International Civil Aviation Organization

MID Safety Support Team

Fifth Meeting (MID-SST/5)
(Cairo, Egypt, 19 – 21 February 2019)

Agenda Item 3: **NCMCs Meeting**
  3.1   Update on the ICAO USOAP-CMA

USOAP AIRCRAFT OPERATIONS AND AGA AREAS- DATA ANALYSIS REPORTS

(Presented by the Secretariat)

SUMMARY
This paper presents some analyses of the USOAP-CMA data related to the OPS and AGA areas.   Action by the meeting is at paragraph 3.

REFERENCES
- USOAP-CMA results   - iSTARS data

1. **INTRODUCTION**

1.1   An in-depth analysis of the USOAP-CMA data could be very useful for the identification of areas of concern, common deficiencies, etc; and would provide good insight for the prioritization of the assistance/NCLB activities in the MID Region. As a first step, the Secretariat carried out an analysis of the OPS and AGA areas. The analysis is based on the safety oversight results and iSTARS data. The Analysis Report for OPS and AGA are at **Appendices A** & **B,** respectively.

1.2   The Reports provide results and analysis of data from activities conducted within the Universal Safety Oversight Audit Programme Continuous Monitoring Approach (USOAP CMA). The data and safety information collected from Member States through the USOAP CMA allow ICAO to use a risk-based approach for monitoring and assessing States' safety oversight capabilities through various on-site and off-site monitoring activities.

2. **DISCUSSION**

OPS Area

2.1   When the results of the MID Region States are aggregated at the level of the group, they indicate good progress in the implementation of the safety oversight requirements in accordance with the GASP and the MID Region Strategy. However, by drilling down in the audit area of OPS and the number of aggregated unsatisfactory PQs as sown in Table 1, it becomes clearer where further

improvement in effective implementation is still needed. If the 60% target is applied to individual audit areas, then two MID States (Libya and Lebanon) need to further improve implementation in the area ofOPS. From the **Table 1**, it is noticed that three States (Egypt, Iran, and Syria) have an EI above 60%; however, they also have high number of unsatisfactory PQs in this area.

States	EIs- OPS	# of PQs Unsatisfactory for OPS Audit Area
Bahrain	91.6%	10
Egypt	76.47%	32
Jordan	94.78%	7
Iran	62.02%	49
Kuwait	92.59%	10
Lebanon	58.96%	55
Libya	25.62%	90
Oman	79.83%	24
Qatar	87.29%	15
Saudi Arabia	86.99%	16
Sudan	85.12%	18
Syria	72.95%	33
UAE	100	0

Table 1: Source OLF Dated 20 September 2018

2.2   In addition, a review and analysis of OPS Effective Implementation (EI) Protocol Questions (PQ) at the **Graph 1**, grouped by sub-areas helps to determine the needs of the States and the needs that States would be expected to meet. The **Graph 1** shows that the highest number of aggregated unsatisfactory PQs in operations audit sub-group are mainly the aircraft operations surveillance, air operator documents review, dangerous goods, air operator training, staffing and training; and the resolution of safety concerns.

2.3   The States considered to improve their EIs in the area of OPS are Egypt, Iran, Lebanon, Libya and Syria.
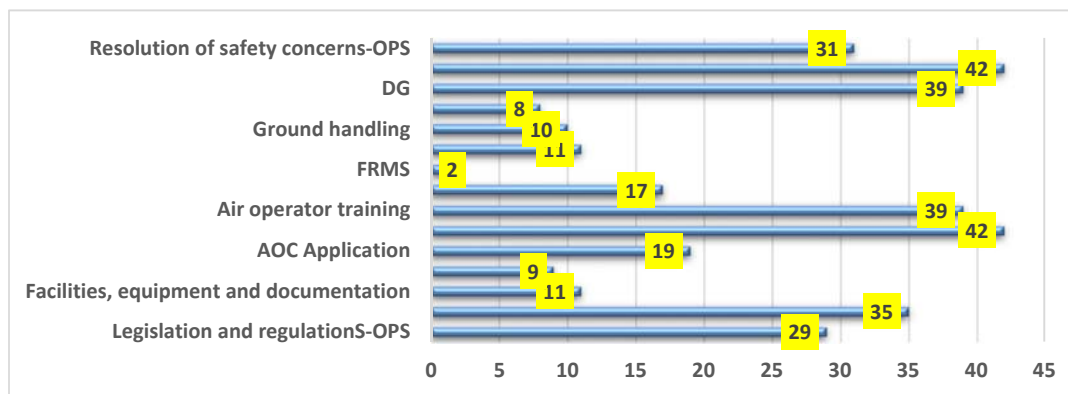
Graph 1: Source OLF dated 20 September 2018:
Number of PQs in OPS Audit sub-Group-Aggregated Result

2.4   The main identified safety issues are as follows: States have not established and implemented a comprehensive surveillance Programme; dangerous goods procedures; organization and training; resolution of safety concerns and documentation review; insufficient financial resources as well as unavailability of adequate personnel in competent authorities.

AGA Area

2.5   When the results of the MID States are aggregated at the level of the group, they indicate good progress in the implementation of the safety oversight requirements. However, by drilling down in the audit area of AGA and looking to the number of aggregated unsatisfactory PQs as shown in **Table 2**, it becomes clearer where further improvement in effective implementation is still needed. If the 60% target is applied to individual audit areas, then two MID States (Jordan and Libya) need to further improve implementation in the area of AGA. It is noticed that six States (Kuwait, Lebanon, Oman, Sudan, and Syria) have an EI above 60% in the area of AGA; however, they also have a considerable number of unsatisfactory PQs in this area.

States	*EIs- AGA*	*# of PQs Unsatisfactory for AGA Audit Area*
Bahrain	84.67%	21
Egypt	84.83%	22
Jordan	57.93%	61
Iran	94.2%	8
Kuwait	65.07%	51
Lebanon	66.17%	45
Libya	14.39%	119
Oman	64.06%	46
Qatar	68.89%	18
Saudi Arabia	82.86%	24
Sudan	66.67%	45
Syria	60.00%	52
UAE	97.83	3

Table 2: Source iSTARS dated 3 Feb. 2019

2.6   In addition, a review and analysis of AGA Effective Implementation (EI) by sub-areas at the **Graph 2**, helps to determine the needs of the States and the needs that States would be expected to meet. The **Graph 3** shows that the highest number of aggregated unsatisfactory PQs in AGA audit sub-group are mainly: the safety procedures for aerodromes operations; aerodrome surveillance; aerodrome visual aids; legislation and regulation; staffing and training; aerodrome certification and SMS. The States considered to improve their EIs in the area of AGA are Kuwait, Lebanon, Libya, Oman, Sudan, and Syria.
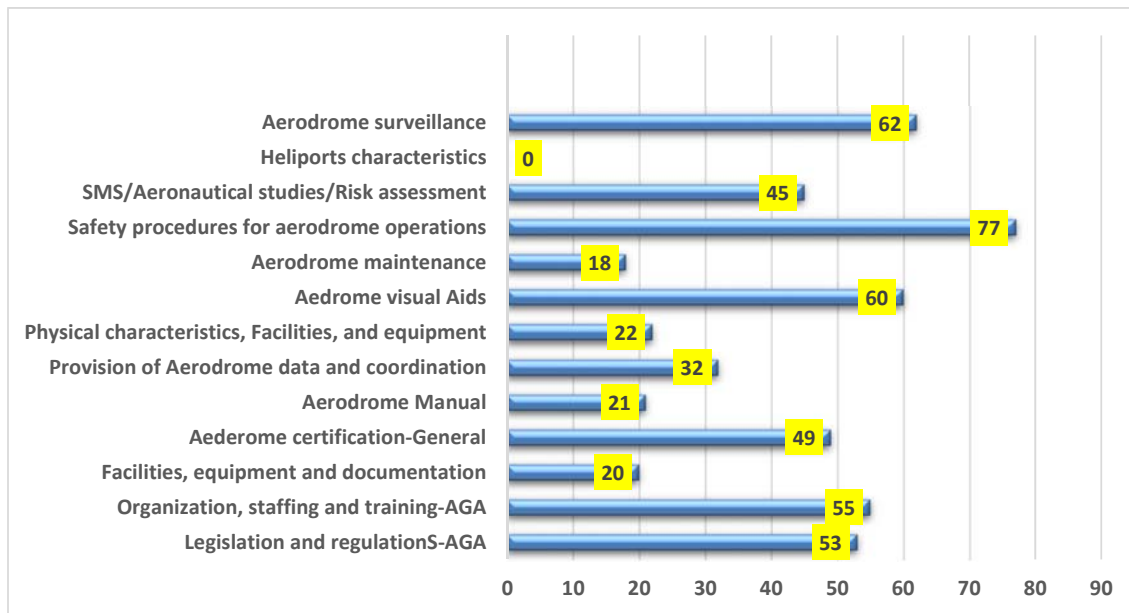
Graph 2: Source OLF dated 5 Feb. 2019:
Number of PQs in OPS Audit sub-Group-Aggregated Result

2.7   The main identified safety issues are as follows: Some States have not established and implemented the requirements for the certification of aerodromes; a formal surveillance Programme for their certified aerodromes with associated procedures and periodic surveillance plans have not been established; a quality system to verify the accuracy of aerodrome data to ensure compliance with the regulation; safety management system; and safety procedures. In addition, some States do not have the resources and sufficient number of qualified and experienced aerodrome technical staff.

3.   **ACTION BY THE MEETING**

3.1   The meeting is invited to:

   a) note the Analysis Reports on the the status of the OPS and AGA areas in the MID Region; and

   b) agree on the way forward.

APPENDIX A

USOAP FLIGHT OPERATIONS AREA- ANALYSIS REPORT

1.   INTRODUCTION

1.1   An in-depth analysis of the USOAP-CMA data could be very useful for the identification of areas of concern, common deficiencies, etc; and would provide good insight for the prioritization of the assistance/NCLB activities in the MID Region. As a first step, the Secretariat carried out an analysis of the OPS area. The analysis is based on the safety oversight results and iSTARS data.

1.2   The Reports provide results and analysis of data from activities conducted within the Universal Safety Oversight Audit Programme Continuous Monitoring Approach (USOAP CMA). The data and safety information collected from Member States through the USOAP CMA allow ICAO to use a risk-based approach for monitoring and assessing States' safety oversight capabilities through various on-site and off-site monitoring activities.

2.   LEVEL OF AVIATION ACTIVITY AND SAFETY IN THE MID REGION

2.1   The **Graph 1** shows that over the last five years, the global scheduled commercial international operations accounted for approximately 36.3 million departures in 2017, compared to 31.3 million departures in 2013. The MID Region showed a stable growth in traffic volumes. Total scheduled commercial departures in 2017 accounted approximately for 1.4 million departures compared to 1.08 million departures in 2013.

2.2   The **Graph 2** shows that the schedule commercial departures traffic out of the States for the year 2017 increased and Saudi Arabia recorded the highest schedule commercial departure followed by UAE and Iran.

MID Traffic
Million of Scheduled Commercial Departures

|	2013	2014	2015	2016	2017
	1.08	1.15	1.22	1.3	1.4
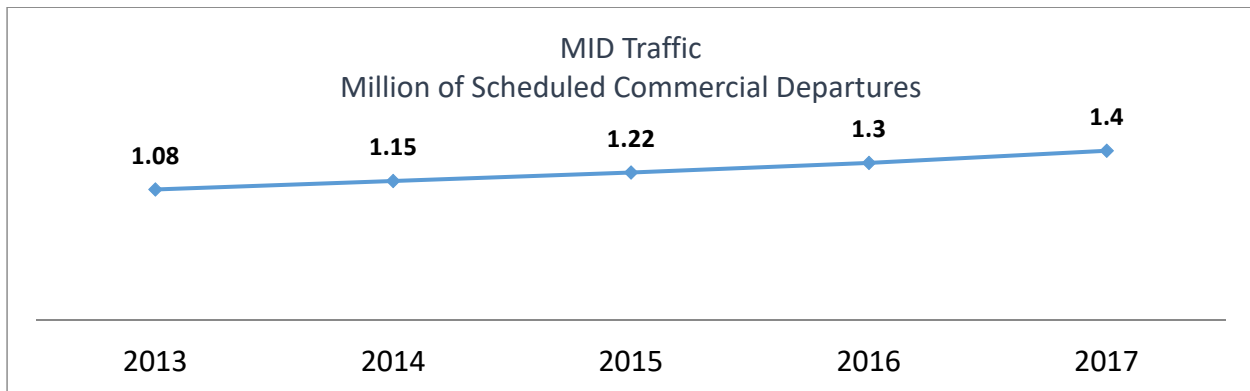
*Graph 1: Source iSTARS dated 24 Sept. 2018*
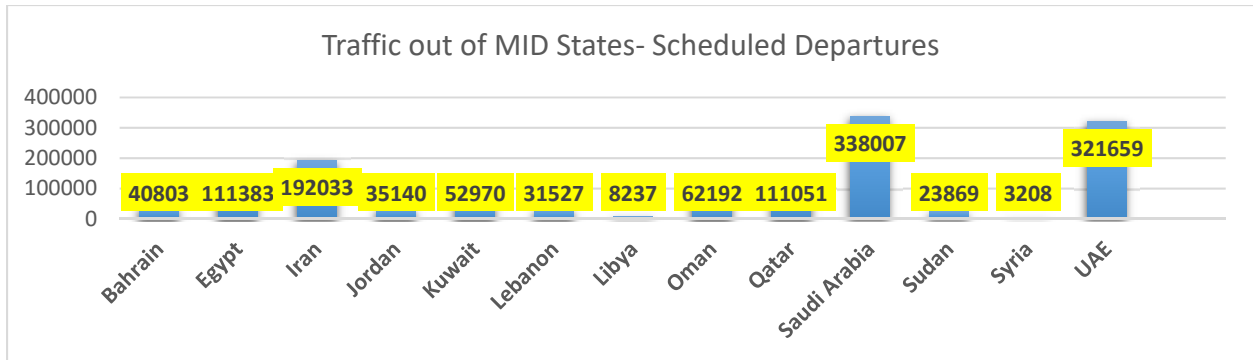
Graph 2: Source iSTARS dated 24 Sep 2018

2.3   The **Graph 3** shows that the MID Region had an accident rate of 1.45 accidents per million departures in 2017, which decreased compared to the previous year (2016). However, the 5-year average accident rate for 2013-2017 is 2.6, which is equal to the global average rate for the same period.

2.4   The **Graph 4** shows that 16 accidents occurred in the MID Region during the period (2013-2017), whereas (442) accidents occurred globally. The accidents that occurred in the MID Region represent 3.2% of the global accidents.
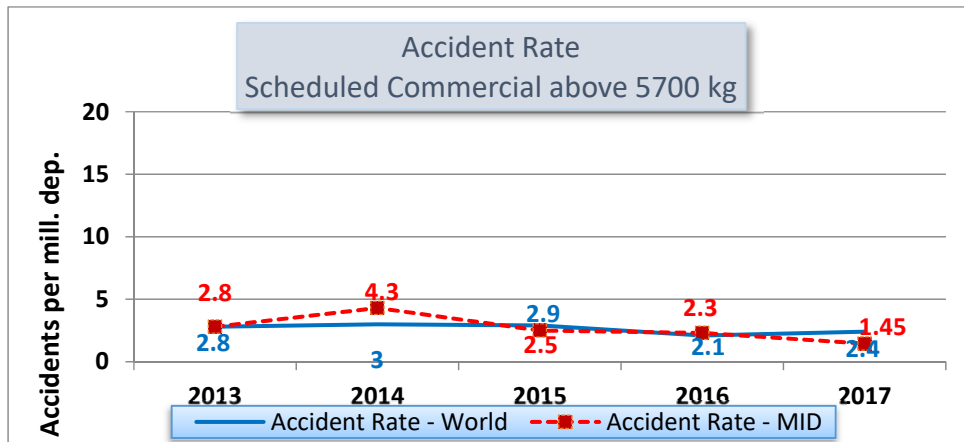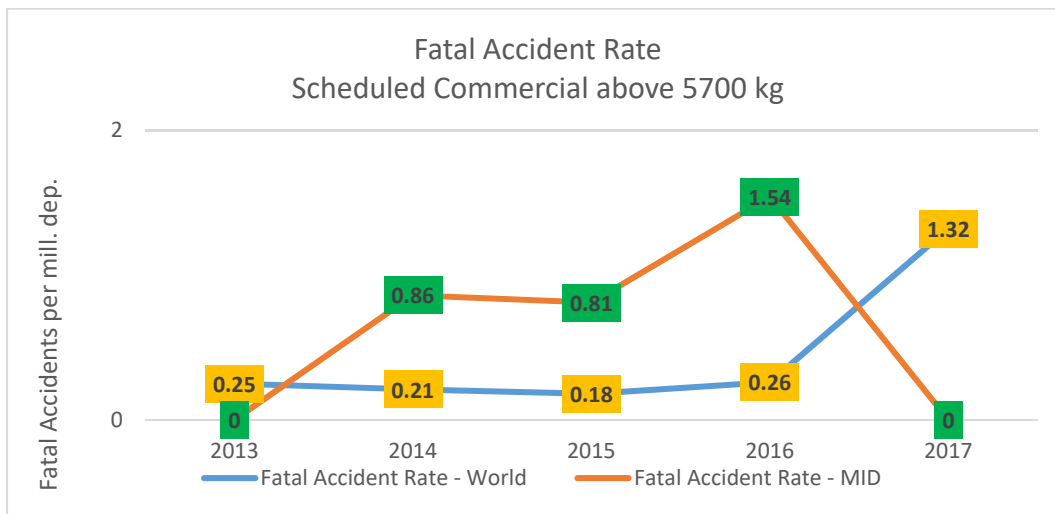

Graph 3: Global Accident Rate Vs MID Accident Rate
(Source iSATRS as of 10 Oct. 2018)
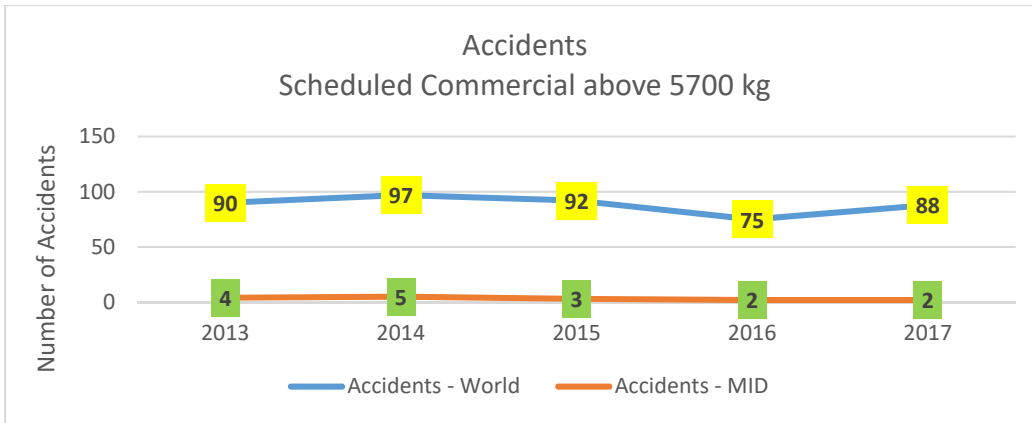
Graph 4: Number of MID Accidents Vs. Number of Global Accidents Per Year
(Source: iSTARS as of 8 Oct. 2018)

2.5   The **Graph 5** shows that the average rate of fatal accidents in the MID Region for the period (2013-2017) is 0.64 accident per million departures, compared to 0.44 for the globe. The MID Region had no fatal accidents in 2012, 2013, and 2017. However, three fatal accidents occurred in 2014, 2015 and 2016. The 2014 accident caused 38 fatalities, 224 fatalities were registered in 2015 and 1 fatality in 2016 as shown in **Graph 6.**

Graph 5: Global Fatal Accident Rate Vs MID Fatal Accident Rate
(Source: iSTARS as of 8 Oct. 2018)

Graph 6: Number of MID Fatalities Vs. Global Fatalities
(Source: iSTARS as of 8 Oct. 2018)

2.6   Based on the analyses of all accidents, serious incidents, and incidents data, it was concluded that the main risk areas for the MID Region were:

1. Runway Safety (RS) - (mainly RE and ARC during landing);
2. Loss of Control Inflight- (LOC-I);
3. Controlled Flight into Terrain- (CFIT); and
4. MID Air Collision- (MAC)

2.7   The CFIT and MAC were also considered as risk areas due to the potential risk of this type of accidents though the MID States did not experience those accidents during the period 2013-2017.

3.   THE SAFETY OVERSIGHT STATUS OF THE MID REGION STATES

3.1   The **Graph 7** shows that RASG-MID contains 15 States. 2 States (Iraq and Yemen) have not yet received a USOAP audit. The current average USOAP score for States in RASG-MID is 73.24%, which is above the world average of 66.27%. 76.92% of the States in RASG-MID have achieved the target of 60% EI, as suggested by the Global Aviation Safety Plan (GASP). Three States are still below the GASP target of 60%.
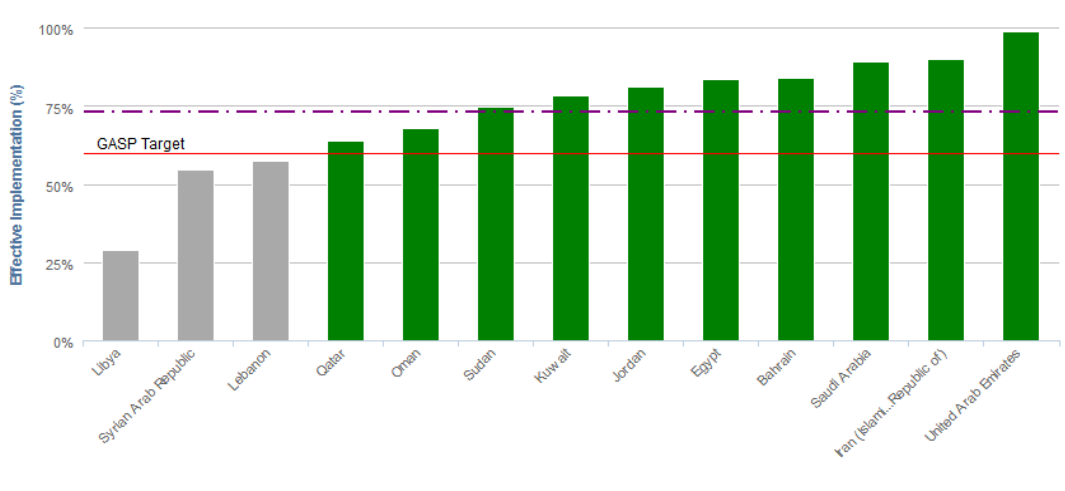
Graph 7: Source iSTARS dated 23 Sept. 2018

3.2   The following two charts show the average effective implementation (EIs) by audited area and CE for the M ID Region States. In respect to each audit area, the average EIs for all the States is above their respective world average. However, in the audit areas, it is noted that the three lowest EIs are in the areas of the AIG, ANS, and ORG. Regarding the critical element (CE), the Graph 8 shows that the average EIs for all States is above their respective world average, except for CE 4 and CE8 that are related to technical qualification and training and resolution of the safety concerns, which are below the world average.
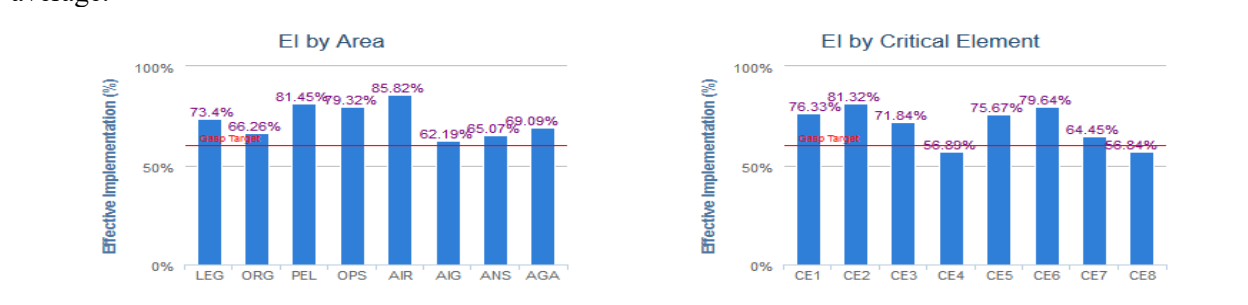

Graph 8: Source iSTARS dated 24 Sept. 2018

3.3   When the results of the MID Region States are aggregated at the level of the group, they indicate good progress in the implementation of the safety oversight requirements. In accordance with the GASP and the MID Region strategy. However, by drilling down in the audit area of OPS and the number of aggregated unsatisfactory PQs for OPS area in table 1, it becomes clearer where further improvement in effective implementation is still needed for OPS area. If the 60% target is applied to individual audit areas, then two MID States (Libya and Lebanon) need to further improve implementation in the area of operations. It is noticed that three States (Egypt, Iran, and Syria) have an EI above 60% in the area of operations; however, they also have a considerable number of unsatisfactory PQs in the operations area.

States	EIs- OPS	# of PQs Unsatisfactory for OPS Audit Area
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UAE	100	0

Source OLF Dated 20 September 2018

3.4 In addition, a review and analysis of OPS Effective Implementation (EI) Protocol Questions (PQ) at the **Graph 9**, grouped by sub-areas helps to determine the needs of the States and the needs that States would be expected to meet. The review was based on the ICAO USOAP-results. The Graph 9 shows that the highest number of aggregated unsatisfactory PQs in operations audit sub-group are mainly the aircraft operations surveillance, air operator documents review, Dangerous Goods, air operator training, staffing and training; and the resolution of safety concerns. The States considered to improve their EIs in the area of the operations are Libya, Lebanon, Iran, and Egypt.
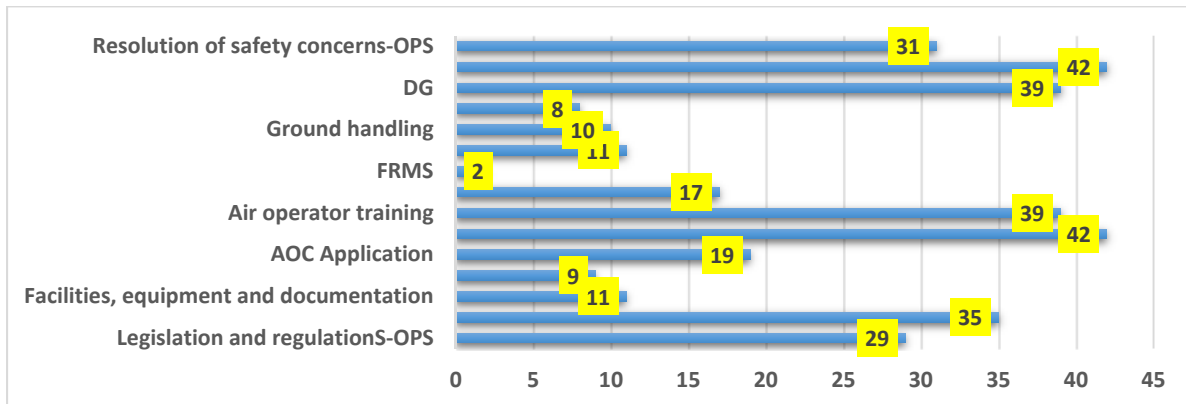
Graph 9: Source OLF dated 20 Sept. 2018:
Number of PQs in OPS Audit sub-Group-Aggregated Result

4. ANALYSIS: HIGHLIGHTS OF THE IDENTIFIED ISSUES

4.1　　　Some States have not developed adequate procedures for the issuance of approvals and authorizations contained in the operations specifications associated with the air operator certificate (AOC), including reduced vertical separation minima (RVSM), extended diversion time operation (EDTO), Required Navigation Performance (RNP), minimum navigation performance specification (MNPS), and performance-based navigation (PBN).

4.2　　　Some States have not established and implemented a consistent requirement and procedures for the approval of an air operator's ground flight facilities, simulators and other training devices, and training programmes and syllabi prior to granting an AOC or other specific approvals.

4.3　　　Some States have not implemented an effective system for safety oversight of the various entities involved in the transport of dangerous goods, including shippers, packers, cargo handling companies and air operators. In addition, in some States, dangerous goods inspector procedures have not been established and implemented.

4.4　　　Most of States have not effectively reviewed the dangerous goods procedures of air operators, contained in the operations and ground handling manuals.

4.5　　　Some of the States have not implemented a comprehensive surveillance programme to verify that all AOC holders in the State comply, on a continuing basis, with national regulations, international standards as well as the provisions of the AOCs and associated operations specifications.

4.6　　　The surveillance programmes established by some States are often not fully implemented and records of inspections conducted are not systematically kept.

4.7　　　Some of the States have not ensured compliance with Annex 6 whereby an operator of an aeroplane of a maximum certificated take-off mass in excess of 27 000 kg must establish and maintain a flight data analysis programme as part of its SMS.

4.8　　　Some States have not established a training policy for the technical personnel of the CAA. Ideally, it should require the establishment of comprehensive and detailed training programmes for all technical personnel in aircraft operations within the CAA and the establishment of periodic training plans for each technical staff member.

4.9　　　In most cases, the lack of sufficient financial resources remains the main obstacle to the provision of training, which results in the inspectorate and relevant staff not having all qualifications needed to effectively perform licensing, certification, authorization, approval and surveillance activities.

5. RECOMMENDED STRATEGIES

Actions to be taken by Members States

5.1　　　States Civil Aviation Authorities need to:

　　a) establish rule-making process to ensure timely amendment and promulgation of the OPS specific operating regulations in compliance with the Annexes to the Chicago Convention;

b) establish procedures for the issuance of approvals and authorizations contained in the operations specifications;

c) ensure that air operators have implemented an SMS acceptable to the State. Additionally, States need to actively engage air operators in the development of SMS SPIs;

d) ensure proper and timely review of the documentation of the air operators;

e) ensure that OPS inspectorates and technical experts are well staffed with qualified personnel in order to carry out their regulatory and surveillance functions in an effective manner;

f) ensure that adequate training is provided for the technical personnel;

g) review dangerous goods procedures of air operators; and

h) establish and implement an effective surveillance programme.

Action to be taken by ICAO MID office in coordination with other stakeholders

5.2 ICAO MID needs to:

a. identify States that may require support and ensure such support is offered;

b. prepare a plan of action to support the mentioned States above in the area of operations using the NCLB initiatives, assistance visit, etc.; and

c. conduct Regional Safety Management system workshops and other programmes workshops to support the States.

5.3 The RASG-MID needs to:

a. collect and perform analysis of available regional safety data to identify trends, risks and contributing factors. These activities to be reviewed and conducted on a recurring basis to reassess risks.

b. develop: Safety Enhancement Initiatives (SEIs) and Detailed Implementation Plans (DIPs); and monitor and actively manage regional action plans, including:

- review resources requirements;
- facilitate partnerships between regional stakeholders (States, IATA, ACAO, industry, RASG/PIRGs);
- give priority to the safety risk management activities related to high risk accidents such as Runway Safety, LOC-I, CFIT which could be triggered by operations deficiencies;
- measure implementation/effectiveness; and
- update action plans, as necessary.

APPENDIX B

USOAP AGA AREA- ANALYSIS REPORT

1.   **INTRODUCTION**

1.1   An in-depth analysis of the USOAP-CMA data could be very useful for the identification of areas of concern, common deficiencies, etc; and would provide good insight for the prioritization of the assistance/NCLB activities in the MID Region. As a first step, the Secretariat carried out an analysis of the AGA area. The analysis is based on the safety oversight results and iSTARS data.

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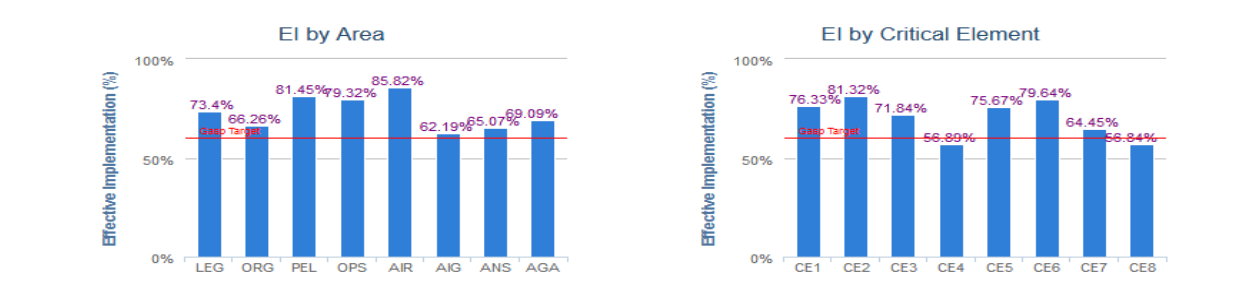
2.   **THE SAFETY OVERSIGHT STATUS OF MID STATES**

2.1   The **Graph 1** shows that 2 States out of 15 (Iraq and Yemen) have not yet received a USOAP audit. The current average USOAP score for States in the MID Region is 73.11%, which is above the world average of 67.36%. 76.92% of the MID States have achieved the target of 60% EI, as suggested by the Global Aviation Safety Plan (GASP). Three States are still below the GASP target of 60%.
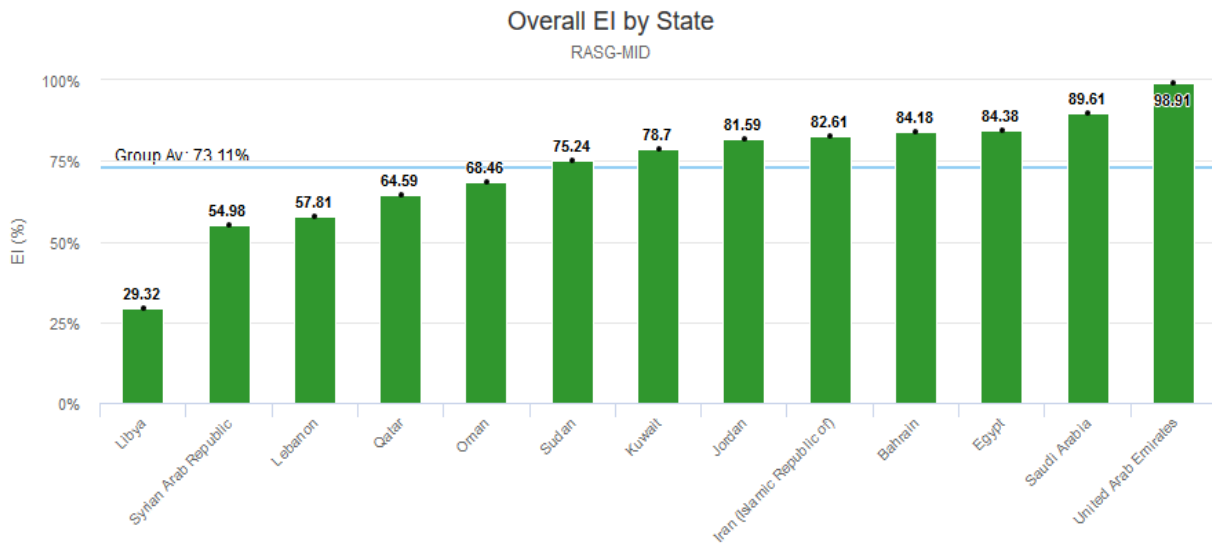
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2.3   When the results of the MID States are aggregated at the level of the group, they indicate good progress in the implementation of the safety oversight requirements. In accordance with the GASP and the MID Region Safety Strategy. However, by drilling down in the audit area of AGA and looking to the number of aggregated unsatisfactory PQs for AGA area in table 1, it becomes clearer where further improvement in effective implementation is still needed. If the 60% target is applied to individual audit areas, then two MID States (Jordan and Libya) need to further improve implementation in the area of AGA. It is noticed that three States (Kuwait, Lebanon, Libya, Oman, Sudan, and Syria) have an EI above 60% in the area of AGA; however, they also have a considerable unsatisfactory PQs in this area.

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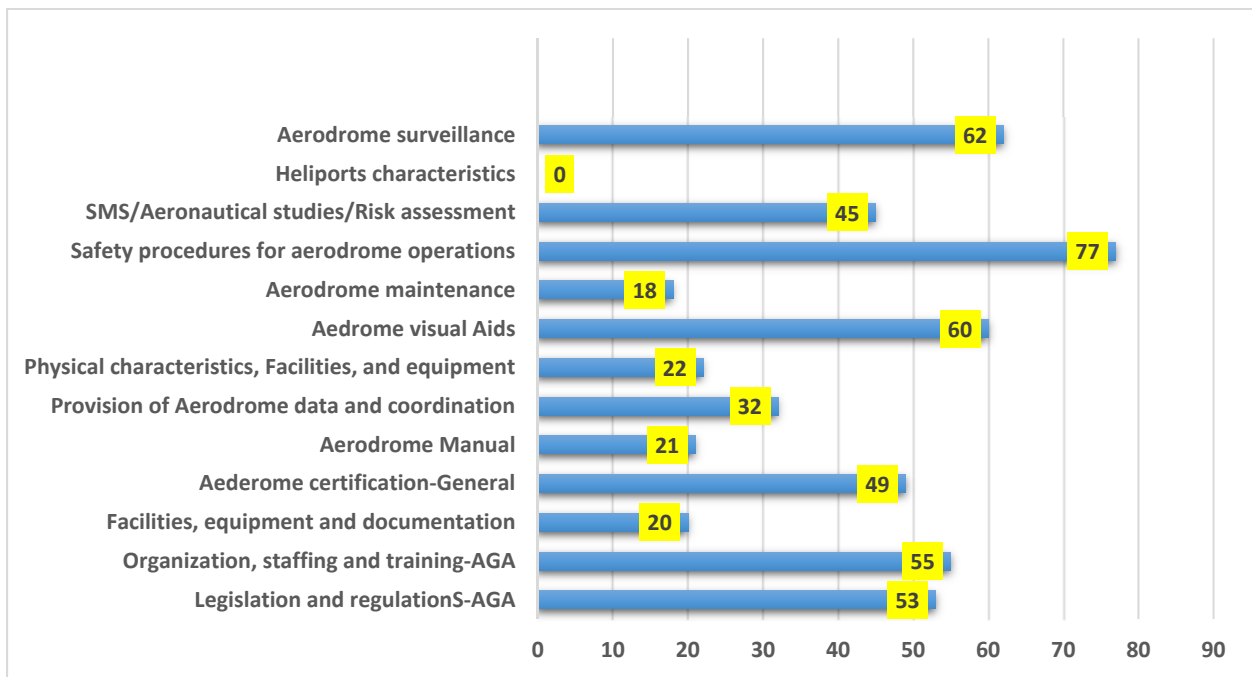
Graph 3: Source OLF dated 5 Feb. 2019:
Number of PQs in OPS Audit sub-Group-Aggregated Result

3.   ANALYSIS: HIGHLIGHTS OF THE MAIN IDENTIFIED ISSUES

i.   Some States have not fully established and implemented the requirements for the certification of aerodromes.

ii.   Some States have not ensured that aerodrome operators receiving international flights have implemented an SMS acceptable to the State, as part of their aerodrome certification process.

iii. Some States have not established and implemented a formal surveillance programme for their certified aerodromes with associated procedures and periodic surveillance plans.

iv.   Some States do not ensure that their aerodrome operators have established and implemented integrated strategies, including the establishment of Runway Safety Teams (RSTs), for the prevention of runway incursions and other accidents and incidents at aerodromes.

v.   Some States have not established and implemented a quality system to verify the accuracy of aerodrome data to ensure compliance with the regulations, and to ensure that the accuracy, integrity and protection requirements for aeronautical data reported by the aerodrome operator are met throughout the data transfer process from the survey/origin to the next intended use.

vi.   Some States do not have the resources and sufficient number of qualified and experienced aerodrome technical staff with the appropriate mix of technical disciplines to be able to cover all aspects involved in the certification of aerodromes.

4.   **RGS WG ACTION**: RGS Working Group needs to further finalise the analysis of the report.

-END-