

**Fifth Meeting of the Cross Polar Trans East Air Traffic Management Providers' Work Group  
(CPWG/5)**

(Ft. Worth, TX, 1-3 April 2008)

**Agenda Item 4: Communications, Navigation, Surveillance (CNS) and Air Traffic Management  
(ATM) issues**

**RVSM over the Arctic Oceanic Airspace.**

(Presented by IATA)

**SUMMARY**

This paper discusses the urgent need implement RVSM in the Arctic Oceanic airspace and provides a proposal that needs to be discussed further by CPWG.

**1. INTRODUCTION**

1.1 The rapid growth in air traffic continues to challenge the cross-polar airspace as fleet expansions have created an entirely new market in ultra-long haul flights. This airspace is likely to see a 50% increase in air traffic numbers over the next 5 years

1.2 Another major challenge facing the aviation industry today and in the foreseeable future is the runaway price of oil that has more than doubled over the last 4 years. Fuel has become the single highest cost item for airlines. IATA estimates the global fuel bill to be in the range of \$140 billion USD for 2008.

1.3 The environmental impact of ATM inefficiencies is another challenge facing our industry. The ultra long-haul cross-polar flights could benefit tremendously from RVSM, where en route step climbs are cut in half, bringing about significant fuel and CO<sup>2</sup> savings. Additionally ATC and airlines would benefit significantly in the added capacity, and less complexity that is found in an RVSM environment. It all adds up to a safer and more efficient air transport system.

**2.0 DISCUSSION**

2.1 The current cross-polar airspace over the Arctic Ocean is an incomplete mixture of partial ICAO RVSM cruising levels and Russian cruising levels. Only 3 RVSM altitudes are provided to northwest bound flights while over North America (FL300, FL320, and FL340). Although FL380 is also available, it is usually not achievable by the heavy long-haul flights. The much-coveted FL 360 is prohibited due to its direct conflict with the opposite direction Russian cruising level of 11,100 metres.

2.2 On bidirectional routes, the Russian 500-metre cruising level structure does not mesh into a 300 or 600 metre cruising level scheme. Therefore, its likely for some altitudes to be declared unusable either on a full or part time basis.

2.3 The current restriction to prohibit the westbound flights from FL360 is not in the best interest of aviation and at times is very penalizing to airline operations. Meanwhile the westbound traffic continues to build up, thus creating even more of an altitude compression. The lack of FL360 creates fuel penalties ranging from 50-140kg of wasted fuel per hour.

2.4 The attached chart of cruising levels and transitions is one option that CPWG is asked

to consider. Airlines are asking to be established at FL320, FL340 and FL360 in North American airspace prior to entering the Arctic Oceanic airspace. Under this option both FL360 and FL380 transition to 11,600 metres. Therefore those flights at FL380, if there were any, would need to be longitudinally separated with those flights at FL360 prior to entering Russian airspace. The flights at RVSM levels will have to transition to Russian cruising levels prior to entering into Russian territorial or sovereign airspace (ideally within the Magadan or Murmansk Oceanic FIRs).

2.5 Other options to consider would be to publish times of eastbound and westbound altitude restrictions that would correspond with peak traffic flows. For example the eastbound flights to North America could have 11,100m only available during a fixed time period (e.g. 1800 – 2359 UTC). Other options could be one-way tracks.

### **3.0 ACTION BY THE MEETING**

3.1 This working paper is intended to give a starting point for further dialogue. Therefore the meeting is invited to:

- Consider the proposals outlined in this paper,
- Agree to a concept and target date for implementation.

--- End ---

**Russia  
Domestic**

**Oceanic RVSM  
Transition Area**

**N. American  
Airspace**

