International Civil Aviation Organization

Fourteenth Meeting of the APANPIRG ATM/AIS/SAR Sub-Group (ATM/AIS/SAR/SG/14)

Bangkok, Thailand, 28 June – 2 July 2004

Agenda Item 3: Update on EMARSSH Implementation

UPDATE ON THE REVISED ATS ROUTE STRUCTURE – ASIA TO MIDDLE EAST/EUROPE, SOUTH OF THE HIMALAYAS (EMARSSH)

(Presented by the Secretariat)

SUMMARY

This paper provides details on the one-year review meeting following the implementation of the revised ATS route structure from Asia to Middle East/Europe, South of the Himalayas (EMARSSH).

1 INTRRODUCTION

1.2 The one-year review meeting of the implementation of the EMARSSH route structure on 28 November 2002 was carried out by the EMARSSH Task Force at the ICAO Asia and Pacific Regional Office, Bangkok, Thailand on 12-16 January 2004, and included a review of the operational and technical aspects of air traffic management and flight operations related to the route structure as well as further enhancements.

2. DISCUSSION

Review of Action Plan

2.1 The on-year review meeting reviewed the Action Plan of the EMARSSH Post Implementation Review Meeting (PIRM) held in Australia from 31 March to 2 April 2003 and updated the items as follows:

a) Review the route description of L333 to include FL280

The minimum en-route level for L333 was lowered by India to FL300 as reported at the SCM/RVSM/IND-PAK meeting. In the Karachi FIR the MEA was being coordinated by Pakistan internally with the authorities, and when approved a NOTAM would be issued.

b) Establishing a new route linking ASOPO to RK

At the RVSM/TF/20 Meeting held in New Delhi, India from 27-31 October 2003, the Airports Authority of India (AAI) announced that the segment ASOPO – VIKIT on P628 was approved for implementation. Pakistan advised at the SCM/RVSM/IND-PAK meeting that the segment VIKIT – Rahim Yar Khan

(RK) was also approved, and coordination with India was completed and the route segment would be jointly implemented by NOTAM on 22 January 2004.

c) *Create a procedure whereby a fixed Mach Number requirement is applied on a route*

The meeting was informed that under the Air Traffic Flow Management Plan (ATFMP) being developed for the Bay of Bengal traffic flows transiting Afghanistan airspace by the Bay of Bengal ATS Coordination Group (BBACG), a fixed Mach Number of M0.84 at and above FL280 on L759 had been implemented. Further information on the use of the MNT is provided in paragraphs 6.5 and 6.51.

d) The development of a westbound flow management plan

The ATFMP for the Bay of Bengal and Beyond to the Afghanistan airspace was being developed by the BBACG. States concerned were implementing arrangements to improve the traffic flow and efficiency of air traffic operations.

e) Pursue additional flight levels in Kabul FIR

The meeting was advised that ICAO, IATA and other parties concerned had been coordinating with the Coalition Forces for some time to obtain FL280 for overflying international traffic in the Kabul FIR. It was anticipated that approval to use FL280 would be granted in the short term.

f) Investigate the capability of some flights climbing to FL350 before Kabul FIR

The meeting was informed that under the RVSM transition arrangements implemented by Pakistan for transition from RVSM to CVSM for flights transiting the Kabul FIR, traffic at FL300 and FL320 would transition to FL310, and traffic at FL340 and FL360 would transition to FL350. In applying the transition procedures, a flexible approach was being adopted and aircraft at lower levels would be cleared to FL350 as traffic permitted.

g) Pursuit of consistent application of proper Mach number technique (MNT)

This issue is considered below.

h) Follow-up implementation of BB17 and BB18 with States concerned

This issue is considered below.

2.1.1 The review meeting agreed that appropriate follow-up action was being taken on the PIRM Action Plan and outstanding issues from this meeting would be referred to the appropriate ATS coordination group.

Route issues

2.2 The meeting reviewed the route issues considered by the PIRM as follows:

a) Nepal updated the meeting on progress to implement the EMARSSH routes in the Katmandu FIR. Nepal reaffirmed their commitment to open Nepal's airspace

to international civil aviation. To progress implementation, further civil/military consultation was required by adjacent States. The meeting agreed that this matter should be given priority and brought to the attention of the BBACG and the APANPIRG Route Review Task Force;

b) Pakistan reported to the PIRM that further improvements could be achieved to the revised structure but would need further consultation with adjacent States as well as military authorities. These proposals included Himalaya 1, Pakistan 1, Pakistan 7 and restructuring of A466. In this regard, the meeting agreed that this matter should be referred to the Route Review Task Force and BBACG.

c) Thailand at the PIRM had raised problems of aircraft not being able to operate below the Bay of Bengal RNP 10 airspace due to the conventional ATS routes over the Bay of Bengal having been withdrawn when the EMARSSH route structure was implemented. Also it was not possible to use FL260 for traffic departing from Southeast Asia airports and this restricted ATC flexibility in making use of available airspace. To pursue this matter further, Thailand would submit a paper to the BBACG/14 meeting (2-6 February 2004) for consideration.

d) IATA reminded the meeting that the parallel route structure in the northern part of the Bay of Bengal airspace could not be fully implemented in accordance with the EMARSSH plan. This had resulted in four of the parallel routes converging into two and creating traffic congestion over northern India especially in the Delhi area. The problem was further complicated by the Afghanistan airspace situation whereby, flight level and route restrictions reduced airspace capacity and RVSM was not being implemented. India and Pakistan with the cooperation of their military authorities agreed to implement the extension to P628 from ASOPO direct RK with effect from 22 January 2004. To gain maximum benefit from this route, the segment RK direct Kandahar should be implemented as a matter of priority. The matter would be referred to the BBACG/14 meeting and to the Route Review Task Force.

e) IATA requested that implementation of the following route segments be pursued:

PRA – SERKA – SOKAM
GASIR – BIRJAND
NH – ZAHEDAN

The meeting agreed to refer this matter to the Route Review Task Force and BBACG.

Review of Air Traffic Management and Operations

2.2 The considerable benefits provided by the EMARSSH routes was recognized, however IATA drew attention to the need for further improvements and enhancements in procedures and routes to realize the full benefits of the project. The meeting noted that considerable discussion and effort was being made by other meetings such as the RVSM/TF and BBACG to address the route and airspace restrictions affecting the traffic flow across the Bay of Bengal and Kabul FIR. The issues involved were well documented and priority was being given to progress the matter. In addition, IATA drew attention to the expected traffic flow adjustments that would arise from the implementation of the ASOPO to RK extension. In this regard, the traffic flow at SAMAR and TIGER should be continued to be monitored and reported to the RVSM/TF/21 90-day Review Meeting (8-12 March 2004).

2.2.1 The meeting noted information provided by IATA regarding the lack of progress made by Myanmar to improve its air-ground communications. The meeting recalled this was a long standing problem and the lack of reliable VHF provided by Myanmar was recorded by APANPIRG as a deficiency. The meeting expressed concern that improvements were urgently required especially with RVSM having been implemented in the Yangon FIR on 28 November 2003. The RVSM/TF 90-day Review Meeting would take this matter into consideration. Also, the meeting was informed that the ICAO Asia and Pacific Office continued to press Myanmar to take remedial action as a matter of urgency. Recognizing that six EMARSSH routes pass through the Yangon FIR, RVSM operations were being conducted and the safety concerns arising from the poor ATS communications, the meeting urged ICAO to continue its effort to impress on Myanmar the importance of making immediate improvements to their communication infrastructure.

2.2.2 India informed the meeting that ADS and CPDLC was now operational at the Kolkata ACC for the Kolkata FIR on a 24 hour basis. At the Chennai ACC, ADS and CPDC was available for the Chennai FIR from the Chennai Oceanic Control Centre and was operating from 0230 to 2030 UTC, covering the westbound peak traffic flow. It was expected that this would be extended to cover a 24 hours period in the near term and would be notified by NOTAM. The meeting noted that the operational trial of ADS and CPDLC for the Bay of Bengal area was being set up by the FANS Implementation Team (FIT) for the Bay of Bengal area and was expected to commence in March 2004. IATA further requested that States consider extending the use of ADS/CPDLC to the Mumbai and Jakarta FIRs. India indicated that CPDLC should also be extended to the Arabian Sea region.

2.2.3 Indonesia informed the meeting of the implementation of EMARSSH Phase II in the Jakarta FIR. It was pointed out that N563 was restricted across Indian airspace to the night-time period and India was requested to consider H24 operations, which would provide greater benefits to operators. IATA supported this request and urged India to lift the restriction. This route was a primary route to the Middle East and important for the Haj traffic. India advised that the restricted use of N563 was necessary as the route entered a military restricted area that was operational during the day time hours. India noted the request of the meeting but was not confident that any further concessions from the military for the extended use of N563 could be gained in the short term. Indonesia also drew attention to the need to establish direct speech circuits between Medan and Chennai ACCs and this matter would be pursued with India.

2.2.4 Malaysia informed the meeting of the need to harmonize the application MNT to apply 10 minutes longitudinal separation across the Bay of Bengal in respect to the faster aircraft following. The procedures for applying this separation were contained in the ICAO ATS Planning Manual (Doc 9426), and Malaysia was of the view that they should be contained in the PANS-ATM (Doc 4444) which would facilitate States in introducing the procedures. The meeting noted that application of the faster aircraft following MNT was being applied worldwide and fully endorsed by ICAO. States had been informed by a State letter issued by the ICAO Asia/Pacific Regional Office in 1997 on the implementation of this procedure. The meeting agreed that to enhance airspace capacity and efficiency of ATC operations, a uniform application of the MNT should be applied by States for the Bay of Bengal area. In this regard, States should update their LOAs to include the faster aircraft following MNT procedure. To assist States to prepare their LOA, the meeting prepared a list of entry/exit points on the Bay of Bengal routes where the procedure should be applied as follows:

L515/M770 PUT – KAKID (1024 NM)
L759 PUT – BBS (1039 NM)
P628 GIVAL – LARIK (1048 NM)
L301 TANEK – BBS (999 NM)

India agreed to study the proposals put forward by Malaysia on the faster aircraft following MNT and entry/ exit points taking into account the actual traffic situation.

2.2.5 The meeting was also informed of discussions at the SCM/RVSM/IND-PAK meeting concerning application of fixed Mach Number M0.84 on L759. This was part of the ATFMP measures being introduced to improve departure delays being experienced at Southeast Asia airports. The procedure calls for operators intending to flight plan on the route, to be capable of operating aircraft at M0.84 at or above FL280. It had been noted that for some aircraft types, notably the B777, M0.84 would be an inappropriate speed to fly. A way to overcome the problem would be to refer to indicated air speed (IAS). However, this was a global issue requiring ICAO to review the matter. ICAO would be informed of the issues involved, and it would be referred to the BBACG/14 and RVSM/TF 90-day Review meetings.

2.2.6 The meeting recognized that the EMARSSH route structure would continue to require refinements and modifications to route alignment, and introduction of additional routes. The operation of ultra- long haul flights by aircraft such as the Airbus 340-600, and Boeing 777ER may require new routes for city pairs as services were introduced. With the ongoing CNS/ATM implementation developments in the Asia/Pacific Region, ATS service providers and users would continue to see improved capabilities. This would support further reduction in separation minima, such as 30 NM and enhancement to operating efficiencies and safety. Future route development and airspace changes in the region would be kept under review by APANPIRG, the Route Review Task Force and various ATS coordination groups.

Other Related Issues

2.3 The meeting considered the lessons learnt and benefits derived from the planning and implementation process of the EMARSSH project that could be of value for other similar activities. The meeting highlighted the following matters:

- using a small core team of experts to manage the project provided continuity, impetus and centralized project management. This arrangement was highly recommended for projects of this size;

- AIS is an integral and essential element of a modern ATM system and as such the composition of future core teams should include an AIS expert;

- in planning airspace arrangements, careful attention needed to be given to operational end use ensuring that the airspace structure met operational requirements. Also, users should take full advantage of all routing options available;

- unexpected international events could seriously impair the effectiveness of route operations and attention needed to be given to contingency arrangements;

- data collection and management should be assigned to a single management source;

- project timing should be kept to a minimum and careful attention given to meeting timelines;

- Regional Monitoring Agency (RMA) services should be identified and established early in the process;

- cooperation and coordination from military authorities was essential. They must be involved early in the process and well informed on the objectives of the project;

- meeting requirements for international operators, domestic operations must be fully considered and measures put in place to ensure minimum disruption to their operations;

- with complex airspace changes, information on developments must be kept in the public forum to ensure all operators remain up-to-date on the changes to be implemented and the operational requirements;

- planning should be forward looking and cognizant of the potentially rapidly changing technological advances in aircraft operations and commercial imperatives;

- close coordination with adjacent regions was necessary to harmonize procedures and planning objectives;

- information flow for the planning process should be broadly available and especially at the operational level;

- early provision for training requirements must be thoroughly developed and timely delivered;

- awareness of and coordination on other related changes being planned or implemented by other groups, and to continually update the ICAO Regional Office on progress especially on early advice of potential difficulties; and

- plan must be well defined, meet user requirements, be realistic, achievable in a timely manner and supported by all parties.

2.4 Completion of the EMARSSH Project

2.4.1 States and international organizations were unanimous in crediting EMARSSH with a achieving its core objective to restructure the routings of the major traffic flows, whilst realizing cost effective benefits for the airspace user community and service providers. In addition to the efficiencies of the new route structure, capacity was further enhanced by the simultaneous implementation of RNP 10 in oceanic areas, along with RVSM implementation, which together maximized overall benefits.

2.4.2 In completing the one-year review of the EMARSSH project, the meeting was satisfied that outstanding issues had been identified and all appropriate follow-up action taken. The meeting was therefore of the view, that the EMARSSH Task Force could be disbanded with further work to be assigned by APANPIRG to the Route Review Task Force or as appropriate to other groups. Accordingly, the meeting requested the Secretariat to bring to the attention of the APANPIRG/15 meeting the outcome of the one-year review meeting.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note that the EMARSSH one-year review meeting completed the EMARSSH project;

b) note the lessons learnt from the EMARSSH implementation project and consider their application in similar projects to be implemented in the future under APANPIRG;

c) note that the EMARSSH Task Force had recommended that the Task Force be dissolved by APANPIRG/15; and

d) review the outstanding issues identified by the EMARSSH Task Force and the follow-up action recommended.

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