical-statistical methods. There appeared, however, to exist evidence now which seemed to indicate that, since the introduction of MNPS in the NAT Region, a considerable change of this situation had taken place and that, as a result of this, it could be assumed that deviations from track of that order were restricted to comparatively short periods of the total time of operation in the NAT Region and that corrective action by pilots was initiated much earlier than was previously the case.

1.2.14 Some Members of the NAT/SPG believed therefore that it was necessary to take account of this change so that, while not modifying the mathematical-statistical methods in any way, at least those factors relevant to the risk exposure time of deviations in the 50 NM to 70 NM band should be adjusted accordingly. However, it was noted that a procedure to take this tendency into account did not yet exist and had yet to be developed.

1.2.15 As to the question raised in para 1.2.12 b), i.e. how to deal with errors in excess of 70 NM, the Group noted that, originally, the methods had only allowed to account for them as being relevant to the collision risk created to aircraft operating on the next adjacent track. However, when applying these errors to a multiple track system in the NAT Region, it was realized that a similar risk would recur, every time an aircraft deviated more than 70 NM from its assigned track and the deviation corresponded to a multiple of 60 NM. Therefore, at the London Meeting of NAT provider States in August 1978, it had

been suggested that the following procedure should be applied with regard to those errors : they should be counted not only with respect to the 30 NM or more criterion but should also be counted once with respect to the 50-70 NM criterion if they corresponded to a multiple of 60 NM ± 10 NM (i.e. 110 NM to 130 NM, 170 NM to 190 NM, etc.). However, errors in excess of 70 NM, but not falling within the bands composed of multiples of 60 NM as indicated above, should not be counted for this criterion.

1.2.16 In noting this suggestion, the Group was fully aware that deviations from track of this type involved a random element or risk depending on the actual circumstances in which such deviations took place. To illustrate this point, the following three examples were given :

a) an aircraft operating on a "random" clearance in the MNPS airspace commits a large deviation from its assigned track. This may or may not impinge on other aircraft operating on adjacent random tracks or it may, in the worst case, result in the aircraft straying into the organized track structure with its associated high density of air traffic;

b) a similar error by an aircraft operating in the "core" of the organized track structure would cause risks to other aircraft operating in that system as it passed adjacent tracks but, if the deviation was large enough, could then take up a flight path in much less populated airspace as it proceeded outside the organized track structure with the resultant reduced risk to other aircraft; or

c) an aircraft operating along an outer track of the organized track system may, depending on the direction of its deviation, pass through several other tracks of that system, including the densely populated tracks in the "core" area of the organized track system and become stabilized in that area of comparatively high risk.

1.2.17 However, the Group agreed that, at least for the present, such errors should be treated as indicated in para 1.2.15 above, even though it was felt by some Members of the Group that this might introduce a further element of caution into the mathematical-statistical assessment of the collision risk.

1.2.18 Following a point, raised by IATA, there was some discussion of whether errors recorded as being exactly 10 NM away from a multiple of 60 NM (e.g. 50 NM, 70 NM, 110 NM, etc.) should be included in the group of errors having occurred between (50 and 70 NM. The Group confirmed that this should be done in accordance with past practise, while realizing that such an approach might be cautious.

1.2.19 With regard to para 1.2.9 c), the 1967 data collection did give support to the hypothesis that errors in mid-Ocean were comparable in nomber, type and degree to those observed near the Ocean boundaries. However, since then the methods of navigation have changed significantly. Furthermore, IATA felt that the study of recent ATC system loop errors suggested that most of these errors were occurring towards the end of the Oceanic crossing. IATA therefore felt that the current validity of the snap-shot principle should be questioned.

1.2.20 In any case, the Group realized that, while the above points certainly required consideration, it was, without further substantial work on this subject, not yet in a position to attribute specific values to the subjects discussed for practical use in the mathematical-statistical assessment.

1.2.21 It was therefore agreed that there was no other course of action left to this Meeting than to continue to use present methodologies in the mathematical-statistical assessment of the collision risk and it therefore proceeded to apply the observed errors with the following results :

1.2.21.1 When considering the 37 observed errors of 30 NM or more, it was found that this included 14 errors which fell in the category "between 50 NM and 70 NM". Comparing these with the total number of observed flights (i.e. some 62 000), it was found that the mathematical-statistical criteria for this number of observed flights would permit a total of 32.5 flights with an error of 30 NM or more and 8.1 flights with observed deviations from track of 60 NM (± 10 NM) and multiples thereof. (This corresponds to the error insertion mentioned in para 1.2.8 a) above and represents thus the primary mathematical analysis).

1.2.21.2 The secondary assessment based on the provisions contained in para 1.2.8 b), i.e. with the elimination of a total of four errors, showed that this still left 33 errors regarding the criterion applicable to deviation of 30 NM or more and 12 with respect to the 60 NM criterion. In the third assessment made in accordance with the provisions in para 1.2.8 c), the respective figures were 29 and 10.

1.2.22 It was therefore evident that, even by applying the most stringent (and still somewhat controversial) method of eliminating errors from those observed, the mathematical-statistical assessment showed that during the period of observation from November 1978 to the end of August 1979, the number of critical errors, i.e. those in the 60 NM band, was above those which were permissible in accordance with the mathematical-statistical methods as used at present.

1.2.23 However, IATA expressed the view that, far from using "present methodologies" as suggested in para 1.2.21, the Group was in fact making interpretations of the MNPS criteria which had not been considered at the LIM NAT RAN Meeting in 1976, whilst, by including one error of 120 NM which had nothing to do with navigation and which may have been independent of separation criteria (possibly due to a misunderstanding between two OACs), the Group was moving even further away from the original methodologies. This view did not find general support.

Corrective action regarding specific categories of errors

1.2.24 When looking at the categories of errors as shown in para 1.2.7 above, the Group noted with concern that ATC system loop errors and equipment control errors constituted a rather disconcertingly high proportion of the total number of errors observed. It was also noted that in the category of classical navigation errors one operator appeared repeatedly which seemed to indicate that the notification procedure and appropriate follow-up by the operators had not functioned with the desirable degree of promptness. The Group felt therefore that it would be necessary to make specific proposals for corrective action so as to ensure that the recurrence of errors in these categories would be kept to the absolute minimum. It therefore agreed to divide its action on this subject into the following three tasks :

a) improvements to the notification procedure and subsequent follow-up action by operators and, if required States of Registry concerned;

b) action to improve operating procedures by pilots while operating in MNPS airspace; and

c) residual action required to eliminate ATC system loop errors to the extent possible.

1.2.25 With respect to a) above, the Group reviewed the notification procedure as up-dated at NAT/SPG 15 and agreed that, while the procedure itself did not need to be amended, its application appeared to need improvement. One source of difficulty in the application of the procedure seemed to be the frequent disturbances to the mail services in a number of States which appeared to have caused considerable delay in the receipt of written gross error notifications. It was therefore suggested that, if at all possible, maximum use should be made of teletype messages to notify operators and/or States of Registry of observed gross errors.

1.2.26 One further interfering element seemed to be that, at least within certain Administrations, too frequent changes of addresses and/or insufficient internal routing instructions for such messages added additional delays to the rapid processing of reports received.

1.2.27 The Group therefore agreed that, immediately after the end of this Meeting Provider States concerned should make arrangements with those States of Registry more frequently concerned with gross error notifications to check their communication channels through appropriate trials to ensure that these functioned properly. It was also agreed that the above mentioned States of Registry should ensure that NAT Provider States were kept informed whenever a change of address occurred regarding the recipient of gross error notifications.

CONCLUSION 16/1 - IMPROVEMENTS TO THE METHOD OF NOTIFICATION OF GROSS ERRORS

That Provider and User States concerned with the processing of notifications of gross errors in the NAT Region make, in cooperation with each other, necessary arrangements to ensure that the communication means used for the processing of such notifications function properly so as to ensure the most rapid handling of such notifications by all parties concerned.

1.2.28 As to action required to improve the operating procedures by pilots while operating in MNPS airspace (para 1.2.24 b) refers), the Group noted that this covered essentially three aspects :

a) the problems created by "newcomers" in the NAT environment;

b) problems created by shortcomings in the cockpit procedure and/or complacency of "seasoned" flight crews; and

c) problems in the understanding between pilots and ATC regarding issue and adherence to clearances.

1.2.29 With respect to a) above, (and also with respect to certain aspects of b)), the Group felt that the increase in complexity of the procedures relevant to operations in the MNPS airspace of the NAT Region required close familiarity with all relevant provisions by pilots. However, at present the relevant information is distributed throughout a number of documents, some of which tend to be presented so that they rather meet the specifications regarding regulatory provisions, than being composed in a manner which can be easily absorbed by air crews involved in day-to-day operations. It was therefore believed useful if information directly relevant to such day-to-day operations could be assembled in one single document which would be written in such a manner that it corresponded to practical needs. After some discussion, the Group agreed that such a document should be produced as early as possible and, being aware that it needed to correspond to the needs of the users, it also agreed that, at least its initial draft should be prepared by them, with assistance of those having an intimate knowledge of the operation of the North Atlantic ATC system. The Group therefore suggested that Mr. L. Lee of IATA, with the collaboration of Mr. H. Sweetman of the United Kingdom should be invited to produce the initial draft of such a document as early as their other commitments permitted, in the hope that IATA would make optimum arrangements to permit Mr. Lee to undertake this task. As to the participation of Mr. Sweetman in this undertaking, the UK Member of the Group gave the assurance that his Administration was prepared to make such arrangements for him.

1.2.30 As to the content of such a manual, the Group agreed that, at least initially, it should be limited to the operation of flights within the MNPS airspace of the NAT Region, particularly the organized track system, and that it should cover the following main subjects :

a) a brief description of the operational NAT system;

b) a brief description of the manner in which ATC provided services within the organized track system;

c) essential procedures to be observed in the preparation and obtaining of an oceanic ATC clearance;

d) essential procedures to be observed in conducting a flight in the MNPS airspace including necessary cockpit procedures, position reporting and obtaining of re-clearances if required; and

e) reference to documents containing contingency procedures in case such procedures have to be applied.

CONCLUSION 16/2 - PREPARATION OF A CONSOLIDATED NAT FLIGHT OPERATIONS MANUAL COVERING FLIGHT OPERATIONS IN THE ORGANIZED TRACK SYSTEM WITHIN MNPS AIRSPACE

That :

a) The United Kingdom and IATA be invited to permit Messrs Sweetman and Lee with the least possible delay to proceed with the production of an initial draft of a NAT flight operations manual covering the items mentioned in para 1.2.30; and

b) Members of the NAT/SPG upon receipt of the draft prepared in accordance with a) above provide their comments as early as possible so that this manual can be incorporated into the "Guidance and Information Material concerning Air Navigation in the NAT Region" at the earliest possible time for use by all concerned.

1.2.31 As to the problem mentioned in para 1.2.28 b), the Group felt that the largest part of it could be expected to be resolved by the production of this NAT operations manual. It was however expected that operators would continue their efforts to improve cockpit organization and discipline so that ATC system loop errors would be kept to a minimum. In this respect one opinion was expressed at the Meeting which ventured that, at least part of the difficulty encountered in this respect, could be attributed to the fact that pilots were required to process a multitude of forms thus contributing to the fact that essential provisions, especially those regarding their ATC clearance, were overlooked. It was therefore believed useful if this aspect of the problem would receive appropriate attention by operators concerned.

1.2.32 With regard to the problems which exist in the understanding between pilots and ATC regarding the route to be followed, the Group noted that a considerable number of observed deviations and also errors observed in the transition areas between the boundary of the NAT Region and entry into the domestic ATS route-network on either side of the North Atlantic were due to misunderstandings between the air and the ground regarding the applicability of the ATC clearance issued by the appropriate ATC unit. In fact, apart from some few errors which appeared to be due to genuine misunderstandings, either by pilots or by ATC or in the coordination between adjacent ATC units, the majority of the ATC system loop errors appeared to occur when a flight was cleared on a route within the NAT Region which was different from that filed in its flight plan and it then started to proceed along its originally planned route in the transition area even though the re-cleared route required that he follow a different routing.

1.2.33 Upon discussion in the Group it was found that this could not be attributed to shortcomings in the daily track message to operators regarding the organized track system because the tracks published in this message are extended at least as far as the first landfall point or coastal fix associated with each track. It was also noted that arrangements existed within the OACs to ensure that prior to, or on leaving the NAT Region, aircraft were provided with a valid clearance regarding their route in the domestic airspace. It was therefore felt that, while the procedures were adequate, it would suffice to introduce a number of safeguards which would ensure that they were correctly applied by all concerned.

1.2.34 In view of the above, it was agreed that Provider States should take necessary measures to ensure that controllers in OACs, when issuing an ATC clearance for the oceanic portion of a flight in the NAT Region which will subsequently enter the EUR or NAM Regions will, at all times, include the route to, at least, the first landfall point or coastal fix. In addition, it was agreed that in the NAT operations manual mentioned in Conclusion 16/2 above, reference would be made to the following : that pilots when negotiating a re-clearance regarding their route of flight in the NAT Region, will ensure that the revised ATC clearance includes the route from the new exit from the NAT Region to at least the first landfall point or coastal fix.

1.2.35 To ensure improved monitoring of compliance with the above provisions and permit ATC units earliest possible detection of potential misunderstandings regarding the route of flight along which a flight has been cleared to operate, it was also agreed to introduce, on a trial basis, a revised position reporting procedure which will oblige pilots to add, to the normal position report, the next position after that for which an estimate is made in the position report. Details of this procedure are contained in Attachment A to the Summary of this Item. The Group agreed to implement this new procedure on a trial basis in order to assess its effects upon the loading of the air-ground communication channels and the ATC and cockpit workload and agreed that it should be kept in operation for at least one year before a decision was made whether it should formally be included into the NAT RAC Supplementary Procedures governing position reporting.

CONCLUSION 16/3 - IMPROVEMENTS TO ATC PROCEDURES IN THE NAT REGION

That :

a) Provider States in the NAT Region take necessary measures to ensure that ATC system loop errors are kept to the absolute minimum; and

b) Provider States in the NAT Region publish, on 1 November 1979, the draft NOTAM included in Attachment 1 to the Summary of Item 1 and maintain the procedure described therein in operation for at least one year so that the NAT/SPG will be able, after that time, to make a decision whether it should be formally proposed for inclusion in the relevant NAT RAC SUPPs.

Proposed action regarding the application of 60 NM lateral separation

1.2.36 After careful consideration of all relevant factors, as described in the preceding paragraphs, the Group was forced to admit that, in the light of prevailing circumstances it did not find itself in a position to maintain the proposed new date of 24 January 1980 for application of 60 NM lateral separation in the MNPS airspace of the NAT Region as stated in Conclusion 15/3 of the 15th Meeting of the NAT/SPG, even though it was recognized that the pure navigation performance of aircraft in the NAT Region was satisfactory.

1.2.37 In fact, it was believed that immediate and consistent efforts were necessary to reduce, as much as possible, the ATC system loop errors and those caused by incorrect operation of airborne equipment (Categories D and E) in order to introduce 60 NM lateral separation. It was for this reason that special efforts were made to develop corrective measures in this respect.

1.2.38 Taking into account all other relevant aspects, such as the need to avoid changing separation minima during the summer peak traffic period, the length of time required for corrective action to take full effect in day-to-day operations etc., the Group therefore believed that the following sequence of events regarding this subject appeared to offer the most appropriate way for resolving this difficult subject from now on :

a) States and operators concerned should, as a matter of urgency, take all necessary measures described in the preceding parts of this Summary to ensure that existing shortcomings in the operation of the NAT air navigation system are eliminated;

b) every effort should be made to produce, as early as possible, the consolidated NAT operations manual and to distribute it to those concerned with such operations on a routine or non-routine basis;

c) NAT/SPG Members in a position to do so should, between now and the next Meeting of the NAT/SPG make every effort to remove, in a collaborative effort, those ambiguities and differences of view which have come to light with regard to the concept of the mathematical-statistical model as well as the methodologies applied in its use for the assessment of the potential collision risk;

d) the next Meeting of the NAT/SPG should be committed to develop firm and unanimous proposals regarding :

i) the classification of errors observed in the NAT Region, their nature and the resultant use which will be made when using such errors in the mathematical-statistical methods for the assessment of the potential collision risk;

ii) possible modification to the concept of the mathematical-statistical methods if required, and their use; and

iii) the monitoring criteria and, in case of need, resultant corrective action by Provider States, which should be used once 60 NM lateral separation was applied;

e) Provider States should continue their routine data collection on observed gross errors whereby that part of it covering the period from 1 September 1979 to 31 July 1980 should include the determination of the causes of such errors in as much detail as is possible; and

f) in early August 1980 Provider States should, as was done in 1978, organize a further Meeting at which the situation will be reviewed, taking into account the results of the data collection mentioned under e) above and assessing the potential collision risk in accordance with the measures developed at NAT/SPG 17 (sub-para d) refers) and inform ICAO not later than 15 August 1980 of their views regarding the feasibility of introducing 60 NM lateral separation in MNPS airspace in the NAT Region, so that, if found acceptable, ICAO is in a position to take appropriate measures for the application of such separation by a target date of 27 November 1980.

It was, however, understood that the action under e) and f) was dependent on the results of discussions regarding lateral separation at NAT/SPG 17 in March 1980, at which the results of monitoring up to that date would be made available by provider States concerned.

CONCLUSION 16/4 - REVISED PROGRAMME OF ACTION REGARDING THE APPLICATION OF 60 NM LATERAL SEPARATION IN THE MNPS AIRSPACE OF THE NAT REGION

That the programme shown in para 1.2.37 be used as a basis for action by all concerned in promoting the application of 60 NM lateral separation in the MNPS airspace of the NAT Region.

1.2.39 After having taken this decision, the Group was presented with two proposals aimed at intermediate action to improve the traffic situation in the NAT Region. One of these proposals, presented by the Member of the USA envisaged the application of a composite separation based on the half value of 90 NM lateral separation combined with 1000 ft vertical separation. However, it was found that the reasons militating against this proposal, as already explained at NAT/SPG 15 (para 3.3 on page 3 - 2 of the NAT/SPG 15 Summary refers) still persisted unmodified and therefore rendered this proposal impractical.

1.2.40 A further proposal by IATA, which envisaged that a straight 60 NM lateral separation should be introduced throughout the MNPS airspace except that on the inner tracks of the OTS 60 NM lateral separation would be combined with 1000 ft vertical separation thus retaining composite separation in the busiest areas was also not retained because it was found that this would create unsurmountable difficulties due to the daily changes to the alignment of the organized track system and the complications for ATC if yet another separation standard had to be applied.

1.2.41 Finally, while on this subject, the Group was informed that at the recent annual Meeting of the International OMEGA Association it had been agreed that efforts would be made to :

a) improve the provision of aeronautical information regarding current information on the operating status on the various OMEGA stations, including advice on solar disturbances; and

b) to include, in relevant aeronautical information publications, to the extent possible, information on the operating status of VLF COM stations since these constituted a valuable supplementary means from which navigational guidance could be derived in certain areas of the NAT Region.

1.3 Proposal by the USA to amend Annex 6

1.3.1 At NAT/SPG 15, it had been agreed that the USA should be invited to present a proposal to amend Annex 6 Parts I and II in order to make it a standard that aircraft, operating in MNPS airspace, will be capable of doing so. It had however been noted that, when doing so, the USA had felt obliged to alter the proposal, as developed by NAT/SPG 15 by restricting the applicability of the proposal to oceanic airspace only, and had informed NAT/SPG Members about this by correspondence. At the time, no objection had been raised by any of the NAT/SPG Members to this modification, even though, some of them had stated their preference for the retention of the proposal in the form in which it had originally been developped at NAT/SPG 15.

1.3.2 It was now noted by the Group that the proposal by the USA had formally been circulated by ICAO to all States for consultation and the Group was therefore fully aware of the fact that, at this stage, discussion of this matter in this Meeting could only be of an informative nature.

1.3.3 Bearing this in mind, the Group had a brief exchange on this subject in the course of which it was noted that at least one or two of the participants in the Meeting felt that they still preferred the concept upon which the original version of the proposal was based. It could therefore be expected that, in the formal consultation process engaged by ICAO, these views might possibly be brought forward again.

1.3.4 In view of the importance of the subject on future developments regarding lateral separation in the NAT Region, the Group hoped that this proposal would be processed with all due speed by ICAO and that the modification, made by the USA, would not constitute a delaying element.

1.3.5 While on this subject, the Group also noted that the recently created Operations Panel of ICAO, which had originally be charged with the development of proposals regarding amendment of Annex 6 to the extent that these were related to the approach and landing phases of flights, had now expanded its activities so as to make a complete revision of Annex 6 in its entirety. This caused some concern to some of the Members of the Group because they felt that their Administrations, when nominating Members to the Operations Panel, had not been aware of this potential development. They therefore feared that, if those Members did not maintain close contact with developments such as those now in progress in the NAT Region, they might be led to make proposals which would not fully take account of these aspects.

1.3.6 The Group therefore expressed the hope that the OPS Panel as a whole, as well as its individual Members, would make necessary efforts to inform themselves fully about all relevant aspects involved in a review of Annex 6, including related activities on MNPS by the NAT/SPG, before proposing any changes on this very complex subject.

1.4 Extension of the MNPS airspace in the New York OCA

1.4.1 The Group noted that the USA had presented to ICAO a proposal for amendment to the NAT RAC SUPPs which was aimed at the inclusion of an additional portion in the North-West corner of the New York Oceanic control area into the MNPS airspace. As this proposal had been formally presented to ICAO for processing in accordance with established procedure, the NAT/SPG was aware that its views on the subject would only have informative value.

1.4.2 In reviewing the substance of the proposal, it was found that the Group, in principle, supported the proposal because it would resolve certain problems now encountered with air traffic engaged in East-West crossings of the North Atlantic. It was however also realized that both Canada and the USA would be required to make appropriate arrangements for that traffic operating predominantly in a North-South direction off the East Coast of North America between points in Eastern Canada and the East coast of the USA and points further South, including those located in the Carribean Region.

1.5 Reduction of lateral separation between SST aircraft

1.5.1 The Group was presented with a proposal by its Member of the UK regarding the reduction of lateral separation from the present 60 NM to 30 NM between SST flights while in supersonic flight above FL 450. This proposal had its origin in certain traffic conflicts which had occurred between the Concorde flights operated by Air France and British Airways between Europe and North America and it was aimed to provide for two tracks in each direction across the North Atlantic instead of the present configuration.

1.5.2 When reviewing this proposal, it was found that it contained as yet insufficient evidence to show that such a reduction in lateral separation between SST flights in supersonic flight was feasible. In addition, for environmental reasons and for reasons related to the integration of such flights into the overall flow of air traffic in the transition area both the Members of Canada and the USA stated that at this stage, they were not in a position to agree to the proposal.

1.5.3 Since only two operators were involved, and since it was felt that the reason, having caused the proposal, was primarily related to competitive scheduling of these flights between the two operators, it was proposed that, before pursuing a complex technical solution to this problem, serious efforts should be made to convince the two operators concerned to resolve the existing problems by a mutual agreement regarding the scheduling of their flights.

Attachment A
to Item 1

DRAFT NOTAM CONCERNING THE REVISED POSITION REPORTING PROCEDURE IN THE NAT REGION

Note : para 1.2.35 and Conclusion 16/3 refer.

In order to reduce the occurrence of ATC system loop errors in the NAT Region, the Provider States in that Region should publish, on 1 November 1979, the following NOTAM/Class II for application on a trial basis of a revised position reporting procedure with effect from 29 November 1979 :

NOTAM

1. The following revised position reporting procedure requiring the inclusion of an additional item (Item H)in the position report, will be implemented on a trial basis by Gander, New York, Reykjavik, Santa Maria and Shanwick OACs, in order to provide for earliest possible detection of misunderstandings regarding the route to be followed by aircraft in the NAT Region and adjacent transition areas.

(For USA NOTAM only : The CAR Regional Supplementary Procedures covering this subject, remain fully applicable.)

2. Effective 0900 GMT on 29 November 1979, aircraft entering, operating within, or leaving the Oceanic Control Areas of Gander, New York, Reykjavik, Santa Maria and Shanwick will transmit the following elements of information in position reports to the appropriate Oceanic Control Centre :

A. The word "POSITION"
B. Aircraft identification
C. Present position
D. Time over present position(hours and minutes)
E. Present flight level
F. Estimated position on assigned route
G. Time for estimated position(hours and minutes)
H. Next position on assigned route
I. Any further information e.g.AIREP data or company message.

Spoken example : POSITION AIR CANADA EIGHT SEVEN ZERO,FIVE ONE NORTH FIVE ZERO WEST,ONE FIVE ONE FIVE,FLIGHT LEVEL THREE SEVEN ZERO, ESTIMATING FIVE TWO NORTH FOUR ZERO WEST AT ONE SIX ZERO ZERO, NEXT FIVE TWO NORTH THREE ZERO WEST.

Written example : POS
AC870 51N50W 1515 FL370 EST 52N40W 1600 NEXT 52N30W.

Agenda Item 2 : Longitudinal separation in the NAT Region

2.1 Introduction

2.1.1 Under this Item, the Group dealt with two subjects related to longitudinal separation in the NAT Region as follows :

a) review of the results of the 1978 data collection on longitudinal separation; and

b) proposals regarding changes to the NAT RAC SUPPs on longitudinal separation.

The Group also noted that para 6.2.3 of this Summary was relevant to this Item.

2.2 Results of the 1978 data collection on longitudinal separation

2.2.1 The Member of the UK presented to the Group detailed material on the situation regarding longitudinal separation in the NAT Region which had been prepared by the UK Administration. Therefore, before entering into a discussion of the substance of this material, the Group wanted to place on record its appreciation for the work done and the way it was presented to the Group.

2.2.2 As to the substance of the material presented, the Group noted that :

a) the size of the sample of aircraft pairs was now definitely established and it was found that, due to circumstances beyond the control of those collecting the data, the sample covered only some 5100 pairs of aircraft instead of the 6-7000 which had originally been expected to be covered by the data collection;

b) intervention by ATC in the form of re-clearing of aircraft was more frequent than had been expected and this had resulted in the fact that fewer pairs of aircraft could be used in the sample;

c) a comparatively large number of deviations from planned separation of five minutes or more appeared to be related mainly to narrow-bodied turbojet aircraft and to a comparatively small number of operators; and

d) investigations into the causes, why ATC intervened with specific flights were found to be much more difficult than had originally been expected, with the resultant consequences on the mathematical-statistical treatment of these interventions in the model.

2.2.3 As to the mathematical model, developed by the UK to assess the results of the data collection as to collision risk when using different minima of longitudinal separation, the Group found that some more work on the following aspects was required before it would be possible to reach unanimity regarding the validity of that model within the Group :

a) additional model calculations to obtain a better appreciation of the effect varying traffic densities had on a reduction of longitudinal separation;

b) review of the operational assumptions that could be applied when the model was used to assess the effects of reduced longitudinal separation in the case when 60 NM was the lateral separation minimum.

2.2.4 In addition, it was noted that the assessment of risk was based on data obtained from the West-bound flow of air traffic in the Shanwick OCA and was therefore related to the conditions which existed in that flow with regard to density and relative "packing" of air traffic within that flow. The question was therefore raised whether it could be safely assumed that similar conditions existed with regard to the East-bound flow of traffic and the behaviour of aircraft while operating in that flow.

2.2.5 However, despite the above reservations there was general agreement that the concept, upon which the data collection and the processing of obtained data were based was, in principle, acceptable.

CONCLUSION 16/5 - LONGITUDINAL SEPARATION IN THE NAT REGION

That :

a) the use of 15 minutes longitudinal separation in the present system results in a risk which is well within the target level of safety; and

b) the use of 10 minutes longitudinal separation within the present system and even within a system where 60 NM lateral separation was used appeared feasible, subject to the outcome of the work to be done in accordance with paras 2.2.3 and 2.2.4.

2.2.6 The Group was confident that the residual points raised in paras 2.2.3 and 2.2.4 could be resolved before the next Meeting of the NAT/SPG.

2.3 Changes to the NAT RAC SUPPs on longitudinal separation

2.3.1 When considering conclusions which could be drawn from the above, and more especially those resulting in proposals for action regarding the NAT RAC SUPPs on longitudinal separation, it was found that it would be necessary to take account of a comparatively wide range of aspects and these are reflected below.

2.3.2 Based on the experience made by the Group in dealing with the question of lateral separation in the NAT Region, it was stressed that, in the case of longitudinal separation, it would be particularly important to ensure that the decision-making process used in proposing specific action should be as realistic as possible and should take into account all relevant operational elements. Points mentioned in this respect were :

a) the influence of good time-keeping both on the ground and in the air;

b) the rôle of air-ground communications in the application and restoration of longitudinal separation, both as regards the speed of intervention air-ground communications permitted ATC in case of need and the loading imposed on these communications which may result from the use of smaller separation minima;

c) the workload imposed on ATC as a result of the use of smaller longitudinal separation minima;

d) the tools available to ATC to display and monitor progress of flights and to detect erosions in longitudinal separation, including the consequence which may result from the use of specific electronic data processing equipment for this purpose; and

e) the need to develop new ATC procedures, including those to be used in the transition area between domestic and oceanic airspace on either side of the North Atlantic.

2.3.3 With respect to b) and c) above, it was pointed out that this presented a sort of "vicious circle" because the communications and ATC implications could only be assessed once smaller longitudinal separation was applied in practice, while the decision to apply this smaller longitudinal separation seemed to be partly based on the assurance that the resultant implications remained within acceptable proportions. While simulation could

provide a certain answer to this, it was nevertheless felt that, based on past experience, such simulations had to be treated with circumspection because they could, at best, only provide an approximation to the conditions which were encountered in actual operations.

2.3.4 As to the necessary corrective action with respect to specific operators associated with a disproportionately high number of deviations of 5 minutes or more from planned separation, as detected through the data collection of the UK, the Group agreed that this should not yet be made the subject of formal action by the Group or by specific Provider States. This position was taken by the Group in view of the fact that it was informed by the Member of the UK that, in the majority of cases, corrective action by the operators concerned was already in hand. It was therefore agreed to leave this matter to the UK for follow-up.

2.3.5 As a consequence of the above, the Group then agreed on the following course of action regarding changes to the longitudinal separation in the NAT Region :

a) the UK should, as early as feasible, take measures to obtain corrective action with regard to those few operators now involved in a disproportionately high number of large deviations from planned separation;

b) those Members of the NAT/SPG being able to do so, should as early as possible start work, in collaboration with the Member of the UK, on the resolution of those residual matters regarding the mathematical- statistical model used to assess collision risk in respect of longitudinal separation, as mentioned in paras 2.2.3 and 2.2.4 above, so that it will be possible to obtain unanimous agreement on this subject at the next Meeting of the NAT/SPG;

c) provider States pursue work to resolve those questions relating to consequences on ATC and associated ground services, described in para 2.3.2;

d) based on the results of a), b) and c) above and other relevant operational considerations, the next Meeting of the NAT/SPG will take a decision with regard to the reduction of longitudinal separation in the NAT Region. The following values will serve as a basis for this decision :

i) use of 10 minutes longitudinal separation between turbojet aircraft using the Mach number technique and having entered the oceanic airspace via the same entry point and follow the same or continuously diverging tracks (including the exemption provisions based on the availability of radar, now contained in Doc 7030);

ii) the above separation may be reduced to 5 minutes provided the Mach number used by the preceding aircraft is at least Mach 0.06 greater than that of the succeeding aircraft;

iii) use of 15 minutes longitudinal separation between turbojet aircraft not covered by the provisions in i) and ii) above.

e) in the light of developments regarding lateral separation in MNPS airspace in the NAT Region, the next Meeting of the NAT/SPG will establish a specific target date for the application of the new longitudinal separation minima developed on the basis of c) above. In doing so, account should be taken of the effects, a reduction in lateral separation may have on both operators and ATC in order to avoid potential difficulties resulting from two radical changes to the present environment in a comparatively short period of time; and

f) the target date established in accordance with e) above should, in any case, not be later than some time in early 1981.

CONCLUSION 16/6 - PROPOSED FURTHER ACTION REGARDING LONGITUDINAL SEPARATION IN THE NAT REGION

That further action by States and the NAT/SPG regarding the reduction of longitudinal separation in the NAT Region be based on the course of action outlined in para 2.3.5.

2.3.6 At this point in the Group's deliberations on this subject, the Representative of IATA felt obliged to advise the Meeting of the concern his Organization felt over the trend, events were taking not only in this but also in other fields having an influence on the economy of commercial air transport operations in the NAT Region. In the first place he wanted to draw the attention of the Group to the fact that, due to the continuous increase in fuel prices, operating costs were also on a continuous increase and it was therefore essential for operators to be able to exploit the air navigation system in general, and particularly that in the NAT Region, in the most efficient and cost-effective manner. He was therefore somewhat concerned over the time scales in which the Group saw its future action on longitudinal as well as lateral separation, both of which had, as was well known by the Group, a significant effect on the cost of individual flights.

2.3.7 In addition, he felt that, as in other cases, the Group, in deciding action, placed too much emphasis on the purely mathematical-statistical aspects of assessing collision risks and the resultant effects on the level of safety while perfectly valid operational considerations, which, in his view carried equal weight in the assessment, and did, in no way, diminish flight safety, were given insufficient consideration. With respect to the specific case of longitudinal separation he pointed out that this was applied in the NAT Region in an environment where the majority of air traffic was stabilized at its cruising level and this in a height band between FL 300 and FL 400, where, as a rule, excellent flight visibility existed. In addition, experience had shown that, in that environment, any erosion of longitudinal separation was an exceedingly slow process and not a sudden event. He therefore felt that the fact that in the assessment of collision risk no value whatever was attributed to visual observation of erosions in longitudinal separation by pilots (and consequent alerting of ATC), or alerting of ATC based on the interception of position reports of adjacent aircraft, constituted a serious lack of realism on the part of the Group. He therefore hoped that, in further work on this subject, the NAT/SPG would be prepared to adopt a more realistic approach.

2.3.8 There was support amongst the Group for, at least, some of the points made by IATA.

Agenda Item 3 : Problems created by crossing and joining traffic in the NAT Region

3.1 Introduction

3.1.1 Under this Item the Group considered the following subjects :

a) developments regarding crossing and joining traffic since NAT/SPG 15; and

b) proposals for further action.

3.2 Developments since NAT/SPG 15

3.2.1 When considering this aspect of the question of the problems of crossing and joining traffic in the NAT Region, the Group reviewed the following questions :

a) develoments regarding the establishment of two fixed routes in the NAT Region at a meeting in June 1979 in Lisboa;

b) establishment of a link route for traffic from the CAR Region and the Southern part of the USA to join the East-bound tracks of the organized track system in the NAT Region;

c) entry points into Brest FIR for oceanic tracks; and

d) situation with regard to traffic originating in Northern Europe and joining the West-bound tracks of the organized track system.

Fixed routes in Santa Maria and New York OCAs

3.2.2 At a meeting, held in Lisboa in June 1979 it had been agreed to establish two fixed routes in the New York, Santa Maria and Shanwick OCAs in order to alleviate traffic problems created by air traffic operating between Europe and points in the CAR and SAM Regions. In establishing these routes, it was hoped that these would alleviate congestion problems which had been experienced in the New York OCA and, at the same time, it was hoped their implementation would offer a better opportunity to ATC to avoid economic penalties, imposed on operators by flight level restrictions when these were operating on random routes.

3.2.3 At the Lisboa meeting, it had also been agreed that these routes should be implemented on 21 August 1979 for a trial period of three months and that, during that time both ATC units concerned and the operators would make a data collection permitting to assess the efficiency of these routes when compared with the previous situation.

3.2.4 At this Meeting it was now found that there were diverging opinions on the success of this measure because, while the Member of the USA maintained that its application had considerably assisted in improving a previously unsatisfactory situation in the New York OCA and had also resulted in certain benefits to operators, this view was not shared by all other participants in the Meeting of the Group. In fact, there were indications that some operators felt that, since the introduction of these two routes, the situation had worsened, as far as they were concerned. IATA was however not in a position to give a firm view on this matter since, at the time of this Meeting, the agreed trial period had not yet lapsed and the Representative of IATA stated that the consolidated results of IATA's assessment of the situation could not be expected before some time towards he end of this year at the earliest.

3.2.5 It was also pointed out that a trial period of three months was probably too short to permit to come to definite conclusions as to the validity of the trials.

3.2.6 In view of this situation, the following course of action was agreed :

a) the routes established at the Lisboa meeting will be maintained at least until the end of January 1980 so as to permit inclusion in the evaluation an assessment of the situation during the travel peak, normally experienced during the Christmas period on these routes (for further action see para 3.3 below);

b) IATA should complete its evaluation of the situation obtained with the new routes at the end of the present trial period (21 November 1979) but should, if at all possible, carry out a further evaluation during a few selected days during the Christmas travel peak if this is possible; and

c) the results of the evaluation of the use of the two fixed routes by both ATC units concerned and IATA should be made available as early as possible so that they may be taken into account in further action on this subject as described in para 3.3 below.

3.2.7 The Group also noted that, when considering the establishment of the two fixed routes at the Lisboa meeting in June 1979, it had also been agreed that their establishment and use should be accompanied by a number of organizational and procedural measures which would be taken within New York OAC and between New York OAC and adjacent affected ACCs. These envisaged :

a) the establishment of an air traffic flow management position in the New York OAC;

b) arrangements whereby operators intending flight operations from the CAR and SAM Regions would provide New York OAC with information on their preferred tracks 24 hours in advance of the planned operation;

c) improvements to the ATS inter-area communication links between New York OAC, Gander OAC, Santa Maria OAC and San Juan ACC so that conference-type communications could be conducted on these links;

d) organization of familiarization visits by personnel of the New York OAC to the Gander OAC in order to profit from the experience gained there with the planning of oceanic air traffic; and

e) the provision of electronic data processing equipment in New York OAC and Santa Maria OAC.

3.2.8 At this meeting, the Group noted that :

a) with respect to the establishment of the air traffic management position in New York OAC, this could be expected to be completed shortly;

b) with respect to the provision of advance information on flights from the CAR and SAM Regions to New York OAC it was noted that this had encountered serious difficulties due to communication shortcomings in the area but that efforts were being made to resolve this question;

c) the question of ATS inter-area communication was found to pose certain technical problems but work was in progress to overcome these difficulties through coordinated action between all parties concerned; and

d) as to the provision of electronic data processing equipment, for New York OAC, the USA was actively pursuing this objective but was not able to provide definite information as to the date of implementation.

3.2.9 As to the operation of the air traffic management position in the New York OAC and the provision of advance information on flight operations from the CAR and SAM Regions (para a) and b) above refer), it was suggested that the New York OAC should issue two NOTAMs, one of them giving details on the function of the air traffic management position in the New York OAC and the other inviting operators concerned to provide the necessary information. It was expected that this would materially assist in facilitating the start of these two functions.

3.2.10 On the point, mentioned in 3.2.8 d) it was stressed that the provision of such equipment in the various OACs providing service in the NAT Region was posing the inevitable compatibility problem in communication between equipments used by the different OACs. It was however noted that Canada, Iceland, Ireland and the UK had already established contacts to resolve this question and both Portugal and the USA were invited to join in these efforts.

3.2.11 While on this subject, it was also noted that, at the time of the LIM NAT RAN Meeting (1976) certain improved provisions regarding the establishment and operation of the organized track system and reflected in the NAT RAC SUPPs had been tied in with the provisions regarding the application of 60 NM lateral separation in the NAT Region because it had been assumed that their joint application would only be a short time off. It had now been found that this caused certain difficulties because, independent of the new provisions regarding lateral separation, it would have been advantageous if the updated provisions regarding the OTS could have been brought into force. It was however felt that, at this stage, action to this effect would only complicate further the, already complex, issue of the status of the NAT RAC SUPPs (including their presentation in the new format). It was, therefore, believed more advantageous if the relevant OTS provisions in the NAT RAC SUPPs were introduced by Provider States on a trial basis, pending their formal inclusion in the NAT RAC SUPPs once the issue of lateral separation had been satisfactorily resolved.

3.2.12 The Group noted that the relevant provisions were those contained in the following paragraphs of the advance notice on the new NAT RAC SUPPs shown in the cover sheet to Amendment 149 of Doc 7030 : paras 2.1.2, 4.6.1, 4.6.1.1, 4.6.1.2 and 4.6.2.

3.2.13 In order to ensure uniformity in the publication of a relevant NOTAM on this subject by Provider States, it was agreed to request the European Office of ICAO to prepare a draft NOTAM on this subject as soon as possible after this Meeting and to send it to the Provider States concerned (Canada, Iceland, Portugal, UK and USA) for approval and earliest possible promulgation.

CONCLUSION 16/7 - TRIAL APPLICATION OF THE REVISED NAT RAC SUPPS REGARDING THE ESTABLISHMENT AND OPERATION OF THE ORGANIZED TRACK SYSTEM

That the European Office of ICAO prepare a draft NOTAM covering the introduction, at an early date and on a trial basis, of the up-dated provisions regarding the NAT OTS, developed by the LIM NAT RAN Meeting (1976) until such time as these provisions are formally included in Doc 7030.

Link route from New York OCA to the East-Bound tracks of the OTS

3.2.14 The Group noted that, at the Lisboa Meeting in June 1979, it had also been agreed to establish a link route within New York OCA to join the tracks in the organized track system used by the East-bound traffic flow across the NAT Region. This link route was intended to facilitate access to the OTS by traffic originating in the Southern part of the USA and in the CAR Region and it had been agreed that FL 350 on the Southernmost East-bound track would be reserved for such joining traffic. In addition, it was agreed that New York OAC would issue the required oceanic clearance to aircraft intending to operate on this link route.

3.2.15 Unfortunately, a subsequent detailed review by New York OAC revealed that this was causing certain difficulties to that OAC and it was for this reason that New York OAC had, up to now, not promulgated the necessary NOTAM announcing the implementation of this route and its use. The Group noted that this subject was still under review by New York OAC and it hoped that the difficulties preventing its implementation could be overcome in the very near future.

Entry points into Brest FIR for oceanic tracks

3.2.16 The Member of France informed the Group that entry into the Brest FIR from the NAT Region by flights South of a position 46N 08W caused serious difficulties to domestic air traffic operating in the Brest FIR on ATS routes R1 and A5. These difficulties were aggravated by the fact that the intersection of tracks of North Atlantic flights with these ATS routes occurred in an area where VHF air-ground communications were sometimes subject to disturbance and where no radar coverage was available.

3.2.17 In view of this situation, the Group agreed that France should publish a NOTAM which stated that North Atlantic flights, intending to enter the Brest FIR from the Shanwick OCA or leave the Brest FIR into the Shanwick OCA, shall plan to do so at 46N 08W and North thereof and in no case South of the above position.

3.2.18 In addition, the Group noted that agreement had also been reached between the Member of France and the Representative of Spain that oceanic flights crossing the Madrid UIR/French UIR boundary will use the existing predetermined route network only (particularly UR1 and UA5) and therefore will not be permitted to fly via Point 45N 08W anymore. This provision will also be included in the NOTAM to be published by France.

Traffic originating in Northern Europe and intending to join the OTS

3.2.19 While on the subject of crossing and joining traffic in the NAT Region, the Representative of Denmark raised once more a suggestion which had already been discussed (and rejected) at previous NAT/SPG Meetings. This concerned the addition of a composite track to the Northern side of the organized track system so as to facilitate joining the West-bound tracks of the organized track system by flights originating in Northern Europe.

3.2.20 For reasons already previously explained in considerable detail (paras 2.8 b) and 2.9 in Summary NAT/SPG 8 of 1972 refer), this proposal was not accepted by the Group and this even more so since it was pointed out by the Member of the UK that track "Alpha" (i.e. the Northern-most West-bound track in the organized track system) was only very lightly used and therefore offered adequate possibilities to accommodate joining traffic on it. The Representative of Iceland supported this position and pointed out that if the proposal by the Representative of Denmark would be accepted (which implied that West-bound traffic on that track would operate on even levels) this could create serious difficulties to the organization of the flow of air traffic in the Reykjavik OCA.

3.2.21 It was therefore agreed that the problem regarding traffic out of Northern Europe wishing to join the organized track system should be further pursued in direct contacts between the operators concerned and Shanwick OAC, based on the more extensive use of track "Alpha".

3.3 Proposals for further action regarding crossing and joining traffic in the NAT Region

3.3.1 With regard to the problem of the fixed routes in Santa Maria and New York OCAs, mentioned in paras 3.2.2 to 3.2.13 above, the Group agreed that its ad hoc Working Group on crossing and joining traffic in the NAT Region (the Random Traffic Study Group (RTSG)) will hold a meeting on 29 to 31 January 1980 at the New York OAC in order to prepare proposals for the further disposition of the two fixed routes. These proposals should be based on the operational evaluation made by New York OAC and Santa Maria OAC as well as on the evaluation made by IATA.

3.3.2 The Group noted that this meeting would be attended by representatives from Canada, France, Portugal, Spain, the UK, the USA and IATA and that the USA would make arrangements so that the data on the evaluation, mentioned above, would be in the hands of participants as early as possible prior to the start of the meeting. It was further agreed that the presentation of this data should be done in a uniform manner and that this would be agreed between the parties required to provide such data.

3.3.3 In addition to the above, it was noted that, at this meeting, at least an initial review would be made of those other problems affecting crossing and joining traffic operating in the NAT Region South of the organized track system. This review should be based on material submitted by States and International Organizations to the USA as early as possible prior to the meeting and the USA would assure reproduction and distribution to all concerned as and when such material was received.

3.3.4 The NAT/SPG expected that it would be provided with a full report on the proceedings of this meeting including any proposed action so that this could be reviewed at its next Meeting.

Agenda Item 4: NAT aeronautical telecommunications

4.1 Introduction

4.1.1 Under this Item the Group dealt with three specific subjects related to aeronautical telecommunications in the NAT region. These were :

a) the situation of the aeronautical fixed services in the NAT Region;

b) situation regarding the use of DSB and SSB in HF air-ground communication in the NAT Region ;

c) results of the trial application of fixed message formats in pilot's reports.

4.2 Situation of the aeronautical fixed services

4.2.1 Following the Limited EUR/NAM/NAT COM(AFS) RAN Meeting the Group noted the following major developments in the field of aeronautical fixed service communications in the NAT Region :

a) that the long standing problem of the provision of an ATS speech circuit between Stavanger and Reykjavik ACCs was on the verge of being resolved and that the implementation of this circuit could be expected by end of October 1979 ;

b) work was in hand, in Canada as well as in Denmark and Iceland, to provide the required fixed service communication link between Reykjavik ACC and Edmonton ACC. It was however noted that access to this link by Sondrestrom FIC would depend on the continued availability of military communication links provided in that area. In addition the question of financing of the communication link between Reykjavik and Edmonton ACCs remained to be resolved ; and

c) the United Kingdom Administration was actively engaged in preparations for the Meeting of a Working Group on the SCOT/ICE/CAN cable questions which was planned to be held in November 1979.

4.2.2 While on this subject, the Member of the USA informed the Group that parties concerned were actively engaged in work required to transform the point-to-point speech communications between Gander, New York and Santa Maria OACs and San Juan ACC into a communications network permitting conference-type communications.

4.3 Situation regarding the use of DSB and SSB

4.3.1 With regard to the use of SSB versus DSB on HF air-ground communications in the North Atlantic, the Group noted, that, with very few exceptions operators engaged in commercial air transport operations in the NAT Region have already completed their conversion to SSB. The Group therefore expressed the hope that the very few remaining operators, still using DSB would accelerate conversion to SSB to the maximum extent possible, especially in view of the fact that, as of 1982 relevant ITU regulations made the use of SSB mandatory.

4.3.2 With regard to the use of SSB by aircraft engaged in IGA operations, the situation was less clear and, since most of this traffic concerned aircraft registered in the USA, the Member of the USA agreed to investigate this matter further and provide the next Meeting of the NAT/SPG with a full report on this subject.

4.3.3 While on the subject of HF air-ground communications, the Member of the USA informed the Group that the USAF Military Air Transport Command (MAC) had made a proposal to NAT provider States whereby their aircraft would conduct necessary HF air-ground communications, while operating in the NAT Region, by using the facilities and services provided in accordance with the ICAO NAT Regional Plan. When reviewing this, the Group felt that, while it was generally favourable to this proposal, it raised however the question of the technical conditions under which these communications were conducted.

4.3.4 With respect to a) above, the Group was informed that these communications would be conducted by the use of SSB by the aircraft concerned and that MAC was seriously considering the installation of SELCAL equipment on board of the aircraft concerned. With respect to the latter it was at this time however not possible to give a precise date by which the installation of this equipment would be completed.

4.3.5 As to the additional workload resulting from these communications it was pointed out that this involved some twenty aircraft per day and, in the light of this information, Members from provider States concerned felt that this would be acceptable.

4.3.6 As to the application of the above, it was noted that this was already partially implemented and the Group therefore agreed that it would be acceptable if MAC were to introduce this new procedure on a general basis throughout the NAT Region as of 25 October 1979.

4.3.7 With respect to the question of including other sections of the military users operating in the NAT Region into the use of the international HF air-ground communication system, the Group agreed that this

should only be done once an appropriate request, containing full details on its consequences, had been reviewed by the Group. It also agreed that, at the next routine review of the HF air-ground communication situation in the NAT Region, the effects of the measures agreed above should be assessed in order to determine their effect on the system as a whole.

4.3.8 In this context it was also recalled that, in this review, the effects resulting from the new position reporting procedure, as agreed when discussing Item 1, should also be assessed (para 1.2.35 and Attachment A to Item 1 refer).

4.4 Results of trial application of fixed message formats

4.4.1 Without wishing to prejudice in any way the final results of the analysis of the trial application with the use of fixed message formats in pilots' reports, the Member of the UK informed the Group that preliminary results seemed to indicate that only about 30% of the pilots' reports received during the trial period corresponded to the fixed message format. In the remainder of erroneous messages, the biggest single errors were the missing message designator and faulty indications of times. The Member of the UK felt that this comparatively high rate of non-compliance with the provisions regarding fixed message formats was mainly due to insufficient information of pilot and a certain lack in follow-up by operators.

4.4.2 IATA stated that, while its Member airlines had tried to cooperate to the maximum extent possible in this trial, there were a number of complicated reasons for its partial failure. It remained IATA's view that, in the long term, greater success in this field could be expected if a system, similar to that used by AIRINC, were to be adopted.

4.4.3 In any case, as the trial was only to end later this year, the Group refrained from drawing any firm conclusions on this subject at this time and agreed that, after proper coordination between all parties concerned after the end of the trial period, the Group should be presented with a full report on this subject at its next Meeting in order to be able to determine what further action should be taken.

Agenda Item 5 : NAT Air Traffic Forecasts

5.1 Introduction

5.1.1 When dealing with this Item, the Group considered the following two points :

a) a review of the revised NAT Air Traffic Forecasts for 1979 - 1984;

b) cooperation of States with the NAT/SPG and supporting action by the NAT/TFG.

5.2 Review of the revised Traffic Forecasts for 1979 - 1984

5.2.1 The Group noted the NAT Air Traffic Forecasts for the period 1979 to 1984, as they had been prepared by the NAT Traffic Forecasting Group in July 1979 in accordance with a revised format, based on proposals developed in previous Meetings by the NAT/SPG. In doing this, the Group noted that certain elements which the NAT/SPG had requested to be included in the Forecasts could not be completed by the NAT/TFG because the data on actual air traffic, required as a basis for the preparation of these elements had not been made available to the Forecasting Group in time.

5.2.2 Apart from the above, the Group felt that the revised NAT Air Traffic Forecasts were now satisfactory. However, in view of developments regarding "sub-polar" operations, it was proposed that, in future forecasts, an additional route "EUR - Alaska" should be included in the forecast. From the UK ATC adviser to the NAT/TFG, who was present at this Meeting, it was learned that this request would not pose any difficulties to the NAT/TFG, provided adequate data on actual operations along this route was made available to it.

5.3 Cooperation of States with the NAT/TFG

5.3.1 In view of what has been said above, the NAT/SPG felt that States contributing to the provision of actual traffic data to the NAT/TFG should again be urged to fully cooperate in the activities of this Group by the timely provision of the information required by that Group.

5.3.2 In addition, the Group noted with satisfaction that two States, which had previously fallen somewhat short of their commitments regarding the provision of data to the NAT/TFG, held this data now at the disposition of that Group. This was particularly important because, even though this data covered actual traffic in 1978, it was expected that the data for July 1979 would be somewhat distorted by the fact that DC-10 aircraft had not been able to operate for a prolongued period during the summer of 1979.

5.3.3 As to the inclusion of a further route into the NAT Air Traffic Forecasts, covering traffic operating between Europe and Alaska, the Group agreed on the following :

CONCLUSION 16/8 - INCLUSION IN NAT AIR TRAFFIC FORECASTS OF A ROUTE "EUR - ALASKA"

That :

a) the NAT/TFG include in future NAT Air Traffic Forecasts an additional route covering operations between Europe and Alaska; and

b) Canada and Iceland make arrangements to provide the NAT/TFG, in good time, with actual traffic data regarding operations conducted on this route.

5.3.4 While on the subject of the provision of data on actual air traffic operating in the NAT Region, the Group was informed of a proposal which had been made at the recent Annual De-briefing Meeting of the OACs and which was aimed at the standardisation, throughout the NAT Region, of the manner in which data on actual flight operations was recorded and presented so that it could serve as a basis for the resolution of shorter-term traffic management and air traffic control problems by OACs.

5.3.5 While agreeing in principle with the intent of the proposal, the Group was, however, unable to assess all its organizational and administrative implications because these had, at this stage, not yet been developed to the point where they could be fully appreciated. In view of this, it was agreed that the initiators of this proposal should be invited to do some more work in this field in order that a more detailed proposal could be presented to the next Meeting of the NAT/SPG for review. It was believed that such a presentation should cover at least the following points :

a) a brief presentation of the concept underlying the proposal and the objectives it was intended to meet;

b) a description of the methods proposed to be used for the collection and, if required, collation of data from individual OACs; and

c) detailed proposals, including recording forms etc., regarding the manner in which the required data was to be presented.

5.3.6 The Group noted with appreciation that the Member of Canada was prepared to assume responsibility for the development of such a proposal and the Group therefore agreed to retain consideration of this subject for its next Meeting.

Agenda Item 6: Operational matters of current interest

6.1 Introduction

6.1.1 Under this Item, the Group considered twelve subjects of current operational interest. These were :

a) status of proposals for amendment of the NAT RAC SUPPS ;

b) provision of tracks in Santa Maria OCA for traffic between North-Western Europe and Madeira and the Canary Islands ;

c) provision of a track between Lands End and Santiago in oceanic airspace ;

d) delegation of airspace South of Ireland ;

e) airspace reservations in the NAT Region ;

f) fuel conservation ;

g) unlawful interference ;

h) use of 5-letter name-codes in the NAT Region ;

i) VHF GP coverage in the NAT Region at 15,000 feet ;

j) AIS in the NAT Region;

k) liaison between the NAT/SPG and OAC Chiefs, and

l) use of satellite and other techniques for air navigation in the NAT Region.

6.2 Status of proposals for amendment of the NAT RAC SUPPs

6.2.1 The Secretary provided the Group with a brief summary review of the status of proposals for amendment to the NAT RAC SUPPs which had been initiated previously by the NAT/SPG. This review covered the following :

a) a proposal to change the limit concerning the application of lateral separation minima from 56N to 58N(NAT/SUPPs-RAC/4)

b) a proposal regarding adherence to the ATC approved Mach number(NAT/SUPPs-RAC/5 Revised) ;

c) a proposal regarding in-flight contingency measures (NAT/SUPPs-RAC/6 Revised) ;

d) a proposal regarding flight planning and position reporting by flights operating outside the OTS (NAT/SUPPs-RAC/7) ; and

e) a proposal regarding the implementation of A3H/A3J capability at Shannon on Family D (NAT/SUPPs-COM).

6.2.2 The proposal mentioned in a) above had been approved by Council in August 1978. However, since its application was related to the use of 60NM lateral separation in the NAT Region, its applicability was deferred until such time as the provisions regarding this separation were brought into force.

6.2.3 With respect to the proposal mentioned in 6.2.1 b), the revised version, resulting from action taken by the NAT/SPG at its 15th Meeting, is now being processed in accordance with established procedures and it is hoped that it will not give rise to further controversial comments. It should however be noted that this proposal coincides with the circulation of a draft amendment to relevant provisions in Annex 2 and, in circulating the proposal, it will therefore be made clear to States concerned that the NAT RAC SUPPs proposal, while being supplementary to the newly proposed provisions in Annex 2, is not in conflict with them.

6.2.4 As to the proposal mentioned in para 6.2.1 c) above, this has recently been approved by Council and will shortly be incorporated in DOC 7030.

6.2.5 The proposal mentioned in para 6.2.1 d) has been circulated to States and, since no adverse comments have been received, is now before Council for approval which is expected shortly.

6.2.6 While on this subject, the Members of Canada and the USA and the Representative of Iceland informed the Group that their Administrations were considering an IATA request for the provision of a high-level route between Iceland and Alaska through a position at 87N 60W and they stated that the specific details regarding this route would be coordinated directly between the three States concerned and IATA.

6.2.7 However, the Representative of Iceland pointed out that the provision of such a route would certainly add to the complexity of the ATC problem in the Reykjavik Oceanic Control Area but he was not opposed to its provision provided its implementation was properly coordinated. In the same context, the Member of the USA stated that a further IATA proposal to institute the route between Europe and Anchorage via the North Pole on a permanent basis was also under consideration, because this provided an important access between Europe and the Far East via the North American continent. It was, however, noted that, since this route was intended to be routed via the North Pole, coordination would not only be required between Canada, Iceland and the USA but would also have to include the USSR. The Group noted that further action in this matter should be left to States concerned in cooperation with IATA.

6.2.8 Finally, the proposal referred to in para 6.2.1 e) has been approved and was included in Amendment 151 to Doc 7030.

6.3 Provision of tracks in Santa Maria OCA

6.3.1 The Group was informed that contingency routes had been established at European Flow Control Meetings to provide for access between Northern Europe, Portugal and the Canary Islands in those cases where the normal access through the EUR ATS route-network was subject to heavy delays. It was noted that the use of these routes was conditional upon the fact that aircraft, intending to use them, could communicate on HF with ATC. At the moment, use of these routes was restricted to levels below the lower limit of the MNPS airspace affected. A proposal was put before the Group by its Member from the UK to consider a vertical extension of these routes into the MNPS airspace so that a more economical operation could be achieved by aircraft using them.

6.3.2 After careful consideration of all relevant aspects, the Group unanimously rejected this proposal for non MNPS certified aircraft although the assignment of higher flight levels for MNPS certified aircraft should be left to ATC tactical capability.

6.4 Provision of a track between Lands End and Santiago

6.4.1 For similar reasons as those described in para 6.3.1, an ad hoc route was provided between Lands End and Santiago in order to provide an access to Spain from the UK and from Ireland in those cases where normal routing through the EUR ATS route-network was subject to heavy delays. The questions raised in this respect were :

a) whether this ad hoc routing should be made a permanent feature of the EUR and NAT ATS route-networks; and

b) whether its upper limit should also be extended into MNPS airspace affected so as to permit more economical operation on this route.

6.4.2 With regard to a), the Member of the UK pointed out that this route was already being used, traffic conditions permitting and after appropriate coordination had been effected with all ACCs concerned by traffic operating on that route. He therefore saw no need to go beyond these arrangements. This point of view was supported by both the Members of France and of Ireland and the Representative of Spain.

6.4.3 As to the vertical extension of such a route into the MNPS airspace, the arguments made with respect to the routes into Portugal applied as well (see para 6.3.2 above).

6.5 Delegation of airspace South of Ireland

6.5.1 The Member for the UK informed the Group that equipment installed on Mount Gabriel in the South-West of Ireland will extend the SSR and VHF coverage available to London ACC. In order to enable the new facilities, when operational, to be used for the benefit of NAT operators, it is intended, for a trial period, to transfer responsibility for the provision of air traffic services in that part of the Shanwick OCA, bounded by latitudes 51N and 4850N and longitudes 15W and 8W and above Flight Level 245 with no upper limit, from Shanwick OAC to London ACC.

6.5.2 When discussing the effects of this proposal, the Group was generally in agreement with its intent, however the Member of Canada wanted to be assured that assumption of control responsibility by London ACC in the affected part of the Shanwick OCA did in no way imply that London ACC would be at liberty to impose traffic flow restrictions in that area over and above those coordinated with Gander OAC.

6.5.3 The UK Member assured the Group that Shanwick OAC would retain full control as to routings and traffic acceptability in this part of its OCA and that the present level of traffic acceptability would be maintained. In addition, he, as well as the Member of Ireland, pointed out that the actual implementation of the proposal would depend on the outcome of trials now being made with the use of Mount Gabriel SSR and that it would be fully coordinated between Shanwick and Gander OACs. With this assurance, the proposal was accepted.

6.6 Airspace reservations in the NAT Region

6.6.1 The Secretary of the Group presented the Group with a summary of replies which had been received from States, following an enquiry made with them on the basis of Conclusion 13/12 of the NAT/SPG. When reviewing this summary the Group noted that the problem regarding the establishment of temporary fixed and mobile airspace reservations in the NAT Region had lost nothing of its importance and it was also noted that, at the recent annual meeting of OAC Chiefs of the NAT Region, this question had occupied a prominent part of their discussions.

6.6.2 The comparatively slow progress, made in dealing with this question, was largely due to the fact that it involved, by necessity, States which, while being originators of possible airspace reservations in the NAT Region, were not in all cases Provider States in that Region. In addition, many of the airpace reservations, resulted from military requirements on which States concerned were, for obvious reasons, reluctant to provide detailed information :

a) on the nature of the events requiring such an airspace reservation ; and/or

b) on the detailed factors used to determine the size and duration of the airspace reservation.

6.6.3 The Group noted with satisfaction that, in order to achieve progress in this urgent matter, the Member of the USA was prepared to develop proposals on how to deal with this matter in a uniform manner and present these not later than the next Meeting of the NAT/SPG. It was also noted that these proposals would take account of the following :

a) the need to provide an explanation of the meaning of the terms "fixed" and "mobile temporary airspace reservation" by reference to the activities conducted in them;

b) the onus for the determination of the lateral and vertical extent of the required airspace reservation should be placed on the originator whereby he should take account of the following parameters :

i) the extent of the area should be kept to the minimum compatible with the type of activities intended to be conducted therein, taking full account of all relevant factors such as navigation capability of equipment used in the area, surveillance and control capability and emergency measures in case of uncontrollable events;

ii) the location of the area and the duration of the activities take maximum account of the major flow axes in the NAT Region and periods of peak traffic movements on such axes; and

iii) the specified limits of the area, both vertical and lateral, while ensuring that it covered all activities intended to be conducted in the area did not contain any buffer as this was to be administered by the OACs concerned

c) appropriate buffers between the edge of temporary airspace reservations and the closest aircraft permitted to operate near them should be applied by OACs concerned in accordance with the following criteria :

i) for fixed temporary airspace reservations the lateral buffer shall be in all cases 60 NM and the vertical buffer between the vertical limit of the airspace reservation and the nearest aircraft shall correspond to the vertical separation minimum prescribed in the layer of the airspace concerned (1000ft below FL 290, 2000ft between FL 290 and FL450 and 4000ft above FL450)

ii) for mobile temporary airspace reservations the lateral buffer shall correspond to the lateral separation minimum which is applied in the area and to the type of traffic which is operating in the vicinity of such a mobile airspace reservation. However, for mobile temporary airspace reservations above FL 450, the lateral buffer shall be 120NM. The vertical buffer provided shall be identical to the one described in i) above;

d) in NOTAMS published with respect to airspace reservations, the airspace reservation shall be described as established by the originator together with an indication from the OAC concerned as to the lateral and vertical buffers which will be applied to aircraft operating in the vicinity of such an airspace reservation.

CONCLUSION 16/9 - DEVELOPMENT OF PROCEDURES REGARDING AIRSPACE RESERVATIONS IN THE NAT REGION

That the Member of the USA prepare as early as possible proposals regarding procedures to be used both by originators and OACs in respect of the establishment of airspace reservations in the NAT Region and the measures taken by OACs regarding air traffic operating in their vicinity, so that these can be finalized at the next Meeting of the NAT/SPG.

6.6.4 It was noted that, until such time as the agreed uniform procedures regarding airspace reservations were brought into effect, OACs will continue to apply their present practices.

6.7 Fuel conservation

6.7.1 At its 10th Meeting in 1974, the Group had agreed on certain measures which were intended to assist operators in fuel conservation. These referred primarily to the possibility for pilots to use the step-climb technique in the conduct of their flight whenever traffic conditions so permitted (para 7.2.10 on page 7-5 of the Summary of NAT/SPG 10 refers). This same subject had also been discussed informally and briefly during NAT/SPG 15, however at that time no specific conclusions were drawn. At this Meeting, IATA raised this question again, pointing out that the procedures developed at NAT/SPG 10 were still meeting with mixed success only.

6.7.2 As fuel conservation was becoming a matter of greater and greater concern to operators, IATA felt, that it would be useful to review the procedures previously developed in order to render them more efficient and at the same time consider such action as would ensure that more widespread use could be made of such revised procedures.

6.7.3 After prolonged discussion on this subject, in which all relevant factors were explored, including those related to coordination procedures between OACs, effects of the existing air-ground communication situation on this matter, those resulting from the technical capability of the EDP systems used in some of the OACs, and the fact that the ICAO flight plan can now convey information as to when a step will be required, the Group agreed that at this time it could only re-iterate its previous position, i.e. that the initiative to obtain a step climb should be left with the pilot, but that to assist controllers in planning, each pilot, on initial contact with each OAC, should state where or when he would be capable of accepting a climb. In this connection, the use of the correct phraseology is important.

6.7.4 In addition, it was noted that the step-climb technique implied the use of different Mach numbers which were related to the level at which the aircraft was to be operated and that, to complicate the issue, this relationship varied for different types of aircraft. It was therefore stressed that, when applying the step-climb technique, pilots should be requested :

a) to inform the OACs concerned of any changes of Mach numbers involved in their requests for different levels ; and

b) in no case to change their ATC approved Mach number unless a specific authorization to do so had been obtained from the OAC in whose area of responsibility they were operating.

The latter was believed to be of particular importance because it had obvious consequences on the longitudinal separation applied by ATC between successive aircraft.

6.7.5 It was also important for Oceanic controllers to appreciate that when a pilot is cleared at a level other than the one he has requested, it will in many cases be desirable for the Mach clearance to be at a Mach number different from that originally suggested. This was relevant to all clearances, not just to step climbs, and the opportunity should be given for pilots at least to request a different Mach number under such circumstances.

6.7.6 In conclusion, the Group reiterated that the obtaining of step-climbs depended firstly on the initiative of the pilot, but that approval could only be given if the traffic situation permitted.

6.8 Unlawful interference

6.8.1 Based on a recent incident, the Group had a brief exchange on measures which were likely to be required in those cases where aircraft, subject to unlawful interference, were diverted into or within the NAT Region.

6.8.2 For obvious reasons, the Group was not prepared to reflect the details of its discussions on this subject in this Summary, on the understanding that those present at the Meeting and representing Provider States would ensure that relevant points made would be brought to the attention of their home Administrations for rapid and efficient application.

6.8.3 In the more general vein, two points were however retained for reflection in this Summary. These were :

a) that within all OACs providing air traffic services in the NAT Region arrangements should be made which ensure full coordination amongst all OACs and between OACs and all other agencies concerned with the aircraft which is subject to unlawful interference ; and

b) that in those cases where the aircrew of the aircraft which is subject to unlawful interference is not likely to be familiar with procedures applicable in oceanic airspace, maximum efforts be made to brief them with on all relevant aspects prior to entry into the oceanic airspace through all available means. Should this not be possible, information on this situation should be passed as early as possible to the OACs likely to be concerned with the aircraft so that appropriate safety measures may be taken by them.

6.9 Use of five-letter name-codes in the NAT Region

6.9.1 The Secretary informed the Group about the situation with regard to the introduction of five-letter name-codes for significant points both in the NAT and EUR Regions and requested participants in the Meeting to inform their home Administrations that the European Office of ICAO is in the process of contacting them on this subject.

6.9.2 In this context it was noted that at least the UK and Ireland did not intend to use five-letter name-codes to designate the exit-and entry-points into the NAT Region because, as was pointed out, these were not fixed but subject to daily changes in accordance with the applicable organized track system. The Representative of Portugal pointed out that, because the particular situation caused by the route structure in the Santa Maria Oceanic OCA, Portugal intended to use a certain number of five-letter name-codes to designate way-points which were of a permanent nature.

6.9.3 As to the concept underlying the five-letter name-codes some Members of the Group pointed out that, in their view, the rather artificial composition of these name-codes and the complete absence of a relationship of any mnemonic significance between the name-codes and the locations to which they were assigned, constituted a noticeable drawback of that system.

6.10 VHF GP coverage in the NAT Region at 15.000 feet

6.10.1 At its 13th Meeting in September 1977, the NAT/SPG, in its Conclusion 13/14 f), had requested the European Office of ICAO to produce a consolidated chart showing the general purpose VHF coverage available at

15.000 feet in the NAT Region and in relevant adjacent areas. Since then, the European Office has tried to obtain the relevant information from States concerned so that this chart could be produced and it was only now at this Meeting that such a chart could finally be presented to the NAT/SPG for review and comment, prior to its inclusion by provider States of the NAT Region in the relevant parts of their AIPs. It is recalled that at the time the decision was taken to produce this chart, it was considered to consitute an urgent requirement in order to assist IGA operators intending to fly in the North Atlantic.

6.10.2 When presenting the chart to the Group at this Meeting, it was found that it still contained erroneous information and that it would therefore be necessary to delay its publication until the correct information was supplied to the European Office of ICAO. In view of this situation, the Group hoped that the one or two States concerned would take speediest possible action in informing the European Office of ICAO so that this project could finally be brought to successful fruition.

6.11 AIS in the NAT Region

6.11.1 In the course of discussions of other items during this Meeting of the Group, reference was repeatedly made to the fact that response by aircrews to new procedures and/or other changes in the air navigation environment in the NAT Region was comparatively slow and, in some cases, the cause of difficulties. It was for this reason that the representative of IFALPA presented the Group with a paper in which he pointed out the difficulties aircrews, engaged in routine operations in the North Atlantic, had to keep abreast of developments. This not only referred in his view to the number of changes which had to be absorbed in flight preparations but in some cases also to the manner in which the information was presented either in regulatory texts or in aeronautical information publications issued by States.

6.11.2 He therefore made an urgent plea that measures should be taken, both by States and operators, to improve the situation for aircrews to the maximum extent possible and to reduce as much as possible, the amount of paper with which aircrews were being confronted. In addition, he pleaded for a form of presentation of the most essential parts of information in such a way that, in its presentation, it followed the sequence of the flight operation as it was about to take place.

6.11.3 The Group realised that this was a matter which was not only applicable in the NAT Region, but had world-wide connotations and it was pointed out that the creation of the Operational Flight Information Service Panel (OFIS/P) had been motivated by this concern. However, as some aspects of the problem raised by IFALPA seemed also to have an incidence on the question of ATC system loop errors as mentioned in the summary of Item 1,it was felt that this matter deserved early attention by States and operators and it was felt that especially the latter, by appropriate organizational measures, could do much to alleviate the present, apparently unsatisfactory, situation.

CONCLUSION 16/10 - AERONAUTICAL INFORMATION SERVICE TO AIRCREWS ENGAGED IN NAT OPERATIONS

That

a) States in whose area of responsibility flight operations entering the NAT Region are started, make special efforts to ensure that the aeronautical information service provided to aircrews engaged in such operations fully meets their requirements and that the information be presented in such a way that it lends itself to optimum use during actual flight operations ; and

b) operators engaged in NAT operations ensure that their procedures for briefing their aircrews on the planning and conduct of such operations are complete and up-to-date and presented in such a way that aircrews have the least possible difficulties in their application during routine operations.

6.12 Liaison between NAT/SPG and OAC Chiefs

6.12.1 The Group was presented with a summary of the proceedings of the 1979 Annual De-briefing Meeting of the NAT OAC Chiefs. When looking at this paper, the Group noted that the majority of these subjects raised at that meeting had also been or still were the subject of the work of the NAT/SPG. It was therefore felt that, in this respect, a contribution from these annual meetings could provide valuable background information to the respective administrations charged with the provision of ATC services and, through them, to the NAT/SPG for the conduct of its work. Such contributions would give the Group not only an indication of the reaction to its work from the direct operational level but could also make the Group aware of problems which were taking on proportions so as to warrant consideration by the NAT/SPG.

6.13 Use of satellite and other techniques for air navigation in the NAT Region

6.13.1 Further to discussions on this subject at NAT/SPG 15 (Summary on Agenda Item 8 in the Summary NAT/SPG 15 refers), the Group was provided with information on progress made in the Oceanic Area System Improvement Study (OASIS). It was found that this information did not require any comment on the part of the Group. In addition, the Group noted that States involved in this subject would continue to keep the NAT/SPG informed as required so that, at the appropriate time, this subject could be reviewed in the light of new developments.

6.13.2 The Group was also informed that all those wishing to obtain further details on the work in progress could address themselves to the following address :

AEROSAT Coordination Office
c/o ESTEC
Attention Mr. Jim Penwarden
Zwarteweg 62, Postbus 299
NL-2200 AG Noordwijk
The Netherlands

Agenda Item 7 : Future work programme and arrangements for the next Meeting

7.1 Future work programme

7.1.1 The Group was informed that, due to the heavy work programme imposed on the European Office of ICAO as a result of Regional Planning activities with respect to the EUR Region, it was not only necessary to ensure that the commitments resulting to that Office from the need to serve the NAT/SPG were commensurate with a realistic appraisal of the capacity of the Office to perform this task but that, on the administrative side, it was also ensured that future Meetings of the NAT/SPG did not conflict time-wise, with other urgent commitments of that Office.

7.1.2 In view of this situation, the Group noted that, present planning of the European Office envisaged a possibility to hold the next Meeting of the NAT/SPG in March 1980 and that NAT/SPG 18 was tentatively scheduled for April 1981 and NAT/SPG 19 for March 1982.

7.1.3 With respect to NAT/SPG 19 it should be noted that the present tri-annual meeting programme of ICAO made tentative provisions for a Limited NAT (RAC/COM) RAN Meeting in 1982. It would therefore appear that NAT/SPG 19 should be considered as that meeting of the Group where appropriate supporting documentation for presentation to the formal ICAO NAT RAN Meeting would have to be prepared.

7.2 Arrangements for the next Meeting

Items for consideration

7.2.1 Without wishing to enter into firm commitments regarding the Agenda of its next Meeting, the Group nevertheless noted that as a result of this Meeting, and taking into account the longer term programme established by the Group at its 13th Meeting, the following items, excluding those of a routine nature such as the HF review, should be retained for consideration :

a) development of proposed action regarding lateral separation in the MNPS airspace of the NAT Region;

b) review of the consolidated NAT flight operations manual;

c) development of proposed action regarding longitudinal separation between turbo-jet aircraft in the NAT Region;

d) review of proposals for action regarding crossing and joining air traffic in the NAT Region operating South of the organized track system;

e) review of proposals for uniform provisions regarding temporary airspace reservations in the NAT Region.

7.2.2 Apart from the normal contributions expected from all Members of the Group in order to permit adequate consideration of the above items at the next Meeting, it was noted that special contributions were expected to be provided, in good time prior to the next Meeting as follows :

a) a draft on the subject of item b) prepared by Messrs. Lee and Sweetman (Conclusion 16/2 refers);

b) proposals on the subject of item d) as prepared by the RTSG during its meeting in January 1980 (para 3.3 refers); and

c) proposals on the subject of item e) as prepared by the Member of the USA (Conclusion 16/9 refers).

Date and place of the next Meeting

7.2.3 In view of para 7.1.2 above, the Group agreed that the next Meeting of the NAT/SPG should be held in March 1980 in the European Office of ICAO for a duration of some 10 working days, on the understanding that the exact date will be coordinated between the Chairman and the Secretary and will be notified to those participating in that Meeting in due course. (Tentative dates, mentioned at this Meeting, were 10-21 March 1980).

7.2.4 When making the above proposal regarding the duration of the next Meeting, the Group wanted it to be noted that this corresponded, in its view, to a justified requirement, taking into account the number, importance and complexity of the items to be considered at the next Meeting.

Participation in the next Meeting

7.2.5 Further to the usual participation by Denmark, Iceland, Norway, Portugal, IATA, IAOPA and IFALPA, the Group agreed that Spain as well as the USSR should, once more, be invited to participate in the next Meeting because of the interest these two States had in at least some of the items, planned to be considered at the next Meeting.

7.2.6 It was noted that, repeatedly, both IACA and ACCA had not found it possible to inform the Group of their intentions regarding participation in its Meetings. The Group therefore felt that, as of now, no further invitations should be addressed to these organizations to participate in the Meetings of the Group and that it should be left to them to address a specific request for participation to the Chairman of the Group should they wish to partake in future activities of the Group.

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

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