International Civil Aviation Organization

The Thirteenth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/13)

Bangkok, Thailand, 02 – 05 August 2010

Agenda Item 4: Airspace safety monitoring documentation and regional guidance material

PROPOSED CHANGES TO THE ASIA/PACIFIC REGION EN-ROUTE MONITORING AGENCY (EMA) HANDBOOK

(Presented by Singapore)

SUMMARY

This working paper presents the proposed changes to the Asia/Pacific Region EMA Handbook - Monthly reporting forms for LLDs and LLEs (Appendix E).

1. INTRODUCTION

1.1 The Asia Pacific Region EMA Handbook was adopted as the guidance material by the Twentieth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/20) held in Bangkok from 7 to 11 September 2009.

2. DISCUSSION

2.1 One of the duties of an EMA as stated in the EMA Handbook is to receive reports of large horizontal-plane deviations identified during monitoring. This will include any large lateral deviation (LLD) and/or large longitudinal error (LLE). States are recommended to use the suggested form in the EMA handbook (APPENDIX E) when submitting such reports.

2.2 In APPENDIX E of the EMA Handbook, it was stated that deviations due to weather and other contingency events will need to be reported. However, if ATC approval for deviation had been granted, such deviation should not constitute a large horizontal-plane deviation. The proposed changes in attachment A will clarify that large horizontal-plane deviation identified in the monitoring process will not include ATC-approved deviations or other contingency events.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note that large horizontal-plane deviation does not include ATC approved deviations or other contingency events..

b) adopt the proposed changes to the EMA Handbook.

……

S<u>uggested Form for ATC Unit Monthly Report of Large Lateral Deviations or Large Longitudinal Errors</u>

[EN-ROUTE MONITORING AGENCY NAME]

Report of Large Lateral Deviation or Large Longitudinal Error

Report to the (*En-route Monitoring Agency Name*) of a large lateral deviation (LLD) or a large longitudinal error (LLE), ~~including those due to weather deviations and other contingency events~~, as defined below:

*Note: Do not include ATC-approved deviation due to weather or other contingency events, unless the deviation occurred is greater than the approved deviation.

Type of Error	Category of Error	Criterion for Reporting
Lateral deviation	Individual-aircraft error	15NM or greater magnitude
Longitudinal deviation	Aircraft-pair (Time-based separation applied)	Infringement of longitudinal separation standard based on routine position reports
Longitudinal deviation	Aircraft-pair (Time-based separation applied)	Expected time between two aircraft varies by 3 minutes or more based on routine position reports
Longitudinal deviation	Individual-aircraft (Time-based separation applied)	Pilot estimate varies by 3 minutes or more from that advised in a routine position report
Longitudinal deviation	Aircraft-pair (Distance-based separation applied)	Infringement of longitudinal separation standard, based on ADS, radar measurement or special request for RNAV position report
Longitudinal deviation	Aircraft-pair (Distance-based separation applied)	Expected distance between an aircraft pair varies by 10NM or more, even if separation standard is not infringed, based on ADS, radar measurement or special request for RNAV position report

Name of ATC unit: _____

Please complete Section I or II as appropriate

SECTION I:

There were no reports of LLDs or LLEs for the month of _____

SECTION II:

There was/were _____ report(s) of LLD

There was/were _____ report(s) of LLE

Details of the LLDs and LLEs are attached.

(Please use a separate form for each report of lateral deviation or longitudinal error).

When complete please forward the report(s) to:

En-route Monitoring Agency Name
Postal address
Telephone:
Fax:
E-Mail:

NAVIGATION ERROR INVESTIGATION FORM

PART 1 - **To be completed by responsible officer in the Service Provider (and aircraft owner/operator if need)**		
ATC Unit Observing Error:		
Date/Time (UTC):		
Duration of Deviation:		
Type of Error: (tick one) ☐ LATERAL ☐ LONGITUDINAL		
Details of Aircraft		
	First Aircraft	**Second Aircraft** (when longitudinal deviation observed)
Aircraft Identification:		
Name of owner/Operator:		
Aircraft Type:		
Departure Point:		
Destination:		
Route Segment:		
Cleared Track:		
Position where error was observed: (BRG/DIST from fixed point or LAT/LONG)		
Extent of deviation – magnitude and direction: (NM for lateral, min/NM for longitudinal)		
Flight Level:		
Approximated Duration of Deviation (minutes)		
For All Errors		
Action taken by ATC:		
Crew Comments when notified of Deviation:		
Other Comments:		

**** (Please Attach ATS Flight Plan)**

NAVIGATION ERROR INVESTIGATION FORM

PART 2 - **Details of Aircraft, and Navigation and Communications Equipment Fit (To be completed by aircraft owner/operator)**			
LRNS	**Number of Systems** (0, 1, 2 etc.)	**Make**	**Model**
INS			
IRS			
GNSS			
FMS			
Others (please Specify)			
COMS			
HF			
VHF			
SATCOM			
CPDLC			
Which navigation system was coupled to the autopilot at the time of observation of the error?			
Which Navigation Mode was selected at the time of observation of the error?			
Which Communication System was in use at the time of observation of the error?			
Aircraft registration			
Aircraft model/series			
Was the aircraft operating according to PBN requirements?		☐ Yes	☐ No

NAVIGATION ERROR INVESTIGATION FORM

PART 3	**Detailed description of incident** **(To be completed by owner/operator – use separate sheet if required)**
Please give your assessment of the actual track flown by the aircraft, and the cause of the deviation:	
Corrective action proposed:	

PART 4	**To be completed by owner/operator, only in the event of partial or total navigation equipment failure.**		
Navigation System Type	**INS**	**IRS/FMS**	**Others (Please specify)**
Indicate the number of units of each type which failed			
Indicate position at which failure(s) occurred			
Give an estimate of the duration of the equipment failure(s)			
At what time were ATC advised of the failure(s)?			

NAVIGATION ERROR INVESTIGATION FORM

PART 5 **To be completed by investigating agency**		
Have all required data been supplied?	☐ Yes	☐ No
Is further investigation warranted?	☐ Yes	☐ No
Will this incident be the subject of a separate report?	☐ Yes	☐ No
Description of Error:		
Classification: (please tick) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ H ☐ I		
CLASSIFICATION OF NAVIGATION ERRORS		
Cause of Deviation		
Operational Errors		
A	Flight crew deviate without ATC Clearance;	
B	Flight crew incorrect operation or interpretation of airborne equipment (e.g. incorrect operation of fully functional FMS, incorrect transcription of ATC clearance or re-clearance, flight plan followed rather than ATC clearance, original clearance followed instead of re-clearance etc.);	
C	Flight crew waypoint insertion error, due to correct entry of incorrect position or incorrect entry of correct position;	
D	ATC system loop error (e.g. ATC issues incorrect clearance, Flight crew misunderstands clearance message etc);	
E	Coordination errors in the ATC-unit-to-ATC-unit transfer of control responsibility;	
Deviation due to navigational errors		
F	Navigation errors, including equipment failure of which notification was not received by ATC or notified too late for action;	
Deviation due to Meteorological Condition		
G	Turbulence or other weather related causes (other than approved);	
Others		
H	An aircraft without PBN approval;	
I	Others (Please specify)	