



International Civil Aviation Organization

Middle East Regional Monitoring Agency Board

Fifteenth Meeting (MIDRMA Board/15)
(Muscat, Oman, 29 – 31 January 2018)

Agenda Item 4: RVSM 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 LHD Online Reporting System.

Action by the meeting is at paragraph 3.

REFERENCES

- MID RVSM SMR 2016 Report Ver. 0.1

1. INTRODUCTION

1.1 ICAO Doc 9574 - Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive requires that ATC Authorities are responsible for reporting Large Height Deviations (LHDs) to the responsible Regional Monitoring Agency (RMA).

1.2 The Large Height Deviation is defined as a vertical deviation from an ATC assigned or coordinated altitude that results in an error of 300 ft or more. The deviation may be the result of human error, equipment malfunction or environmental factors such as turbulence, and should be reported in accordance with the LHD types.

2. DISCUSSION

2.1 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 are 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.

2.2 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 continued to enhance and modify the LHD online reporting system which is the first system ever developed by an RMA, the system helped to assess the increasing trend of the operational risk value, identify the factors and further investigate safety improvements to offset the effects.

2.3 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 and included in calculating all RVSM SMR safety parameters.

2.4 The MIDRMA collected all the reported LHDs received for SMR 2016 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.

2.5 The MIDRMA noticed during the reporting period of SMR 2016 that there was an increase in the number of reports between Muscat and Mumbai FIRs, also between Muscat and Karachi FIRs. However, the number of LHD reports with Mumbai is much more because of the high density of traffic between the two FIRs. This issue was under continuous review by the MIDRMA and MAAR, both RMAs agreed to escalate the increase in LHD reports to the concerned ATC authorities and to ICAO Regional Offices in Cairo and Bangkok and explore ways to eliminate or reduce these reports to an accepting level. The MIDRMA agreed with MAAR to allow Muscat, Mumbai and Karachi ACCs to address and exchange the LHD reports directly between each other's but under the supervision of both RMAs and make sure the concerned ATC units are investigating these reports and reply with their outcomes and their corrective actions if needed.

2.6 Follow-up to the outcome of the African Region (AFI)-Asia/Pacific Region (APAC) Middle East Region (MID) Air Traffic Management (ATM) Special Coordination Meeting (AAMA/SCM, Mumbai, India 19 - 20 January 2017), the ICAO MID Office convened the APAC/MID ATM Special Coordination meeting on 21 May 2017. India, Oman and Yemen as well as the MIDRMA attended the meeting. The issue of high number of Large Height Deviation reports was addressed during this meeting and discussed the LHD reports related to Muscat and Mumbai FIRs and agreed on measures that would improve the coordination between Mumbai and Muscat ACCs and reduce the coordination failures, such as the establishment of new sectors in the ACCs, fixing new direct lines and AIDC implementation which was scheduled to start testing by end of June 2017.

Note: The MIDRMA would like to bring the attention of the meeting that the number of LHD reports between Mumbai/Karachi and Muscat FIRs recently increased and reached to an alarming level which requires immediate intervention from all concerned ATSU's to work in corrective measures as soon as possible.

2.7 The MIDRMA noticed the number of LHD reports between Bahrain and Emirates ACCs reduced very sharp after the implementation of OLDI on 13th June 2017 which improved the exchange of air traffic between the two ATC units and proved as one of the best solutions to overcome problems of coordination failures between ACCs. The MIDRMA strongly recommend the implementation of OLDI (or AIDC as appropriate) in all MIDRMA Member State ACCs which will improve the exchange of flight data much more quickly and accurately.

2.8 Through the evaluation review for the LHD reports valid for SMRs 2015 and 2016, the MIDRMA noticed that very few Member States are investigating the reported LHDs related to their FIRs and they reply with their outcomes and their corrective actions. The meeting may wish to note that the Online LHD System was upgraded recently and allow all Member States to forward their reports directly to the concerned focal points responsible to receive the LHD reports and allow them to reply with their outcomes in the same report which will be archived for future analysis.

2.9 With effect of 01st Jan 2018, the MIDRMA programmed the Online LHD system automatically to issue a monthly statistic of all LHD reports filed related to each Member State which will be addressed to the focal point responsible for receiving and investigating these reports for their necessary action and follow up and shall reflect the status of these reports in the SMR if they were acknowledged/investigated.

Note: The monthly statistic LHD Reports will be sent to all focal points at the beginning of each month.

2.10 **Appendix A** of this working paper 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 discuss:

- a) the increase of LHD reports between Muscat and Mumbai/Karachi FIRs; and
- b) the contents of **Appendix A** and propose any modification/enhancement in the reporting methodology and in the online reporting system.

APPENDIX A

Bahrain LHDs

LHD Reports Bahrain / Bahrain								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
January	TUMAK							
December	LONOS							

LHD Reports Bahrain / Emirates								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	ALPOB		1					
	TUMAK		1					
September	TUMAK	1						
	ORMID		1					

LHD Reports Bahrain / Jeddah								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	LADNA		2					
September	DAROR		3					
March	LADNA		1					
June	NARMI		1					
October	LADNA		1					
	DAROR		1					
January	LADNA		1					

LHD Reports Bahrain / Kuwait								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	LONOS		5	1				
September	LONOS		2	4				
	RABAP		1					
	KUVER			1				
October	LONOS		2	1				
	RABAP		2					
November	RABAP		1					
	LONOS		1					
December	LONOS		5	3				
	RABAP		1					
January	LONOS		4	5				
	RABAP		1	1				
February	LONOS		1	7				
	RABAP			1				
March	RABAP		1					
	LONOS		1	1				
April	LONOS		7	2				
	RABAP		4					
July	LONOS		1					
May	RABAP		1					

LHD Reports Bahrain / Riyadh								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	DAROR	1	2	1				
September	DAROR		6	9				
	NARMI			3				
	ULIKA		1					

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December	DAROR			1				
	NARMI		2	1				
January	DAROR		1	1				
February	NARMI		1	1				
	DAROR		3					
March	NARMI			1				
	DAROR		2	1				
June	NARMI		1					
	DAROR			1				
October	DAROR		2					
	NARMI		1					
November	DAROR		1					
	NARMI		1					
April	DAROR		2					
	NARMI		1					
July	DAROR		1					
	NARMI		1					

LHD Reports Bahrain / Tehran								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	MIDSI		2					
	KUVER		6	4				
September	KUVER		9	7				
October	ALSER			1				
	KUVER		6					
November	KUVER		2	2				
December	KUVER		12	4				
	MIDSI							
January	KUVER		17	1				
	DAROR			1				

February	KUVER		14	2				
March	KUVER		5	2				
April	KUVER		24	10				
May	KUVER		3					
June	KUVER		1					
	MIDSI		1					
July	KUVER		2					

Cairo LHDs

LHD Reports Cairo / Athens

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
May	SALUN		1					
November	SALUN			2				

LHD Reports Cairo / Baghdad

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
October	METSA		1					

LHD Reports Cairo / Cairo

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
October	METSA		2					

LHD Reports Cairo / Jeddah

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
November	PASAM		3					

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December	KITOT		1					
	PASAM		4					
January	PASAM		2					
	KITOT		2					
May	GIBAL		1					
	KITOT		1					

LHD Reports Cairo / Khartoum

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
May	NUBAR		1	1				
December	NUBAR							
November	ATMUL		2					
	NUBAR		1					

LHD Reports Cairo / Nicosia

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
November	RASDA		2	1				
April	RASDA		1					

LHD Reports Cairo / Riyadh

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	KITOT							
November	KITOT		3					
December	PASAM		5					
	GIBAL		1					
January	GIBAL		1					
	PASAM		1					

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	KITOT		1					
August	PASAM		1	1				
	KITOT		2					

Tehran LHDs

LHD Reports Tehran / Baghdad

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
July	PAXAT		4					

LHD Reports Tehran / Bahrain

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
December	RAGAS		1					
May	RAGAS		1					
	ROTOX		1					
June	RAGAS		2					
	ROTOX		1					
March	RAGAS		2					
July	RAGAS		1					
August	ROTOX			1				

LHD Reports Tehran / Emirates

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	GABKO		3					
March	GABKO		2					
May	GABKO		1					

LHD Reports Tehran / Kabul

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
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November	SOKAM		2					
	CHARN		1					
June	SOKAM		2					
July	SOKAM		5					
August	SOKAM		6					

LHD Reports Tehran / Karachi

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
March	JIWNI		1					
	KEBUD			1				
	ASVIB		1					
	DERBO		1					
October	KEBUD			1				
	JIWAN		1	4				
	ASVIB			2				
November	JIWAN			1				
June	JIWAN			1				
	ASVIB		1	1				
	DERBO		1					
August	ASVIB			4				

LHD Reports Tehran / Kuwait

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	NANPI							
	TULAX		5					
April	TULAX		5					
	NANPI		10					
May	TULAX		1					
	NANPI		1					
August	NANPI		1	1				
March	NANPI		26					
	TULAX		28					

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	PATIR		1					
June	NANPI		6					
	TULAX		9					
July	NANPI		5					
	TULAX		4					
November	TULAX		5					

LHD Reports Tehran / Muscat

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	DENDA			1				
March	DENDA			1				
May	DENDA			2				
June	DENDA		2					
	IMLOT		3					
	ULDUN		2					
July	MESPO		5	1				
	NANPI			1				
	IMLOT		1					
September	ULDUN		1					
October	JIWAN			1				
November	ULDUN		1					
	IMLOT		1					

LHD Reports Tehran / Turkmenbashi

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
December	SAVEH							

Baghdad LHDs

LHD Reports Baghdad / Ankara

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Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
December	KABAN		1					
August	NINVA		1					
	RATVO		2	1				
October	NINVA		1					
	RATVO		3					
June	RATVO		7					
September	RATVO		1					

LHD Reports Baghdad / Baghdad

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
July	LATSI		1					
	TASMI		1					

LHD Reports Baghdad / Damascus

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
December	MODIK		1					
May	MODIK		2					
June	MODIK		4					
July	MODIK		7					
September	MODIK		5					
October	MODIK		2					

LHD Reports Baghdad / Jeddah

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
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September	MURIB		1					
April	MURIB		1					
May	MURIB		3					

LHD Reports Baghdad / Kuwait

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	TASMI		17					
September	TASMI		8					
	SIDAD		5					
October	TASMI		19					
	RATVO		1					
May	TASMI		13					
June	TASMI		10					
July	LATSI		4					
	TASMI		10					
November	TASMI		2					
December	TASMI		3					
January	TASMI		2					
	LATSI		1					
March	TASMI		1					
April	TASMI		11					

LHD Reports Baghdad / Riyadh

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	MURIB		1					

LHD Reports Baghdad / Tehran

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Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
October	RAGET		3					
May	PAXAT			1				
July	TASMI		1					

Amman LHDs

LHD Reports Amman / Baghdad

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	PASIP		2					
March	PASIP		1					
August	PASIP		4					
June	PASIP		1					
July	PASIP		1					

LHD Reports Amman / Cairo

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	METSA		2	1				
September	METSA		1					
March	METSA		2					
July	METSA			2				
December	ULINA		1	1				

LHD Reports Amman / Damascus

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	ZELAF		1					
March	ZELAF		1					

LHD Reports Amman / Jeddah								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	GIBET		2					

LHD Reports Amman / Riyadh								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	GIBET		2					
	SODAR		1					
	OTILA		1					

Riyadh LHDs

LHD Reports Riyadh / Amman								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
January	DEESA							
	RASLI		1					

LHD Reports Riyadh / Bahrain								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
July	ULADA			1				
August	ULADA		1					
September	ULADA		3					

LHD Reports Riyadh / Cairo								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others

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December	PASAM		1					
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LHD Reports Riyadh / Kuwait

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	DEKOB			1				

LHD Reports Riyadh / Riyadh

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
July	ULADA		1					

Jeddah LHDs

LHD Reports Jeddah / Bahrain

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	ULADA		1					

LHD Reports Jeddah / Cairo

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
November	PASAM						1	
December	SILKA		3					

	DASPA		1					
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LHD Reports Jeddah / Kuwait

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
December	DERKO		1					

LHD Reports Jeddah / Muscat

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
December	TOKRA		1					

Kuwait LHDs

LHD Reports Kuwait / Baghdad

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	SIDAD		30	1				
August	SIDAD		40	1				
October	SIDAD		26	3				
November	SIDAD		28	1				
December	SIDAD		16	1				
January	SIDAD		13	1				
February	SIDAD		40					
March	SIDAD		17					
June	SIDAD		8					
July	SIDAD		46					

LHD Reports Kuwait / Bahrain

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Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
December	DAVUS		1	1				
August	DAVUS		1					
October	DAVUS			1				
March	SIDAD		1					
July	DAVUS		2					

LHD Reports Kuwait / Jeddah

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	DERKO		18					
October	DERKO		9					
	WAFRA							
November	DERKO		15					
	SIDAD		1					
December	DERKO		10					
January	DERKO		3					
February	DERKO		2					
March	DERKO		6					
June	DERKO		11					
July	DERKO		21					
	HFRRR		1					
August	DERKO		7					

LHD Reports Kuwait / Riyadh

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
June	COPPI		1					

September	DERKO			1				
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LHD Reports Kuwait / Tehran

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	TULAX		1					
	DERKO		1					
August	TULAX		3					
	SIDAD		1					
February	TULAX		1					

Muscat LHDs

LHD Reports Muscat / Emirates

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
October	LABRI		2					
	LALDO		1					
December	LALDO		1					
	LABRI			1				
May	TARDI			1				
	LALDO		1					
July	LABRI		2					
	LALDO		1					
August	TARDI		3					
November	LALDO		1					
	TONVO			1				
	TARDI	1		1				
March	LALDO		1					
April	TONVO		2					
September	LALDO		2					
	TONVO			1				

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LHD Reports Muscat / Jeddah								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
November	TOKRA		11	2				
	GOBRO		1					
December	TOKRA		1	3				
	GOBRO		1					
July	GOBRO		1	1				
	TOKRA		1					
August	TOKRA		2	4				
	GOBRO		1					
October	TOKRA		18	2				
	GOBRO		4					
February	TOKRA		2	6				
	GOBRO		1					
March	TOKRA		4	1				
	GOBRO		1					
April	TOKRA		8	1				
	GOBRO		1					
May	TOKRA		1	3				
	GOBRO		1					
September	TOKRA		7	8				
	GOBRO		1	1				

LHD Reports Muscat / Karachi								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
October	ALPOR		1					
	TAPDO		11	5				
	DENDA			1				
November	TAPDO		5	10				
December	TAPDO		2	5				
May	TAPDO		3	2				
July	TAPDO		1					

February	TAPDO		2	1				
March	TAPDO			4				
	IMLOT			1				
April	TAPDO		2	7				
August	TAPDO		1	1				
September	TAPDO		3	2				

LHD Reports Muscat / Mumbai								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
October	LOTAV		2	2				
	RASKI		2					
	KITAL		2	1				
	TOTOX			1				
	ASPUX		1					
	REXOD		2					
November	PARAR		1	2				
	REXOD		1					
	TOTOX		1					
	LOTAV		1					
January	KITAL			1				
	RASKI			1				
	PARAR			1				
March	TOTOX		1	1				
	RASKI		1	2				
	LOTAV		1					
	ASPUX		1					
	PARAR	1						
July	PARAR		2	1				
	LOTAV		1	1				
	TOTOX		2					
	KITAL	1	1					

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	RASKI		1	1				
August	TOTOX		2					
	RASKI			1				
	LOTAV		1					
	PARAR		1	1				
December	RASKI		1	5				
	LOTAV		1					
	TOTOX		1					
	KITAL		1					
February	TOTOX		1					
	RASKI			1				
April	RASKI			2				
	LOTAV			1				
September	RASKI			2				
	KIVEL		1					
	LOTAV		1					
	KITAL		1	1				
	TOTOX		3					
	PARAR		2					

LHD Reports Muscat / Muscat

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
January	PARAR			1				

LHD Reports Muscat / Sana'a

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
November	IMKAD		3	1				
	KIVEL			1				
December	IMKAD		2	1				
March	KIVEL			2				
	IMKAD			2				

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May	KIVEL			1				
July	IMKAD		1					
August	IMKAD		1					
September	IMKAD		1					
October	IMKAD		1					
	KIVEL		1					

LHD Reports Muscat / Tehran								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
May	DENDA		4	5				
	IMLOT		4	5				
September	DENDA		14	3				
	MESPO		7	2				
	ULDUN		20	6				
	IMLOT		1	2				
October	DENDA	1	7	3				
	MESPO		6	10				
	ULDUN		24	5				
	IMLOT		3	2				
	TOKRA		1					
November	MESPO		10	8				
	DENDA	1	8	5				
	IMLOT		4	2				
	ULDUN	1	18	7				
December	DENDA		5	2				
	IMLOT		3	1				
	MESPO		1					

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January	IMLOT		2					
	DENDA		3					
April	IMLOT		3	9				
	DENDA		1	2				
March	DENDA		1	4				
	LALDO		2					
	IMLOT		5	4				
	TAPDO			1				
	MESPO		1					
June	MESPO		2					
	IMLOT		1					
July	IMLOT		1					
	DENDA		3	1				
	MESPO		1					
August	IMLOT		1	2				
	MESPO		2	8				
	DENDA		4	2				
	ULDUN		2	2				
	RASKI		1					
February	DENDA		2	7				
	IMLOT			4				
	MESPO		1	2				

Khartoum LHDs

LHD Reports Khartoum / Addis Ababa

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
May	AVONO		1					

LHD Reports Khartoum / Cairo

Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
November	NUBAR		2					
December	NUBAR		9					

LHD Reports Khartoum / Jeddah								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
February	KAROX		3					

LHD Reports Khartoum / Nairobi								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
March	EPLAS		1					

Emirates LHDs

LHD Reports Emirates / Bahrain								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	ORSIS			1				
	RESAR		1					
September	DEGSO		1					
January	RESAR			1				
February	TOSNA		1					
June	RESAR			1				
May	OVONA		1					

LHD Reports Emirates / Emirates								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
July	MEMBI			1				
August	KAPUM			1				
December	KIPOD			1				
	TOMSO			1				
February	ALPOB			1				
	ITITA			1				
April	DANOK			1				
May	BOXAK			1				
	DESDI			1				
	MENSA		1					
June	EMAGO			1				
	ALPEK			1				
	ITROK			1				

LHD Reports Emirates / Jeddah								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
December	KITAP			1				
January	KITAP		1	1				
	ALPEK		1					
November	KITAP		1					
February	ALPEK		1					
March	KITAP	1						
May	KITAP		1					
August	TANSU			1				
	ALPEK		1	1				

LHD Reports Emirates / Muscat								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
August	MENSA		2					
	SODEX		1					
September	MENSA		3	2				
	LALDO		2	1				
November	ITRAX		1					
	SODEX			1				
	LUDID		1	1				
December	ITRAX		1	1				
	MENSA		1	2				
	SOLUD			1				
	LALDO		1					
	LUDID		1					
January	SODEX			2				
	MENSA		1	1				
	LUDID			2				

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February	MENSA		2	1				
	SODEX		1	1				
March	MENSA		1	1				
	SODEX			1				
April	ITRAX		2					
	MENSA		1					
	KITAP		1					
June	SOLUD		1					
May	MENSA		2					

LHD Reports Emirates / Tehran								
Months	Reporting Points	Late Estimate	No Estimate	No Level Revision	Violation of LOA	No Time Revision	Unknown TFC at Wrong Level	Others
September	ORSAR		1	1				
	SIRII		1					
October	PATAT		1					
January	ORSAR		1	1				
	NALTA			1				
February	SIRII			1				
March	SIRII			2				
November	PATAT		1					
August	DAPER			1				

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