



International Civil Aviation Organization

MIDANPIRG Communication, Navigation and Surveillance Sub-Group

Eleventh Meeting (CNS SG/11)
(Muscat, Oman, 16-19 May 2022)

Agenda Item 6: Review of Air Navigation Deficiencies in the CNS Field

REVIEW OF AIR NAVIGATION DEFICIENCIES IN THE CNS FIELD

(Presented by the Secretariat)

SUMMARY

This paper presents the list of Air Navigation Deficiencies in the CNS Field and the proposed MID AN Deficiencies Management Process (MID AND-MP) for review, update and feedback provision, as appropriate.

Action by the meeting is at paragraph 3.

REFERENCES

- MIDANPIRG/19 Meeting Report (14-17 February 2022)

1. INTRODUCTION

1.1 The meeting may wish to note that MIDANPIRG/19 meeting (Riyadh, Saudi Arabia, 14 – 17 February 2022), reviewed and endorsed the list of deficiencies in the AIM, AOP, ATM, CNS, SAR and MET fields as reported by the relevant subsidiary bodies. Furthermore, the meeting noted that the total number of air navigation deficiencies recorded in MANDD, was 105 deficiencies compared to 107 deficiencies approved by MIDANPIRG/18.

1.2 The air navigation deficiencies are reflected in the MID Air Navigation Deficiency Database (MANDD) at: <http://www.icao.int/mid>.

1.3 The MIDANPIRG/19 meeting noted with concern that the majority of deficiencies listed in the MANDD have no specific Corrective Action Plan (CAP). Furthermore, the meeting urged States to implement the provision of MIDANPIRG Conclusion 15/35 related to elimination of Air Navigation Deficiencies, in particular, the submission of a specific Corrective Action Plan (CAP) for each deficiency.

2. DISCUSSION

2.1 In the CNS field: The total number of CNS deficiencies is five (5); two (2) priority “A” and three (3) priority “B”. Three (3) deficiencies are related to ATS Direct speech circuits, one (1) related to Inter-Regional Communication link with ICAO EUR/NAT Region and one (1) for HF service as at **Appendix A**.

2.2 The meeting may wish to note that ASPIG/3 meeting proposed a MID Air Navigation Deficiencies Management Process (MID AND-MP) as at **Appendix B**. The MIDANPIRG/19 meeting noted the proposal of the ASPIG/3 meeting and agreed that all MIDANPIRG Sub Groups need to study the proposal and provide their feedback, in order for the ICAO MID Office to provide the MIDANPIRG/10 meeting with a consolidated proposal on the subject.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review, update and approve the air navigation deficiencies at **Appendix A**
- b) urge States to:
 - i. implement the provisions of the MIDANPIRG/15 Conclusion 15/35 and provide updates on the status of their deficiencies using MANDD;
 - ii. submit CAP for each deficiency; and
 - iii. submit official Letter with the associated evidences when requesting to eliminate an air navigation deficiency; and
- c) study and provide feedback to MIDANPIRG/20 on the proposed MID AND-MP at **Appendix B**.

Identification		Deficiencies			Corrective Action				
Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Facilities/ Services	Executing body	Date of completion	Priority for action
MID eANP Vol II, Table CNS II-2	Inter-regional Communication link with ICAO EUR/NAT Region	The Inter-regional Communication Link between Kuwait COM Centre and one of the entry/exit points of the ICAO EUR/NAT Region is not implemented	21-03-2019	-	0	-	Kuwait	31-12-2021	B
MID eANP Vol II, Table CNS II-3	ATS Direct Speech circuit Ankara - Beirut	ATS Direct Speech Circuit between Ankara and Beirut is not implemented	21-03-2019	-	0	-	Lebanon and Turkey	31-12-2021	B
MID eANP Vol II, Table CNS II-4	HF Service	HF Service in Tripoli is unserviceable	21-03-2019	-	0	-	Libya	31-12-2021	A
MID eANP Vol II Table CNS II-3	Direct Speech Circuit Muscat-Sana'a	Direct Speech Circuit (LIM MID RAN) is required between Muscat and Sana'a	01-10-1998	Under implementation. Oman Ready. Oman and Yemen are working to implement the circuit. The required actions have been implemented.	0	Corrective Action Plan has not been formally provided by the State. with regards to the AFTN line the actions were as follows: 1. Agreed with Yemen to re-establish the link. 2. Agreed with Yemen on the equipment to be used as the comms interface. Cisco router was selected with data and voice interfaces. 3. Agreed on the configuration. 4. Started testing the link with test messages. 5. Introduced operational test messages. 6. Exchanged operational AFTN messages in June 2021 between the two centers. The actions needed to restore the ATS voice circuit 1. The router configuration and confirmation with Telecom providers in Oman and Yemen agreed. 2. Router configuration updated. 3. Test calls completed successfully. 4. Two voice circuits are introduced through the link. a. One line directly connected between the two ACCs for operational use. b. The other one is connected between the two technical rooms for engineering coordination between the two sides. 5. The lines are put into operation in March 2022.	Oman-Yemen	31-12-2021 07-03-2022	B
MID eANP Vol II Table CNS II-3	ATS Direct speech Circuits Sana'a-Asmara, Sana'a-Djibouti, Sana'a-Mogadishu, Sana'a-Mumbai and Sana'a-Muscat.	ATS Direct speech circuits are not implemented between Sana'a-Mumbai and Sana'a-Muscat.	01-10-1998	-	0	Corrective Action Plan has not been formally provided by the State	Yemen, India and Oman	31-12-2021	A

APPENDIX B

THE MIDDLE EAST AIR NAVIGATION DEFICIENCIES MANAGEMENT PROCESS (MIDAND-MP)

1. Introduction

1.1 Based on the information resulting from the assessment carried out by ICAO on the input received from various regions regarding deficiencies in the air navigation field, it became evident that improvements were necessary in the following areas:

- a) collection of information;
- b) safety assessment of reported problems;
- c) identification of suitable corrective actions technical/ operational/ financial/organizational), both short-term and long-term; and
- d) method of reporting in the reports of ICAO planning and implementation regional groups (PIRGs).

1.2 This methodology is therefore prepared with the assistance of ICAO PIRGs and is approved by the ICAO Council for the efficient identification, assessment and clear reporting of air navigation deficiencies. It may be further updated by the Air Navigation Commission in the light of the experience gained in its utilization.

1.3 For the purpose of this methodology, the definition of deficiency is as follows:

A deficiency is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices, and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation.

2. Collection and inclusion of information in the Data Base

2.1 Collection of the information for all the sources (**Regional office, States, Users, Professional provider organizations' sources**): Refer to the **PART XX, Section 2 of the MIDANPIRG Procedural Handbook,**

2.2 MID Air Navigation Deficiencies Data Base (MANDD)

2.2.1 In order to support the implementation of the Uniform Methodology for the identification, assessment and reporting of deficiencies, the MID Air Navigation Deficiencies Data Base (MANDD) that is a web-based platform provides an online tool for States and relevant stakeholders to manage Air Navigation Deficiencies in the region. The application is available at <https://mandd.icao.int/>. **Reporting of information on Deficiencies actions taken by the MID Office**

3.1 In order to enable the MIDANPIRG to make consistent evaluation of deficiencies, States and concerned International organizations including IATA, IFALPA and IFATCA, are expected to provide the information they have to the ICAO MID Regional Office for action as appropriate, during MIDANPIRG meetings.

3.2 The information should at least include description of the deficiency, risk assessment, possible solution, deadlines, responsible entities, agreed new action to be taken to resolve identified Deficiencies.

3.3 Newly identified deficiencies shall be sent to MID Office by the State/Organization Focal Point through the MANDD. Evidences to support the information provided should be forwarded via email to the ICAO MID Regional Office (icaomid@icao.int) or attached in the MANDD (as potentially upgraded).

3.4 The newly added deficiency in the MANDD will always have an “N” status for New at the point of entering the details in the reporting form. Once approved by the concerned Regional Officer, the deficiency will appear in the database list highlighted in “Yellow” and will be available for MANDD users in the delete, update, search and print options.

3.5 Once received and updated in the MANDD system by the ICAO MID Office, the request is forwarded to the appropriate Regional Officer for review and analysis as per the paragraph 2.1.1 of the MIDANPIRG Procedural Handbook. The ICAO MID Office may contact the source of the information and the concerned State for more details when required. The result of the evaluation is submitted with all the evidences to a committee formed by the Regional Office subject matter Experts and the Deputy Regional Director for review.

3.6 If the deficiencies are confirmed, the State is informed by the ICAO MID Regional Office and given a time period to take appropriate actions. If actions are taken in time, the case is closed and captured in the MANDD as proposed for deletion and will appear highlighted in “Yellow” as a strike through then notified to the MIDANPIRG meeting.

3.7 Otherwise, the case is submitted to the MIDANPIRG Meeting for consideration and endorsement using the List of reported Deficiencies extracted from the MANDD system. The MIDANPIRG’ endorsed deficiencies are uploaded in the MANDD by the MID Office and the concerned State(s) are requested to submit a Corrective Action Plan within a given deadline.

3.8 The concerned State(s) shall follow-up the implementation of proposed mitigation actions, as established in the action plan and submit relevant evidences for consideration to the ICAO MID Office through the MANDD/by email.

3.9 In case of challenges with the implementation, the State Focal point should inform and coordinate with the Regional Officer managing the AND concerned Area (**AOP, ATM, AIM, CNS, MET and SAR**). Both, the State’s Focal Points and Regional Officer should ensure that the information provided in the MANDD is continuously updated.

3.10 The agenda of MIDANPIRG meeting should include an item on air navigation deficiencies, including information reported by States and other stakeholders in accordance with **PART XX, Section 2 of the MIDANPIRG Procedural Handbook**, The review of the deficiencies should be a top priority for each MIDANPIRG meeting which should make an assessment of the safety impact, of the reviewed lists of deficiencies, for subsequent review by the ICAO Air Navigation Commission.

3.11 In line with the above, and keeping in mind the need to eventually make use of this information in the planning and implementation process, it is necessary that once a deficiency has been identified and validated, defined fields of information should be provided in the reports on deficiencies in the air navigation systems. The Model reporting table for use in the MIDANPIRG report and Actions by the ICAO MID Office are stated in the **Part XX, Sections 5 and 6 of the MIDANPIRG Procedural Handbook**.

Additional Guidance for Minimum Reporting on non-compliances

3.12 In order to encourage reporting, the Group has adopted a list of minimum reporting areas which is reflected at **Attachment A** to this Process. The intent of the list is **NOT** to replace reporting based on ICAO Council policy, but to encourage reporting, in recognition of Assembly Resolution A37-15 Appendix L, and noting the historical critically low level of reporting, as well as the expanse of SARPs and requirements on which reporting may be effected.

3.13 Without prejudice to the definition of “deficiency” as approved by the Council, States, Regulators and Air Navigation Service Providers (ANSPs), users, and professional organizations (IFALPA, IFATCA, IFATSEA, etc.) are encouraged to report on non-compliances in the areas listed in **Attachment A**, in addition to reporting any other deficiencies as defined by the Council.

4. Monitoring & Removal of MIDANPIRG endorsed Deficiencies from the Data base

4.1 The ICAO MID Office will monitor the implementation by the States of their corrective actions plans and report to MIDANPIRG. States shall implement their action plans and submit relevant evidences for consideration to the ICAO MID Regional Office by email to icaomid@icao.int .

4.2 The relevant Regional Officers should assess on the regular basis the implementation of the States action plans until their completion. Once the implementation completed, a documented report, comprising evidences should be submitted the ICAO MID Office for their review by the ICAO MID Regional Officers and the Deputy Regional Director. The review report is submitted to the MIDANPIRG meeting for appropriate action.

4.3 If deemed satisfactory, the deficiency is deleted from the MANDD at which point will appear as a strike though highlighted in “Yellow” and the information is provided to the State.

4.4 Once validated and confirmed by the MIDANPIRG meeting to be an existing deficiency based on provided evidences, a command is run in the system to remove the resolved (proposed for deletion) deficiencies from the Database by the Regional Office.

5. Assessment and prioritization

5.1 A general guideline would be to have three levels of priority organized on the basis of safety, regularity and efficiency assessment as follows:

“U” priority (Red) = Urgent requirements having a direct impact on safety and requiring immediate corrective actions. Urgent requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is urgently required for air navigation safety.

“A” priority (Orange) = Top priority requirements necessary for air navigation safety. Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

“B” priority (Green) = Intermediate requirements necessary for air navigation regularity and efficiency. Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.

5.2 In addition, the MIDANPIRG’s Sub-Groups including the ASPIG (Aerodromes Safety Planning and Implementation Group) should assess, as deemed necessary, the endorsed Deficiencies based on SMS principles. As practical as it can be, the assessment and prioritization of Deficiencies is based on the safety risk matrix contained in the Safety Management Manual (SMM), Doc 9859:

DRAFT

Table 1. Safety risk probability table

Likelihood	Meaning	Value
Frequent	Likely to occur many times (has occurred frequently)	5
Occasional	Likely to occur sometimes (has occurred infrequently)	4
Remote	Unlikely to occur, but possible (has occurred rarely)	3
Improbable	Very unlikely to occur (not known to have occurred)	2
Extremely improbable	Almost inconceivable that the event will occur	1

Note.— This is an example only. The level of detail and complexity of tables and matrices should be adapted to the particular needs and complexities of each organization. It should also be noted that organizations might include both qualitative and quantitative criteria.

Table 2. Example safety risk severity table

Severity	Meaning	Value
Catastrophic	<ul style="list-style-type: none"> • Aircraft / equipment destroyed • Multiple deaths 	A
Hazardous	<ul style="list-style-type: none"> • A large reduction in safety margins, physical distress or a workload such that operational personnel cannot be relied upon to perform their tasks accurately or completely • Serious injury • Major equipment damage 	B
Major	<ul style="list-style-type: none"> • A significant reduction in safety margins, a reduction in the ability of operational personnel to cope with adverse operating conditions as a result of an increase in workload or as a result of conditions impairing their efficiency • Serious incident • Injury to persons 	C
Minor	<ul style="list-style-type: none"> • Nuisance • Operating limitations • Use of emergency procedures • Minor incident 	D
Negligible	<ul style="list-style-type: none"> • Few consequences 	E

Table 3. Example safety risk matrix

Safety Risk		Severity				
Probability		Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Frequent	5	5A	5B	5C	5D	5E
Occasional	4	4A	4B	4C	4D	4E
Remote	3	3A	3B	3C	3D	3E
Improbable	2	2A	2B	2C	2D	2E
Extremely improbable	1	1A	1B	1C	1D	1E

Note.— In determining the safety risk tolerability, the quality and reliability of the data used for the hazard identification and safety risk probability should be taken into consideration.

Table 4. Example of safety risk tolerability

Safety Risk Index Range	Safety Risk Descriptio	Recommended Action
5A, 5B, 5C, 4A, 4B, 3A	INTOLERABLE	Take immediate action to mitigate the risk or stop the activity. Perform priority safety risk mitigation to ensure additional or enhanced preventative controls are in place to bring down the safety risk index to tolerable.
5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C, 1A	TOLERABLE	Can be tolerated based on the safety risk mitigation. It may require management decision to accept the risk.
3E, 2D, 2E, 1B, 1C, 1D, 1E	ACCEPTABLE	Acceptable as is. No further safety risk mitigation required.

-END-