

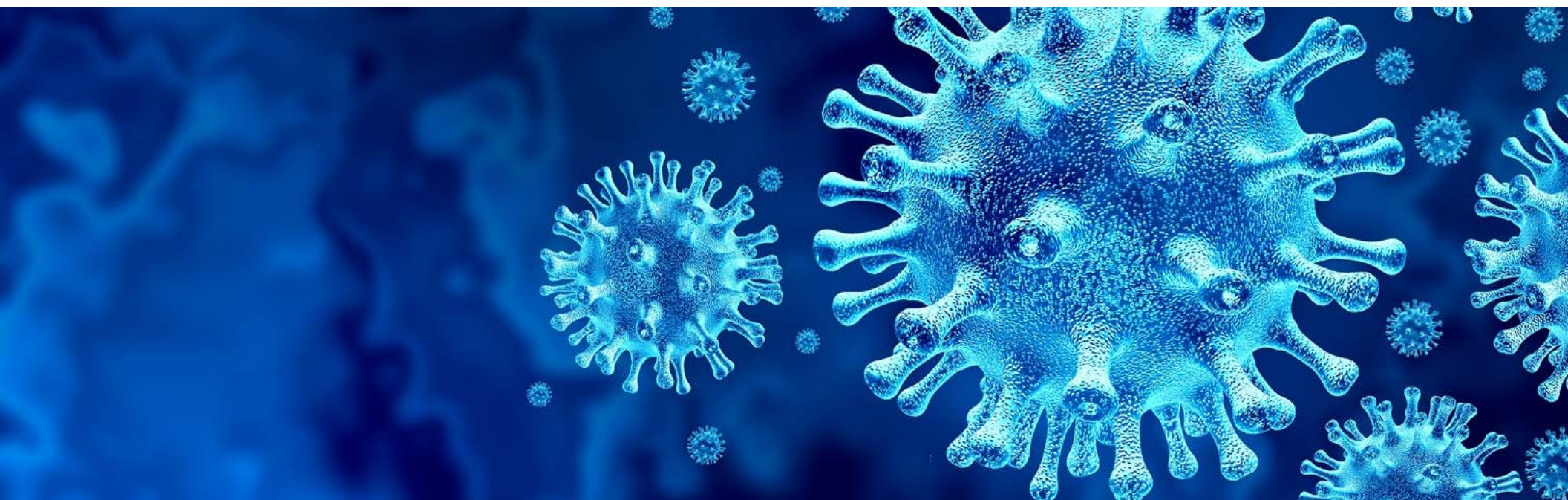


ICAO MID

# MSG/7 meeting (1-3 September 2020)

Agenda item 4: Air Navigation Safety Matters

MID RVSM SMRs





## **RVSM SMR2018, 2019 AND 2020**

- SMR 2018
- SMR 2019 & 2020
- Action by the meeting



## SMR2018

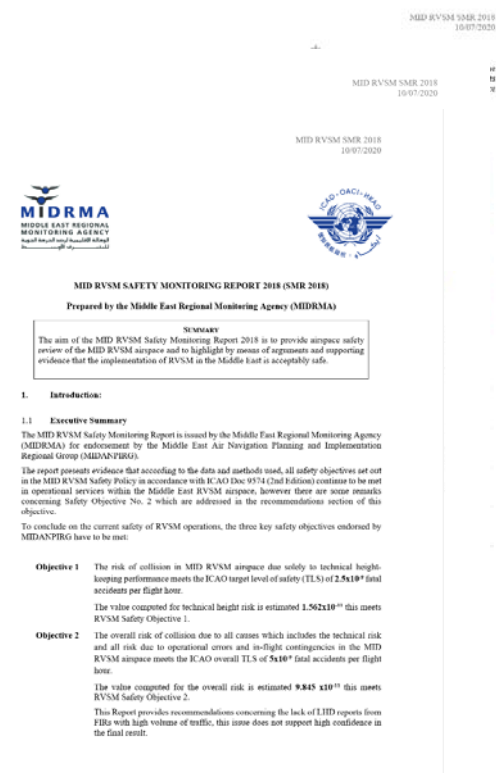
- Reporting period: 1 Aug 2018 – 31 July 2019
- TDS for the period: 1 – 31 Aug 2018

Beirut, Damascus and Tripoli FIRs were excluded from the safety analysis due to lack of data.

- LHD reporting:

**only Bahrain and UAE** continued to send their LHD reports of all categories as they always used to do for all the previous SMRs,

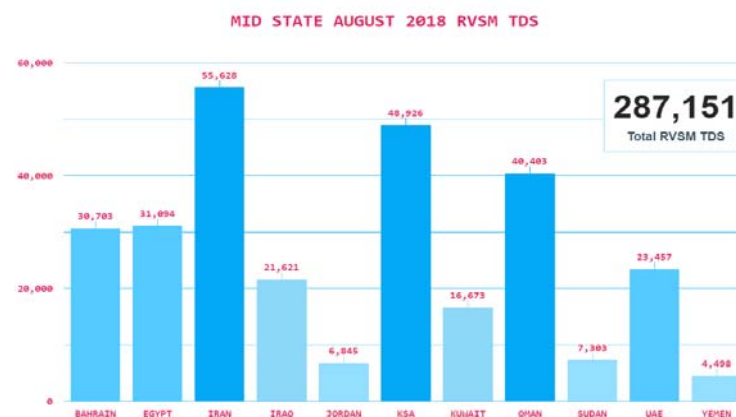
while only few member States sent NIL LHD reports or LHD reports category E which have no influence on the processing of the overall vertical collision risk within the Middle East RVSM airspace



## SMR2018

| MID States   | Status           | Remarks                      |
|--------------|------------------|------------------------------|
| Bahrain FIR  | Accepted         | Received on time (Corrupted) |
| Cairo FIR    | Accepted         | Received on time (Corrupted) |
| Amman FIR    | Accepted         | Received on time             |
| Muscat FIR   | Accepted         | Received on time             |
| Tehran FIR   | Accepted         | Received late (Corrupted)    |
| Khartoum FIR | Accepted         | Received on time             |
| Emirates FIR | Accepted         | Received on time             |
| Damascus FIR | No TDS Submitted | Excluded                     |
| Sana'a FIR   | Accepted         | Received on time             |
| Jeddah FIR   | Accepted         | Received late (Corrupted)    |
| Beirut FIR   | No TDS Submitted | Excluded                     |
| Baghdad FIR  | Accepted         | Received late (Corrupted)    |
| Kuwait FIR   | Accepted         | Received late (Corrupted)    |
| Tripoli FIR  | No TDS Submitted | Excluded                     |
| Total        | 11 FIRs          |                              |

Table 1; Status of the MID States RVSM Traffic Data Sample (TDS) for August 2018



| Technical Risk Values  |                         |                         |                         |                         |
|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Year 2006              | Year 2008               | Year 2010               | Year 2011               | Year 2012/13            |
| $2.17 \times 10^{-14}$ | $1.93 \times 10^{-13}$  | $3.96 \times 10^{-15}$  | $5.08 \times 10^{-14}$  | $6.37 \times 10^{-12}$  |
| Year 2014              | Year 2015               | Year 2016               | Year 2017               | Year 2018               |
| $3.18 \times 10^{-12}$ | $3.056 \times 10^{-10}$ | $6.347 \times 10^{-11}$ | $4.966 \times 10^{-11}$ | $1.562 \times 10^{-11}$ |

According to the technical risk values as shown in the above graph the TLS values still, meet the ICAO TLS.





## SMR2018

### TECHNICAL HEIGHT KEEPING PERFORMANCE RISK ASSESSMENT:

#### Objective 1: Conclusions on Technical Vertical Collision Risk:

- The current computed vertical-collision risk due to technical height-keeping performance **meets the ICAO TLS**.
- The probability of vertical-overlap estimate,  $P_z(1000)$ , **satisfies the global system performance specification**.
- Most monitoring groups **are complying with ICAO TVE component requirements** (also known as technical height-keeping group requirements).

#### Recommendations for Safety Objective 1:

- The MIDRMA shall continue to review the content and structure of its aircraft monitoring groups.
- The MIDRMA shall keep the methods of calculating the technical CRM parameters and the risk due to technical height keeping errors under review and explore more options to enhance the MID Risk Analysis Software (MIDRAS).
- The MIDRMA shall carry out continuous survey and investigation on the number and causes of non-approved aircraft operating in RVSM airspace.

MID RVSM SMR 2018  
10/07/2020

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#### TECHNICAL HEIGHT KEEPING PERFORMANCE RISK ASSESSMENT

##### RVSM Safety Objective 1

The risk of collision in MID RVSM airspace due solely to technical height-keeping performance meets the ICAO target level of safety (TLS) of  $2.5 \times 10^{-6}$  fatal accidents per flight hour.

##### 2.3.1. Direct evidence of compliance with TLS for Technical Height-Keeping Error

The result shows the risk of collision due to technical height-keeping performance is estimated to be  $1.562 \times 10^{-11}$  fatal accidents per flight hour, which is less than the ICAO TLS  $2.5 \times 10^{-6}$ .

##### 2.3.2 Supporting evidence of compliance with TLS for technical height-keeping performance

To demonstrate that the result is reliable, it is necessary to demonstrate that the following assumptions are true:

- The estimated value of the frequency of horizontal overlap, used in the computations of vertical-collision risk, is valid;
- $P_z(1000)$  – the probability of vertical overlap due to technical height-keeping performance, between aircraft flying 1000 ft separation in MID RVSM airspace is estimated  $1.95 \times 10^{-10}$  valid and is less than the ICAO requirement of  $1.7 \times 10^{-4}$ ;
- All aircraft flying with 1000ft vertical separation in MID RVSM airspace meet the ICAO Global Height Keeping Performance specifications for RVSM;
- All aircraft flying 1000ft separation in MID RVSM airspace meet the individual ICAO performance specification for the components of total vertical error (TVE);
- The monitoring target for the MID RVSM height-monitoring programme is an ongoing process;
- The input data used by the CRM is valid;
- An adequate process is in place to investigate and correct problems in aircraft technical height-keeping performance.

##### 2.3.3 Calculating the Probability of Lateral Overlap ( $P_y(0)$ )

The probability of lateral overlap  $P_y(0)$  is the probability of two aircraft being in lateral overlap which are nominally flying on (adjacent flight levels of) the same route. The calculation of the  $P_y(0)$  for the SMR 2018 has the following to consider:

- The MIDRMA continued to calculate the probability of lateral overlap  $P_y(0)$  for all the MID RVSM airspace as per the ICAO methodology developed for this purpose and derived by the MID Risk Analysis Software (MIDRAS);
- The MIDRMA calculated the average of the probability of lateral overlap  $P_y(0)$  for the whole MID RVSM airspace is estimated to be  $1.229 \times 10^{-11}$ ;
- Overall, the results are considered to be valid.

##### 2.3.4 $P_z(1000)$ Compliance

The  $P_z(1000)$  is the probability that two aircraft at adjacent RVSM flight levels will lose vertical separation due to technical height keeping errors. The value of the probability of vertical overlap  $P_z(1000)$ , based on the actual observed ASE and typical AAD data is



## SMR2018

### Objective 2:

#### Results:

The overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies in the MID RVSM airspace meets the ICAO overall TLS of  $5 \times 10^{-9}$  fatal accidents per flight hour.

**The value computed for the overall risk is estimated  $9.845 \times 10^{-11}$  this meets RVSM Safety Objective 2.**

#### Conclusions to safety objective 2:

- a. The overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies in the MID RVSM airspace, estimated from the operational and technical vertical risks, **With the concern raised regarding representativeness of the data received in particular with regard to the LHD reports Categories A, B, C, D, J and K from FIRs with high volume of traffic,**
- b. Even for the most optimistic forecast of 13% traffic growth, the overall risk of collision will continue to meet the TLS at least until 2022.

MID RVSM SMR 2018  
10/07/2020

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#### 2.5 ASSESSMENT OF OVERALL RISK DUE TO ALL CAUSES AGAINST THE TLS OF $5 \times 10^{-9}$ FATAL ACCIDENTS PER FLIGHT HOUR

##### RVSM Safety Objective 2

The overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies in the MID RVSM airspace meets the ICAO overall TLS of  $5 \times 10^{-9}$  fatal accidents per flight hour.

The computed value for the overall risk is  $9.845 \times 10^{-11}$  this meets RVSM Safety Objective 2.

| Overall Risk Values    |                         |                         |                         |                         |
|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Year 2006              | Year 2008               | Year 2010               | Year 2011               | Year 2012/13            |
| Not calculated         | $4.19 \times 10^{-11}$  | $6.92 \times 10^{-12}$  | $1.04 \times 10^{-11}$  | $3.63 \times 10^{-11}$  |
| Year 2014              | Year 2015               | Year 2016               | Year 2017               | Year 2018               |
| $4.91 \times 10^{-11}$ | $7.351 \times 10^{-10}$ | $5.691 \times 10^{-10}$ | $4.518 \times 10^{-11}$ | $9.845 \times 10^{-11}$ |

2.4.1 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. Although the estimated overall risk of collision due to all causes is  $9.845 \times 10^{-11}$ , the conclusion to confirm that results are meeting the ICAO TLS is significantly influenced by either NIL reporting and no reports of Large Height Deviations (LHDs) of categories A, B, C, D, J and K (especially from FIRs with high volume of traffic).

2.4.1 The MIDRMA highlighted the limited numbers of LHD reports in all previous SMRs. Although the online LHD reporting system was developed and the reminders to all member States sent on a monthly basis with the monthly statistics distributed to all focal points concerned, required reports were not received from the majority of MIDRMA Member States.

2.4.2 Out of 14 member States required to submit their operational error reports on a monthly basis, only Bahrain and UAE continued to send their LHD reports of all categories as they always used to do for all the previous SMRs, while only few member States sent NIL LHD reports or LHD reports category E which have no influence on the processing of the overall vertical collision risk within the Middle East RVSM airspace.

2.4.3 The following table reflects the number/category of LHD reports received from each of the MIDRMA member State:



## SMR2018

### Objective 2:

#### Recommendations Applicable to Safety Objective 2:

- MIDRMA to present the issue of lack of LHD reports other than category E to the next MIDANPIRG meeting and MIDRMA board meetings. An Air Navigation deficiency related to the lack of provision of required data to the MIDRMA would be filed against the member States not submitting the LHD reports (categories A, B, C, D, J and K) on regular basis to the MIDRMA.
- The MIDRMA shall continue to **encourage States to provide LHD of all categories** and not only related to handover issues.
- The MIDRMA shall **follow up with concerned States** to ensure reporting of incidents and violations which have direct impact on the implementation of RVSM within the MID Region.

MID RVSM SMR 2018  
10/07/2020

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#### 2.5 ASSESSMENT OF OVERALL RISK DUE TO ALL CAUSES AGAINST THE TLS OF $5 \times 10^{-6}$ FATAL ACCIDENTS PER FLIGHT HOUR

##### RVSM Safety Objective 2

The overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies in the MID RVSM airspace meets the ICAO overall TLS of  $5 \times 10^{-6}$  fatal accidents per flight hour.

The computed value for the overall risk is  $9.845 \times 10^{-11}$  this meets RVSM Safety Objective 2.

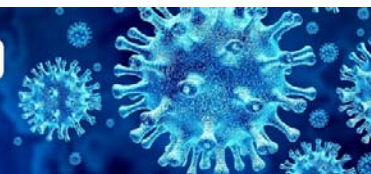
| Overall Risk Values    |                        |                        |                         |                         |
|------------------------|------------------------|------------------------|-------------------------|-------------------------|
| Year 2006              | Year 2008              | Year 2010              | Year 2011               | Year 2012/13            |
| Not calculated         | $4.19 \times 10^{-11}$ | $6.92 \times 10^{-12}$ | $1.04 \times 10^{-11}$  | $3.63 \times 10^{-11}$  |
| Year 2014              | Year 2015              | Year 2016              | Year 2017               | Year 2018               |
| $4.91 \times 10^{-11}$ | $7.35 \times 10^{-10}$ | $5.69 \times 10^{-10}$ | $4.518 \times 10^{-11}$ | $9.845 \times 10^{-11}$ |

2.4.1 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. Although the estimated overall risk of collision due to all causes is  $9.845 \times 10^{-11}$ , the conclusion to confirm that results are meeting the ICAO TLS is significantly influenced by either NIL reporting and no reports of Large Height Deviations (LHDs) of categories A, B, C, D, J and K (especially from FIRs with high volume of traffic).

2.4.1 The MIDRMA highlighted the limited numbers of LHD reports in all previous SMRs. Although the online LHD reporting system was developed and the reminders to all member States sent on a monthly basis with the monthly statistics distributed to all focal points concerned, required reports were not received from the majority of MIDRMA Member States.

2.4.2 Out of 14 member States required to submit their operational error reports on a monthly basis, only Bahrain and UAE continued to send their LHD reports of all categories as they always used to do for all the previous SMRs, while only few member States sent NIL LHD reports or LHD reports category E which have no influence on the processing of the overall vertical collision risk within the Middle East RVSM airspace.

2.4.3 The following table reflects the number/category of LHD reports received from each of the MIDRMA member State:



## SMR2018

| MID FIRs | No. of Reported LHDs - CAT "E" | No. of Related LHDs - CAT "E" |
|----------|--------------------------------|-------------------------------|
| Bahrain  | 54                             | 9                             |
| Baghdad  | 12                             | 18                            |
| Amman    | 5                              | 0                             |
| Tehran   | 63                             | 4                             |
| Cairo    | 5                              | 35                            |
| Damascus | 0                              | 0                             |
| Khartoum | 1                              | 1                             |
| Kuwait   | 0                              | 69                            |
| Muscat   | 44                             | 91                            |
| Jeddah   | 52                             | 991                           |
| Riyadh   | 19                             | 16                            |
| Tripoli  | 0                              | 0                             |
| Emirates | 5                              | 7                             |
| Sanaa    | 2181                           | 1                             |

| MID FIRs | No. of Reported LHDs - CAT "A, B, C, D & J" and "K" |
|----------|---|
| Bahrain  | 9   |
| Baghdad  | 0   |
| Amman    | 0   |
| Tehran   | 0   |
| Cairo    | 0   |
| Damascus | 0   |
| Khartoum | 0   |
| Kuwait   | 0   |
| Muscat   | 0   |
| Jeddah   | 0   |
| Riyadh   | 0   |
| Tripoli  | 0   |
| Emirates | 2   |
| Sanaa    | 0   |



## SMR2018

MID RVSM SMR 2018  
10/07/2020

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### Objective 3: Conclusions for Safety Objective 3

- a. The MIDRMA **improved its monitoring capabilities** with the new Enhanced GMUs which gave the ability to respond for more height monitoring requests even from outside the Middle East Region,
- b. The MIDRMA started to conduct studies and researches for implementing **height monitoring using ADS-B data**,
- c. The MIDRMA address the Hot Spots of each MID FIR generated by the (MIDRAS) Software (for information only),
- d. Current risk-bearing situations have been identified by using the MIDRAS and the MID Visualization and Simulation of Air Traffic and actions will be taken to ensure resolving all violations to RVSM airspace by non-approved aircraft.

#### 2.6 ASSESSMENT OF SAFETY-RELATED ISSUES RAISED IN THIS REPORT

##### RVSM Safety Objective 3

Address any safety-related issues raised in the SMR by recommending improved procedures and practices; and propose safety level improvements to ensure that any identified serious or risk-bearing situations do not increase and, where possible, that they decrease. This should set the basis for a continuous assurance that the operation of RVSM will not adversely affect the risk of en-route mid-air collision over the years.

##### 2.5.1 The identified safety-related issues are:

- a. Confirmation of the approval status of aircraft filling RVSM flight plan (W in field 10), this is done through Bahrain and Emirates TDS received on a monthly basis.
- b. Identification of operators requiring monitoring and address the minimum monitoring requirements to all MIDRMA member States.

##### 2.5.2 Conclusions for Safety Objective 3

- a. The MIDRMA improved its monitoring capabilities with the new Enhanced GMUs which gave the ability to respond for more height monitoring requests even from outside the Middle East Region.
- b. The MIDRMA started to conduct studies and researches for implementing height monitoring using ADS-B data.
- c. The MIDRMA address the Hot Spots of each MID FIR generated by the (MIDRAS) Software (for information only).
- d. Current risk-bearing situations have been identified by using the MIDRAS and the MID Visualization and Simulation of Air Traffic and actions will be taken to ensure resolving all violations to RVSM airspace by non-approved aircraft.

##### 2.5.3 Recommendations for Safety Objective 3

- a. The MIDRMA to start coordinating with Member States, which have ADS-B to provide the ADS-B archived data for RVSM height monitoring.
- b. MIDRMA to continue the enhancement of the (MIDRAS) Software and to include new features to overcome the issue of corrupted TDS (Traffic Data Sample).
- c. The MIDRMA to coordinate with the ICAO MID Office the planning to deliver awareness courses concerning RVSM risk analysis. These courses would be delivered as necessary or when requested by any MIDRMA Member State.
- d. The MIDRMA shall continue to carry out continuous survey and investigation on the number and causes of non-approved aircraft operating in the MID RVSM airspace.
- e. The MIDRMA shall continue to encourage States to submit their Large Height Deviation Reports using the MIDRMA online reporting tool which has been upgraded to improve the level of reporting.

Therefore, it is concluded that this Safety Objective is currently met.



## SMR2018

MID RVSM SMR 2018  
10/07/2020

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### Recommendations for Safety Objective 3

- The MIDRMA to start coordinating with Member States, which have ADS-B to provide the **ADS-B archived data** for RVSM height monitoring.
- MIDRMA to continue the **enhancement of the (MIDRAS) Software** and to include new features to overcome the issue of corrupted TDS (Traffic Data Sample).
- The MIDRMA to coordinate with the ICAO MID Office the planning to deliver **awareness courses concerning RVSM risk analysis**. These courses would be delivered as necessary or when requested by any MIDRMA Member State.
- The MIDRMA shall continue to carry out continuous survey and investigation on **the number and causes of non-approved aircraft operating in the MID RVSM airspace**.
- The MIDRMA shall continue to encourage States to submit their Large Height Deviation Reports using the **MIDRMA online reporting tool** which has been upgraded to improve the level of reporting.

#### 2.6 ASSESSMENT OF SAFETY-RELATED ISSUES RAISED IN THIS REPORT

##### RVSM Safety Objective 3

Address any safety-related issues raised in the SMR by recommending improved procedures and practices; and propose safety level improvements to ensure that any identified serious or risk-bearing situations do not increase and, where possible, that they decrease. This should set the basis for a continuous assurance that the operation of RVSM will not adversely affect the risk of en-route mid-air collision over the years.

##### 2.5.1 The identified safety-related issues are:

- Confirmation of the approval status of aircraft filling RVSM flight plan (W in field 10), this is done through Bahrain and Emirates TDS received on a monthly basis.
- Identification of operators requiring monitoring and address the minimum monitoring requirements to all MIDRMA member States.

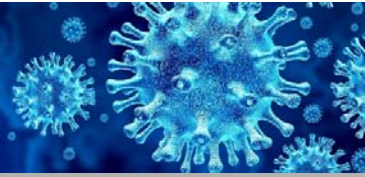
##### 2.5.2 Conclusions for Safety Objective 3

- The MIDRMA improved its monitoring capabilities with the new Enhanced GMU<sub>3</sub> which gave the ability to respond for more height monitoring requests even from outside the Middle East Region.
- The MIDRMA started to conduct studies and researches for implementing height monitoring using ADS-B data.
- The MIDRMA address the Hot Spots of each MID FIR generated by the (MIDRAS) Software (for information only).
- Current risk-bearing situations have been identified by using the MIDRAS and the MID Visualization and Simulation of Air Traffic and actions will be taken to ensure resolving all violations to RVSM airspace by non-approved aircraft.

##### 2.5.3 Recommendations for Safety Objective 3

- The MIDRMA to start coordinating with Member States, which have ADS-B to provide the ADS-B archived data for RVSM height monitoring.
- MIDRMA to continue the enhancement of the (MIDRAS) Software and to include new features to overcome the issue of corrupted TDS (Traffic Data Sample).
- The MIDRMA to coordinate with the ICAO MID Office the planning to deliver awareness courses concerning RVSM risk analysis. These courses would be delivered as necessary or when requested by any MIDRMA Member State.
- The MIDRMA shall continue to carry out continuous survey and investigation on the number and causes of non-approved aircraft operating in the MID RVSM airspace.
- The MIDRMA shall continue to encourage States to submit their Large Height Deviation Reports using the MIDRMA online reporting tool which has been upgraded to improve the level of reporting.

Therefore, it is concluded that this Safety Objective is currently met.



## SMR2018

### Conclusions:

- (i) The estimated risk of collision associated with aircraft height- keeping performance is  $1.562 \times 10^{-11}$  and **meets the ICAO TLS** of  $2.5 \times 10^{-9}$  fatal accidents per flight hour (RVSM Safety Objective1),
- (ii) The estimated overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies is  $9.845 \times 10^{-11}$  **meets the ICAO overall TLS** of  $5 \times 10^{-9}$  fatal accidents per flight hour (RVSM Safety Objective 2),
- (iii) Based on currently-available information (Except for Tripoli, Damascus and Beirut FIRs), there is no evidence available to the MIDRMA (other than (ii) above) that the continued operations of RVSM adversely affects the overall vertical risk of collision. Nevertheless, **concern is raised regarding representativeness of the data received** in particular with regard to the LHD reports Categories A, B, C, D, J and K from FIRs with high volume of traffic.

SMR 2018



## SMR2019 AND 2020

MIDRMA Board/16 Draft Conclusions:

***DRAFT CONCLUSION 16/1: REPORTING OF LHDs***

*That, in order to assess compliance with Safety Objective 2, the MIDRMA Member, States be urged to:*

*a) take necessary measures to ensure that LHDs (Categories A, B, C, D, E, H, J and K) are reported in timely manner to the MIDRMA using the LHD Online LHD Reporting Tool available on the MIDRMA website (<https://midrma.com/lhd/home/login>);*

*b) provide urgently, not later than 15 March 2020, their reported LHDs at least from 1 August 2018 (related to the above LHD Categories) to the MIDRMA for the development of the MID RVSM Safety Monitoring Report – 2018 and to ensure that RVSM implementation continue to be safe in the MID Region; and*

*c) coordinate with MIDRMA, as required*

MIDRMA Board/16-REPORT



INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE SIXTEENTH MEETING  
OF THE MIDDLE EAST REGIONAL  
MONITORING AGENCY BOARD

MIDRMA Board/16

(Amman, Jordan, 14 – 16 January 2020)

The views expressed in this Report should be taken as those of the Middle East Regional Monitoring Agency Board (MIDRMA Board) and not of the Organization. MIDANPIRG will be informed of the outcome of this Report and any formal action taken will be included in the Report of the MIDANPIRG.

Approved by the Meeting  
and published by authority of the Secretary General



## SMR2019 AND 2020

### ***DRAFT CONCLUSION 16/5: MID RVSM SMR 2020***

*That,*

- a) the FPL/traffic data for the period 1 – 31 July 2020 and LHD Reports for the period 1 July 2020 to 31 July 2021 be used for the development of the MID RVSM Safety Monitoring Report (SMR 2020);*
- b) only the appropriate Traffic Data as per MIDRMA requirements shall be submitted; any corrupted traffic data will be rejected;*
- c) the traffic data must be submitted to the MIDRMA before 31 August 2020; and*
- d) the final version of the MID RVSM SMR 2020 be ready for presentation to and endorsement by MIDANPIRG/18.*

MIDRMA Board/16-REPORT



INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE SIXTEENTH MEETING  
OF THE MIDDLE EAST REGIONAL  
MONITORING AGENCY BOARD

MIDRMA Board/16

(Amman, Jordan, 14 – 16 January 2020)

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Approved by the Meeting  
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## SMR2019 AND 2020

- ICAO MID State letter AN 6/5.10.15A – 20/137, 29 June 2020; Subject: Reporting of LHDs and FPL/Traffic data for the development of MID RVSM SMR 2019 and 2020:
  - As follow up to **MIDANPIRG Conclusion 14/35** and MIDRMA Board/16 Draft Conclusions 16/1 and 16/5 related to LHDs reports and FPL/Traffic data, respectively, and to
- request provision of data related to:
  - LHD reports for the period 1 Sep 2019 and 30 June 2020 for the development of SMR2019
  - TDS for the period of 1-31 July 2020 and LHD reports for 1 January 2020 to 31 Dec 2020 for SMR2020
- It is to be highlighted, that MIDANPIRG agreed through Conclusion 14/35 that States not providing the required data to the MIDRMA on a regular basis and in a timely manner will be included in the MIDANPIRG list of air navigation deficiencies; and might not be covered by the MID RVSM Safety Monitoring Report (SMR).

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International  
Civil Aviation  
Organization
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de l'aviation civile  
Internationale
Organización  
de Aviación Civil  
Internacional
Международная  
организация  
гражданской  
авиации
منظمة الطيران  
المدني الدولي
国际民用  
航空组织

File Ref.: AN 6/5.10.15A – 20/137 29 June 2020

**Subject:** Reporting of LHDs and FPL/Traffic data for the development of MID RVSM SMR 2019 and 2020

**Action required:** Provide previous LHD reports, if not yet done so, before **31 July 2020**; and continue to provide LHD reports on monthly basis  
Provide FPL/Traffic Data for the month of July 2020, before **31 August 2020**

Sir,

I have the honour to refer to the outcome of the Sixteenth meeting of the Middle East Regional Monitoring Agency Board (MIDRMA Board/16) which was held in Amman, Jordan, from 14 to 16 January 2020, in particular to the Draft Conclusions 16/1 and 16/5, related to LHDs reports and FPL/Traffic data, respectively, which are required for the development of the annual MID RVSM Safety Monitoring Reports (SMRs).

I regret to inform you that the level of reporting of LHD reports has been very low, which did not allow the MIDRMA to assess the operational risk and demonstrate compliance with Safety Objective 2 (Overall Risk of collision due all causes) based on sufficient and representative data for the SMR 2018. Unfortunately, we are in a very similar situation for the SMR 2019 and this might have a negative impact on the RVSM operations in the MID Region, if mitigation measures are not being implemented, in particular through acceptable level of States' reporting of LHD on monthly basis, as required by the MIDANPIRG Conclusion 14/35.

Therefore, you are urged to comply with the above-mentioned MIDANPIRG and MIDRMA Board Conclusions and provide the MIDRMA, if not yet done so, with required LHD reports (Categories A, B, C, D, E, H, J and K) for the period 1 September 2019 to 30 June 2020, before **31 July 2020**; using the LHD Online Reporting Tool available on the MIDRMA website. It is to be highlighted in this respect that the SMR 2019 will be presented to the MSG/7 meeting, planned for beginning of September 2020 for endorsement.

You may also recall that the MIDRMA Board/16 meeting agreed that the FPL/Traffic data for the period **1-31 July 2020** would be used for the development of the SMR 2020 and that the traffic data should be submitted to the MIDRMA before **31 August 2020**. Therefore, you are kindly requested to take necessary measures to collect and submit the required FPL/Traffic data to the MIDRMA before 31 August 2020, using the form available on the MIDRMA website. This data, together with the LHD Reports for the period 1 January 2020 to 31 December 2020 will be used for the development of the SMR 2020; which will be presented to the MIDANPIRG/18 planned for Q1-2021.

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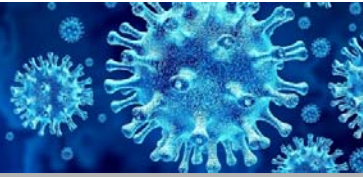


## SMR2019

- Status of reporting (as of CoB 1 September 2020):
- Reporting period: 1 Aug 2019 – 31 July 2020
- TDS for the period: 1 – 31 Aug 2019
- TDS reporting status: ALL except Tripoli
- LHD reporting status:
  - Cat E: 1071,
  - Other Categories: Bahrain, UAE and Iraq (5). others FIR continuously reporting Nil or Not reporting.

| MID States   | No. of Flights | Received Dates | Status            |
|--------------|----------------|----------------|-------------------|
| Bahrain FIR  | 34949          | 11/09/2019     | Accepted          |
| Cairo FIR    | 31843          | 15/01/2020     | Accepted          |
| Amman FIR    | 6645           | 21/09/2019     | Accepted          |
| Muscat FIR   | 46315          | 02/10/2019     | Accepted          |
| Tehran FIR   | 37676          | 07/10/2019     | Accepted          |
| Khartoum FIR | 5115           | 29/09/2019     | Accepted          |
| Emirates FIR | 24259          | 21/09/2019     | Accepted          |
| Damascus FIR | 5041           | 30/09/2019     | Accepted          |
| Sana'a FIR   | 4573           | 13/09/2019     | Accepted          |
| Baghdad FIR  | 21580          | 23/09/2019     | Accepted          |
| Kuwait FIR   | 19534          | 19/09/2019     | Accepted          |
| Jeddah FIR   | 43731          | 29/09/2019     | Accepted          |
| Beirut FIR   | 1537           | 14/10/2019     | Accepted          |
| Tripoli FIR  | -              | -              | No Data Submitted |
| <b>Total</b> | <b>282798</b>  |                |                   |

| STATE   | REPORTED BY | RELATED TO |
|---------|-------------|------------|
| BAHRAIN | 21          | 3          |
| EGYPT   | 53          | 14         |
| IRAN    | 4           | 2          |
| IRAQ    | 3           | 3          |
| JORDAN  | 3           | 2          |
| LEBANON | 0           | 0          |
| KSA     | 26          | 205        |
| LIBYA   | 0           | 0          |
| KUWAIT  | 26          | 25         |
| OMAN    | 33          | 122        |
| QATAR   | N/A         | N/A        |
| SUDAN   | 2           | 2          |
| SYRIA   | 0           | 0          |
| UAE     | 1           | 3          |
| YEMEN   | 900         | 5          |



## SMR2019

### Preliminary results:

- RVSM Safety Objective 1:

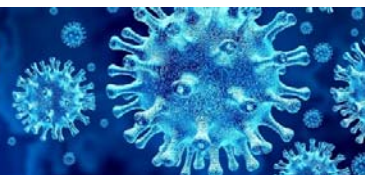
The result shows the risk of collision due to technical height-keeping performance is estimated to be  $2.039 \times 10^{-13}$  fatal accidents per flight hour, **which is less than the ICAO TLS  $2.5 \times 10^{-9}$ .**

- RVSM Safety Objective 2:

The MIDRMA **was not able to calculate the overall risk due lack of LHD reports** of categories A, B, C, D, H, and J to be representative for the Middle East RVSM airspace.

- RVSM Safety Objective 3:

Address any safety-related issues raised in the SMR were addressed in the report and recommendations to improve safety level.



## SMR2019

### Summary:

The analysis shows that MID RVSM airspace continues to meet the safety objectives 1 and 3, however, regarding RVSM Safety objective 2, **serious concerns continue to exist regarding the level of reporting of LHDs Categories A, B, C, D, H, J and K, and the representativeness of data** is not acceptable specially within FIRs with high volume of traffic and complexity; and it is not possible for the MIDRMA to calculate the over all risk for the MID RVSM Airspace.

- MIDRMA will continue to accept LHD reports until the finalization of SMR2019;
- SMR2019 report will be further reviewed by ATM SG (Virtual meeting) before presentation to MIDANPIRG for endorsement.

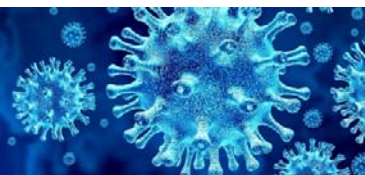


## SMR2020

- Status of reporting (as of CoB 1 September 2020):
- Reporting period: 1 Jan 2020 – 31 Dec 2020
- TDS for the period: 1 – 31 Jul 2020
- TDS reporting status: 12 / 14
- LHD reporting status: on going

|    | Member State | Date of Receipt |
|----|--------------|-----------------|
| 1  | Bahrain      | 24/08/2020      |
| 2  | Egypt        | 24/08/2020      |
| 3  | Jordan       | 14/08/2020      |
| 4  | IRAQ         | 15/08/2020      |
| 5  | IRAN         | No TDS          |
| 6  | KSA          | 31/08/2020      |
| 7  | Kuwait       | 08/08/2020      |
| 8  | Lebanon      | 01/09/2020      |
| 9  | Oman         | 24/08/2020      |
| 10 | Qatar        | N/A             |
| 11 | Syria        | 16/08/2020      |
| 12 | Sudan        | 25/08/2020      |
| 13 | Yemen        | 24/08/2020      |
| 14 | UAE          | 12/08/2020      |
| 15 | Libya        | No TDS          |

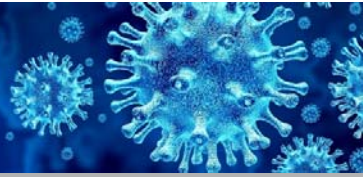




## DRAFT CONCLUSION 7/X: RVSM DATA PROVISION TO THE MIDRMA

*That, in order to allow the MIDRMA to finalize the development of the SMR 2019 & 2020:*

- a) States are urged to comply with the provisions of the MIDANPIRG Conclusion 14/35; and*
- b) Egypt, Iran, Oman and Saudi Arabia to be included in the list of air navigation deficiencies for the non-provision of required data to the MIDRMA.*



## ACTION BY THE MEETING

The meeting is invited to:

- endorse MIDRMA Board/16 Draft Conclusions 16/1 and 16/5 (Slides 11 and 12);
- endorse MSG/7 Draft Conclusion 7/x (Slide #16);
- endorse the RVSM SMR 2018; and
- Urge States to provide and continue providing in timely manner the:
  - LHD reports for the finalization of SMR 2019 report; and
  - TDS and LHD reports for the development of SMR 2020 report.



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