



International Civil Aviation Organization

Middle East Regional Monitoring Agency Board

Fourteenth Meeting (MIDRMA Board/14)
(Khartoum, Sudan, 1 – 3 February 2016)

Agenda Item 4: RVS M Monitoring and related Technical Issues

LARGE HEIGHT DEVIATION REPORTS

(Presented by MIDRMA)

SUMMARY

This working paper details the recent MIDRMA activities for collecting the Large Height Deviation (LHD) reports from all MIDRMA Member States through the online reporting tool.

Action by the meeting is at paragraph 3.

REFERENCES

- MID RVSM SMR 2014

1. INTRODUCTION

1.1 The level of collision risk resulting from errors in ATC instructions ,emergency and operational procedures in the MID RVSM airspace needs to be assessed in addition to that resulting from technical height-keeping deviations, the primary source of reporting Large Height Deviation is the ATC units providing air traffic control services in the airspace where RVSM is applied, all MIDRMA Member States are required to submit Large Height Deviation Reports which occurred in their FIRs on a monthly basis (preferably as soon as they occur) even if none was reported during the month of reporting.

2. DISCUSSION

2.1 The vertical risk estimation due to atypical errors has been demonstrated to be the major contributor in the overall vertical-risk estimation for the MID RVSM airspace, The final conclusions of the data processed in all the previous SMRs have been severely limited by the continued NIL reporting of Large Height Deviations (LHDs) from some members which does not support a high confidence in the SMRs results, and in order to overcome this problem, the MIDRMA launched a new LHD Report campaign for the 2015 report through the newly developed LHD online reporting tool in order to collect as much data as possible, assess the increasing trend of the operational risk value, identify the factors and further investigate safety improvements to offset the effects.

2.2 The MID RVSM Scrutiny Group has the task to examine the occurrences of large height deviations involving negative unit to unit transfers and other operational and technical errors. In an effort to facilitate the determination whether an event of this type qualifies as a large height deviation.

2.3 The MIDRMA collected all the reported LHDs received for the SMR 2015 reporting period and filtered them to meet the coding system established for this purpose according to ICAO Doc 9574, after that the LHD reports were separated by categories based on the details provided for each deviation, the extreme majority of these reports have no direct or serious risk to the RVSM airspace.

2.4 A sharp decrease in the total LHD duration was observed from the last SMR reporting period, so far only 6 events contributed to operational risk and only one event contributed to technical risk, the total LHD duration is 5 minutes and 22 seconds, taking into consideration that the reporting period for this SMR is not closed yet.

2.5 The MIDRMA is planning to link the LHD online reporting tool directly to the MIDRAS software to warn for any increase of risk in any MID FIR, this feature require the focal points to regularly submit their valid and correct LHD reports as soon as they occur to ensure the warning is issued on time.

2.6 The LHD online reporting tool has been upgraded recently to allow each MIDRMA focal point to do the following:

- a) The ability to submit the investigation outcome in the received LHD report.
- b) The ability to view/export all archived LHDs to an excel sheet.
- c) Created users to monitor LHD reports as requested by each focal point.

2.7 **Appendix A** reflects brief explanations for the received LHD reports from each MIDRMA Member State.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) discuss the contents of **Appendix A**; and
- b) propose any modification/enhancement to the reporting methodology and the online reporting tool.

APPENDIX A

Bahrain LHDs for SMR 2015									
LHD Reports Bahrain / Bahrain									
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	No RVSM App	Reduction Sep Min.	
March	ULADA		1						
	NARMI				1				
April	ULADA		2					1	
July	LONOS					1			
August	LONOS					1			
	DAROR					1			
		0	3	0	1	3	0	1	8

LHD Reports Bahrain / Riyadh									
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	No RVSM App	Reduction Sep Min.	
Jan	DAROR		8		4				
	ULIKA		1						
	NARMI		3		1				
Feb	DAROR		11		4				
	NARMI		1		5				
	ULIKA		1						
March	DAROR		9		2				
	NARMI		7		4				
	ULIKA		1						
April	DAROR	1	3		11				
	NARMI	1	2		2				
May	DAROR		3		5				
	NARMI	1	2		2				
June	DAROR	1	1		6				
	NARMI		1		4				
July	DAROR		2						
	NARMI		1		2				
August	DAROR	1	4		7				
	NARMI		3		2				
Sep	DAROR		2		9				
	NARMI				3				
	ULIKA		1						
Dec	DAROR				1				
		5	67	0	74	0	0	0	146

LHD Reports Bahrain / Jeddah									
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	No RVSM App	Reduction Sep Min.	
Jan	DAROR		3						
	LADNA		3						
	NARMI		1		1				
Feb	LADNA		2						
Mar	DAROR		1						
	LADNA		2		1				
Apr	DAROR	2							
	LADNA	3			1				
May	LADNA		2						
Jun	LADNA		2						
Jul	DAROR		2						
Aug	DAROR		1						
	LADNA	1	3						
	NARMI		1						
Sep	DAROR		3						
		6	26	0	3	0	0	0	35

LHD Reports Bahrain / Kuwait								
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	No RVSM App	Reduction Sep Min.
Jan	RABAP		3		1			
	LONOS		6		7			
Feb	RABAP		1		3			
	LONOS		10		3		1	
Mar	RABAP		1		3			
	LONOS		4		3			
Apr	RABAP				1			
	LONOS	1	5		8			
May	RABAP		1		1			
	LONOS		2		6			
Jun	RABAP		1		2			
	LONOS		2		3			
Jul	RABAP		1		1			
	LONOS		2		5			
Aug	RABAP		2		2			
	LONOS		6		4			
Sep	LONOS		2		3			
	RABAP		1					
	KUVER				1			
Oct	LONOS				1			
Nov	RABAP		1					

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Dec	RABAP		1						
	LONOS		1		3				
		1	53	0	61	0	1	0	116

LHD Reports Bahrain / UAE									
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	No RVSM App	Reduction Sep Min.	
Mar	ORMID				1				
	TUMAK		1		1				
Apr	ALPOB		1						
	TUMAK		1						
May	TUMAK		1						
Jun	ORMID		1						
Jul	TUMAK	1							
Aug	ALPOB		1						
	TUMAK		1						
Sep	ORMID		1						
	TUMAK	1							
		2	8	0	2	0	0	0	12

LHD Reports Bahrain / TEHRAN									
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	No RVSM App	Reduction Sep Min.	
Jan	ALSER				1				
	KUVER		14		7				
	MIDSI		1						
Feb	KUVER		32		3				
Mar	ALSER				1				
	KUVER		30		6				
	MIDSI		2						
Apr	KUVER		18		8				
May	KUVER		15		16				
	MIDSI		1						
Jun	KUVER		10		6				
	MIDSI		1						
Jul	KUVER		5		6				
Aug	KUVER		10		13				
	MIDSI		1						
Sep	KUVER		8		8				
Oct	ALSER				1				
Nov	KUVER				2				
Dec	KUVER		6		4				
		0	154	0	82	0	0	0	236
								Grand total	553

Egypt LHDs for SMR 2015

LHD Reports Cairo / Cairo

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.	
Mar	KITOT		1				1	
May	KITOT		1					
Oct	METSA		2					
		0	4	0	0	0	1	5

LHD Reports Cairo / Amman

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.	
Mar	METSA		1					
		0	1	0	0	0	0	1

LHD Reports Cairo / Riyadh

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.	
Feb	GIBAL		1					
	IMRAD				1			
	KITOT		3		1			
Mar	KITOT		11				1	
	PASAM		2					
Apr	PASAM		7					
May	KITOT		2					
	PASAM		4					
Sep	KITOT							
	PASAM							
Nov	KITOT				1			
Dec	GIBAL		1					
	PASAM		4					
		0	35	0	3	0	1	39

LHD Reports Cairo / Jeddah

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Feb	GIBAL		1				
	KITOT				1		
	PASAM		1				
Mar	GIBAL		2				
	KITOT		17				
PASAM			10		1		
			6				
Apr							
May	GIBAL		1				
	PASAM		4				

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Jun	PASAM		1					
Nov	PASAM		1					
Dec	KITOT				1			
	PASAM		1					
		0	45	0	3	0	0	48

LHD Reports Cairo / Khartoum

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Feb	NUBAR				1		
Mar	NUBAR		3		1		
		0	3	0	2	0	0
							5

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Baghdad LHDs for SMR 2015

LHD Reports Baghdad / Ankara

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jun	NINVA		7				
Jul	NINVA		4				
Dec	KABAN		1				
		0	12	0	0	0	0
							12

LHD Reports Baghdad / Damascus

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jun	MODIK		3				
Dec	MODIK		1				
		0	4	0	0	0	0
							4

LHD Reports Baghdad / Jeddah

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jun	MURIB		2				
		0	2	0	0	0	0
							2

LHD Reports Baghdad / Kuwait

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Mar	ILMAP		3				
	SIDAD		1				

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Apr	ILMAP		20					
	PEBAD		22					
May	ILMAP		3					
	PEBAD		4					
Jun	PEBAD		2					
	TASMI		17					
Jul	ILMAP		7					
	TASMI		25					
Aug	TASMI		41					
Sep	SIDAD		5					
	TASMI		5					
Oct	TASMI		3					
		0	158	0	0	0	0	158

LHD Reports Baghdad / Tehran

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.	
Oct	RAGET		1		2			
		0	1	0	2	0	0	3

Total 179

Amman LHDs for SMR 2015

LHD Reports Amman / Amman

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.	
Jul	RASLI		2					
		0	2	0	0	0	0	2

LHD Reports Amman / Baghdad

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.	
Sep	PASIP		1					
		0	1	0	0	0	0	1

LHD Reports Amman / Cairo

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.	
Feb	METSA		5					
Mar	METSA		1					
Apr	METSA		1					
May	METSA		2					
Aug	METSA		2					
Sep	METSA		1					
		0	12	0	0	0	0	12

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LHD Reports Amman / Damascus							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
May	ZELAF		1				
Sep	ZELAF		1				
		0	2	0	0	0	0
							2

LHD Reports Amman / Jeddah							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jun	GIBET		1				
Sep	GIBET		2				
		0	3	0	0	0	0
							3

LHD Reports Amman / Riyadh							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Aug	GIBET		2				
	SODAR		1				
	OTILLA		1				
		0	4	0	0	0	0
							4

Kuwait LHDs for SMR 2015

LHD Reports Kuwait / Kuwait

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Mar	SIDAD		1				
		0	1	0	0	0	0
							1

LHD Reports Kuwait / Baghdad

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jan	SIDAD		1				
Mar	SIDAD		42		1		
	HFRBN		1				
Apr	SIDAD		81				
May	SIDAD		30				
Jun	DERKO		1				
	SIDAD		36				
Jul	DERKO		1				
	SIDAD		19		1		
Aug	SIDAD		31				
Sep	SIDAD		8				
Oct	SIDAD		3		3		
Nov	SIDAD		19		1		
Dec	SIDAD		5		1		
		0	278	0	7	0	0
							285

LHD Reports Kuwait / Bahrain

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Dec	DAVUS				1		
		0	0	0	1	0	0
							1

LHD Reports Kuwait / Jeddah

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jan	DERKO		1				
Mar	DERKO		18				
Apr	ALHFR		1				
	DERKO		19				
May	DERKO		25				
Jun	DERKO		10				
Jul	DERKO		8				
Aug	DERKO		16				
	SIDAD		1				
Sep	DERKO		7				

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Oct	DERKO		1				
Nov	DERKO		9				
		0	116	0	0	0	0
							116

LHD Reports Kuwait / Tehran

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Mar	NANPI		1				
	TULAX		2				
Apr	TULAX		1				
Jul	TULAX		1				
Sep	TULAX		1				
		0	6	0	0	0	0
							6

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Iran LHDs for SMR 2015

LHD Reports Iran / Bahrain

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Apr	ULADA						1
		0	0	0	0	0	0
							1

LHD Reports Iran / UAE

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Aug	GABKO		3				
		0	3	0	0	0	0
							3

LHD Reports Iran / Karachi

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jul	JIWNI				2		
		0	0		2	0	0
							2

LHD Reports Iran / Kuwait

Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
May	NANPI				1		
Sep	NANPI				1		
		0	0		2	0	0
							2

LHD Reports Iran / Muscat

Month s	Reportin g Points	Late Estim at e	No Estim at e	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
May	DENDA		1				
	IMLOT		1				
		0	2	0	0	0	0

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Oman LHDs for SMR 2015

LHD Reports Oman / Emirates

Month s	Reportin g Points	Late Estim at e	No Estim at e	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Aug	TONVO		1				
Oct	LABRI		1				
Dec	LALDO		1				
		0	3	0	0	0	0

LHD Reports Oman / Jeddah

Month s	Reportin g Points	Late Estim at e	No Estim at e	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Apr	TOKRA				1		
Aug	DERKO		1				
Nov	TOKRA		1				
Dec	TOKRA				1		
		0	2	0	2	0	0

LHD Reports Oman / Karachi

Month s	Reportin g Points	Late Estim at e	No Estim at e	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Apr	TAPDO		1				
Oct	ALPOR		1				
	TAPDO		1		2		
Nov	TAPDO		1		3		
Dec	TAPDO				2		
		0	4	0	7	0	0

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LHD Reports Oman / Sana'a							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Nov	IMKAD		3				
Dec	IMKAD		1				
		0	4	0	0	0	0
							4

LHD Reports Oman / Mumbai							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Apr	LOTAV				1		
	REXOD		1				
Oct	LOTAV			1			
	RASKI		1				
Nov	PARAR		1				
	REXOD			1			
		0	3	2	1	0	0
							6

LHD Reports Oman / Tehran							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
May	DENDA				1		
Sep	DENDA		2		1		
	MESPO		1				
Oct	DENDA	1			1		
Nov	DENDA				1		
	MESPO		1		1		
Dec	DENDA		1				
		1	5	0	5	0	0
							11

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Saudi LHDs for SMR 2015							
LHD Reports Saudi / Amman							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Feb	DEESA		1	1			
	RASLI		1		1		
Apr	DEESA		6	1			
	RASLI		3				
May	ULADA		1				
Jul	DEESA		2				
Aug	DEESA		2				
	RASLI		2				
		0	18	2	1	0	0
							21

LHD Reports Saudi / Baghdad							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jul	SIDAD		1				
		0	1	0	0	0	0
							1

LHD Reports Saudi / Bahrain							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jan	ULADA		2		1		
Feb	ULADA		1				
Apr	DAROR		1				
	MURIB		1				
	ULADA	1	2		1		1
May	ULADA		1		1		3
Jun	ULADA	1			1		4
Jul	ULADA		2				2
Aug	ULADA		1				6
	ULIKA		1				
Sep	ULADA		1				
		2	12	0	4	0	16
							35

LHD Reports Saudi / Cairo							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jan	KITOT		2				
Feb	KITOT	1	1		1		4
Apr	KITOT	1	9				
May	KITOT		3				
Jun	KITOT		1				
Jul	KITOT		3	1			
Aug	KITOT				1		
	SILKA						1
		2	19	1	2	0	5
							29

LHD Reports Saudi / Emirates							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jan	DAROR				1		
	ULADA		1				
		0	1	0	1	0	0
							2

LHD Reports Saudi / Kuwait							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Feb	DEKOB		2				

LHD Reports Emirates / Emirates							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Jan	TANGA				1		
Feb	ROVOS						
	TOMSO					1	
May	DESDI				1		
	NOBTO					1	
Jul	LUDID		1				
	MEMBI				1		
Aug	KAPUM				1		
Dec	KIPOD				1		
	TOMSO				1		
		0	1	0	6	2	0
							9

LHD Reports Emirates / Jeddah							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
May	KITAP				2		
Jun	KITAP		1		1		
		0	1	0	3	0	0
							4

LHD Reports Emirates / Muscat							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Mar	ITRAX				1		
	SOLUD				1		
Apr	ITRAX		1				
	LALDO		1				
	MENSA				2		
May	LALDO		1		3		
	SODEX		2		1		
	SOLUD				2		
Jun	ITRAX		1				
	LALDO		2				
	LUDID				1		
	SODEX				3		
Jul	LUDID		2				
	MENSA				2		
	SODEX				1		
Aug	MENSA		1				
Sep	LALDO		1		1		
	MENSA		2	1	1		
Nov	ITRAX		1				
	SODEX				1		
		0	15	1	20	0	0
							36

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LHD Reports Emirates / Tehran							
Months	Reporting Points	Late Estimate	No Estimate	Wrong Route	No Level Revision	Level Bust	Reduction Sep Min.
Mar	DARAX				1		
	TATLA				1		
May	TATLA				1		
Jun	DARAX				1		
Jul	ORSAR				1		
Sep	ORSAR		1		1		
	SIRII		1				
Oct	PATAT		1				
		0	3		6	0	0
							9

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