International Civil Aviation Organization

The Special ATS Coordination Meeting Cross Polar and Russian Trans-East ATS Routes (SCM POLAR & RTE)

Bangkok, Thailand, 15 and 16 November 2005

Agenda Item 2: Operations Asia/North America via Crosspolar /Russian Far East routes

CAPACITY OPTIMIZATION ON CROSS POLAR/ TRANS-EAST ROUTES

(Presented by Russian Federation)

SUMMARY

This paper presents the Russian Federation's vision and proposals for capacity optimization on Cross polar and Trans-East Routes.

1. INTRODUCTION

1.1 Nav Canada, Anchorage ARTCC and the Russian Federation presently use different longitudinal separation minima ranging from 30 kilometers to 20 minutes between two aircraft at the same flight level on Crosspolar and Trans-East routes in their respective flight information regions (FIRs). Further, Anchorage ARTCC adds a 10-minute window to the existing longitudinal separation minima for crossing entry points into Trans-East and Crosspolar routes (Polar 2, 3 and 4) in the Russian airspace. Thus, the route capacity at the entry points into the Russian airspace is reduced on average from 6 to 2.5 aircraft per hour at the same flight level.

2. DISCUSSION

Crosspolar routes

2.1 Due to the existing FIR boundaries over the Artic ocean the responsibilities for providing air traffic services on Crosspolar routes are presently shared by Reykjavik ACC, Murmansk ACC, Magadan ACC, Anchorage ARTCC and Edmonton ACC. The time that aircraft remain under control in each of the above FIRs is different and varies from 3 minutes (Anchorage ARTCC on Polar-2) to 5 - 6 hours in Nav Canada and Russia FIR. Due to the use of different longitudinal separation minima in the above FIR (from 30 kilometers to 15 minutes) and an additional 10-minute window at Anchorage ARTCC the route capacities are unevenly spread.

Trans-East routes

2.2 Anchorage ARTCC uses a 10 minute longitudinal separation + 10 minute window for crossing the following entry points into the Russian airspace: YUREE, LISKI, FRENK and MARCC. The Russian Federation uses a 20-minute longitudinal separation minimum only on B337 (LISKI), the remaining routes have 30 km longitudinal separation under radar control and 10 minute under procedural control. (B932 is not taken into account as it's temporarily closed). No other additional time windows are currently applied in the Russian airspace. It is worthwhile noting that Anchorage

ARTCC accepts eastbound flights from the Russian airspace at 10 minute longitudinal separation minima without any problem.

2.3 In addition to the above longitudinal separation values and windows, Crosspolar (Polar 3 and 4) and Trans-East routes are restricted by the limited operational hours of certain Russian ACCs in Yakutia and Chukotka.

2.4 Unfortunately, the slots (longitudinal separation value + 10 minute window) allocated by Anchorage ARTCC do not take into account the limited operational hours of the certain Russian ACCs. In this regard, situations may occur when due to the need to accept delayed wheels up time to meet his slot time with Anchorage, an aircraft operator may miss the operational hours of a certain en-route ACC in Russia. Thus the operator could be penalized twice.

2.5 The Russian Federation presently makes efforts to remove the above restrictions imposed by the limited coverage of certain Russian ACCs. Thus, effective from November 15, 2005 Tiksi (UEST) ACC will take over control of Chukordakh (UESO) FIR and Yakutsk (UEEE) ACC sector “North-East” will begin proving air traffic services in Batagai (UEBB) and Tyoply Klyuch (UEMH) FIRs. This will open Polar 3 and Polar 4 for 7 days a week and H24 operations. Note: H24 operations on Polar-3 will be available if flight-planned in detour of Zhingask ACC (UEVV). G806 route will still have limitations due to limited coverage of Zyryanka (UESU) ACC.

2.6 The transition to RVSM on Crosspolar/Trans-East routes suggested by the airlines would help to increase the capacity even with the existing 20/25 minute slot allocated by Anchorage ARTCC due to the expansion of vertical separation minima. Unfortunately due to certain reasons, the Russian Federation is so far unable to implement RVSM on these routes.

3. ACTION BY MEETING

3.1 Make an inventory of the existing longitudinal separation minima on the above routes in each FIR. Describe the current technical problems which force a particular ACC to implement extended longitudinal separation or additional time windows. Develop possible solutions. Review the possibilities for reducing or removing additional time windows applied by certain ACCs in addition to longitudinal separation minima. Continue removing the remaining en-route restrictions caused by limited operational hours of certain ACCs. Consider the possibilities for optimizing the number of ACCs involved in provision of air traffic services on Crosspolar and Trans-East routes.
In the view of increasing traffic demand on Crosspolar and Trans-East routes, initiate development and signing of Letters of Agreement between Main ATFM Center of Russia (MATFMC), Nav Canada National Operations Center (NOC) and FAA Air Traffic Control System Command Center (ATCSCC)/Anchorage ARTCC for the purpose of carrying out optimization of route capacities and efficient air traffic flow management on the above routes.

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