*International Civil Aviation Organization*

**AIR NAVIGATION SYSTEMS IMPLEMENTATION GROUP**

**Third Meeting (ANSIG/3)**
***(Cairo, Egypt, 2 – 4 July 2018)***

**Agenda Item 4: Performance Framework for Regional Air Navigation Implementation**

# STATUS OF IMPLEMENTATION OF B0-APTA, B0-CCO AND B0-CDO

*(Presented by the Secretariat)*

**SUMMARY**

This paper presents the status of implementation of B0-APTA, B0-CCO and B0-CDO in the MID Region and seeks ways and means to expedite the implementation in order to meet the agreed performance targets.

Action by the meeting is at paragraph 3.

**REFERENCES**

- MID Air Navigation Strategy (MID Doc 002)
- MID eANP Volume III

## 1. INTRODUCTION

1.1 Performance Improvement Area 1 (*Airport Operations*) includes five (5) Modules in Block 0 from which B0-APTA, B0-SURF and B-ACDM have considered priority 1 for implementation in the MID Region as well as B0-CCO and B0-CDO from the Performance Improvement Area 4 *(Efficient Flight Path – Through Trajectory-based Operations)*.

## 2. DISCUSSION

### *B0-APTA*

2.1 B0-APTA (Airport Accessibility) as a priority 1 Module, it complements other airspace and procedures elements (continuous descent operations (CDO), PBN and airspace management) to increase efficiency, safety, access and predictability.

### *Challenges and recommendations*

2.2 The meeting may wish to note that the following challenges have been identified by the PBN SG/3 meeting (Cairo, Egypt, 11-13 February 2018), as the main impediments to the advancement of PBN implementation in the Region:

- shortage of PANS-OPS, Airspace Planners and OPS-approval experts;
- insufficient procedure design work in some States to attain or maintain competency;
- lack of airspace and procedure design training: initial, OJT, and/or recurrent;

- lack of capabilities to implement Quality Assurance;
- lack of regulatory expertise to oversee the process leading to procedure publication;
- low level of civil/military cooperation;
- unstable political and security situation in some States;
- data gathering and validation;
- fleet equipage;
- Operational Improvements Assessment;
- catering for non-compliance (mixed equipage environment);
- fully integrated system (IFP, AIM, eTOD);
- airspace changes to accommodate current and projected traffic increase and further improve safety, capacity and efficiency;
- GNSS signal vulnerability;
- maintain Target Level of Safety (TLS); and
- stakeholders (ATCOs, Pilots, etc.) training and readiness.

2.3 The PBN SG/3 meeting encouraged States to:

- ensure the training/recruitment of qualified experts in the fields of FPD, airspace planning, and operations approval;
- work cooperatively;
- request ICAO support for the training and implementation of PBN;
- organize at National level PBN Workshops;
- engage all stakeholders and in particular the Regulator in the planning and design processes;
- share experience and support each other;
- use IFSET and/or other tools for the assessment of the benefit accrued for the implementation of PBN;
- review the published IFPs at least each 5 years, in accordance with ICAO provisions; and
- join the MID FPP.

***B0-CDO***

2.4 B0-CDO (Continuous Descent Operations) Module aims to use performance-based airspace and arrival procedures allowing aircraft to fly their optimum profile using continuous descent operations. This will optimize throughput, allow fuel efficient descent profiles and increase capacity in terminal areas

***B0-CCO***

2.5 B0-CCO (Continuous Climb Operations) Module aims to implement continuous climb operations in conjunction with performance-based navigation (PBN) to provide opportunities to optimize throughput, improve flexibility, enable fuel-efficient climb profiles and increase capacity at congested terminal areas.

2.6 Performance Indicators/Supporting Metrics, Targets and status of the implementation of B0-APTA, B0-CDO and B0-CCO are detailed in **Appendix A**.

***MID Flight Procedure Programme (MID FPP)***

2.7 The meeting may wish to note that the MID Flight Procedure Programme is on-going, with planned to start operation in January 2019. The MID FPP main objective in Phase 1 is building the MID States' regulatory, oversight and service provisions capabilities related to instrument flight procedure, which eventually will foster PBN Implementation.

2.8 It is to be highlighted that based on the outcome of the MID FPP Kick-off meeting (Cairo, Egypt, 22 – 24 January 2018), the MID Office circulated the consolidated draft MID FPP Project Document at **Appendix B** for States review through State Letter AN 6/33 – 18/144 dated 9 May 2018. Only, Lebanon provided feedback.

## 3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) review and update the status of implementation of B0-APTA, B0-CDO and B0-CCO;

b) identify the difficulties faced in the implementation of B0-APTA, B0-CDO and B0-CCO;

c) recommend measures to expedite the implementation process and meet the agreed performance targets; and

d) encourage States to join the MID FPP.

---

# APPENDIX A

## *B0 – APTA: Optimization of Approach Procedures including vertical guidance*

**Description and purpose:**

The use of performance-based navigation (PBN) and ground-based augmentation system (GBAS) landing system (GLS) procedures will enhance the reliability and predictability of approaches to runways, thus increasing safety, accessibility and efficiency. This is possible through the application of Basic global navigation satellite system (GNSS), Baro vertical navigation (VNAV), satellite-based augmentation system (SBAS) and GLS. The flexibility inherent in PBN approach design can be exploited to increase runway capacity.

**Main performance impact:**

| KPA- 01 – Access and Equity | KPA-02 – Capacity | KPA-04 – Efficiency | KPA-05 – Environment | KPA-10 – Safety |
|---|---|---|---|---|
| Y | Y | Y | Y | Y |

**Applicability consideration:**

This module is applicable to all instrument, and precision instrument runway ends, and to a limited extent, non-instrument runway ends.

| *B0 – APTA: Optimization of Approach Procedures including vertical guidance* | | | |
|---|---|---|---|
| **Elements** | **Applicability** | **Performance Indicators/Supporting Metrics** | **Targets** |
| States' PBN Implementation Plans | All States | Indicator: % of States that provided updated PBN implementation Plan<br><br>Supporting metric: Number of States that provided updated PBN implementation Plan | 100% by Dec. 2018 |
| LNAV | All RWYs Ends at International Aerodromes | Indicator: % of runway ends at international aerodromes with RNAV(GNSS) Approach Procedures (LNAV)<br><br>Supporting metric: Number of runway ends at international aerodromes with RNAV (GNSS) Approach Procedures (LNAV) | All runway ends at Int'l Aerodromes, either as the primary approach or as a back-up for precision approaches by Dec. 2016 |
| LNAV/VNAV | All RWYs ENDs at International Aerodromes | Indicator: % of runways ends at international aerodromes provided with Baro-VNAV approach procedures (LNAV/VNAV)<br><br>Supporting metric: Number of runways ends at international aerodromes provided with Baro-VNAV approach procedures (LNAV/VNAV) | All runway ends at Int'l Aerodromes, either as the primary approach or as a back-up for precision approaches by Dec. 2017 |

## *B0 – CDO: Improved Flexibility and Efficiency in Descent Profiles (CDO)*

**Description and purpose:**

To use performance-based airspace and arrival procedures allowing aircraft to fly their optimum profile using continuous descent operations (CDOs). This will optimize throughput, allow fuel efficient descent profiles and increase capacity in terminal areas.

**Main performance impact:**

| KPA- 01 – Access and Equity | KPA-02 – Capacity | KPA-04 – Efficiency | KPA-05 – Environment | KPA-10 – Safety |
|---|---|---|---|---|
| N | Y | Y | Y | Y |

**Applicability consideration:**

Regions, States or individual locations most in need of these improvements. For simplicity and implementation success, complexity can be divided into three tiers:

a) least complex – regional/States/locations with some foundational PBN operational experience that could capitalize on near term enhancements, which include integrating procedures and optimizing performance;

b) more complex – regional/States/locations that may or may not possess PBN experience, but would benefit from introducing new or enhanced procedures. However, many of these locations may have environmental and operational challenges that will add to the complexities of procedure development and implementation; and

c) most complex – regional/States/locations in this tier will be the most challenging and complex to introduce integrated and optimized PBN operations. Traffic volume and airspace constraints are added complexities that must be confronted. Operational changes to these areas can have a profound effect on the entire State, region or location.

| ***B0 – CDO: Improved Flexibility and Efficiency in Descent Profiles (CDO)*** | | | |
|---|---|---|---|
| **Elements** | **Applicability** | **Performance Indicators/Supporting Metrics** | **Targets** |
| PBN STARs | OBBI, HESN, HESH, HEMA, HEGN, HELX, OIIE, OISS, OIKB, OIMM, OIFM, ORER, ORNI, OJAM, OJAI, OJAQ, OKBK, OLBA, OOMS, OOSA, OTHH, OEJN, OEMA, OEDF, OERK, HSNN, HSOB, HSSS, HSPN, OMAA, OMAD, OMDB, OMDW, OMSJ | Indicator: % of International Aerodromes/TMA with PBN STAR implemented as required.<br><br>Supporting Metric: Number of International Aerodromes/TMAs with PBN STAR implemented as required. | 100% by Dec. 2018 for the identified Aerodromes/TMAs |
| International aerodromes/TMAs with CDO | OBBI, HESH, HEMA, HEGN, OIIE, OIKB, OIFM, OJAI, OJAQ, OKBK, OLBA, OOMS, OTHH, OEJN, OEMA, OEDF, OERK, HSSS, HSPN, OMAA, OMDB, OMDW, OMSJ | Indicator: % of International Aerodromes/TMA with CDO implemented as required.<br><br>Supporting Metric: Number of International Aerodromes/TMAs with CDO implemented as required. | 100% by Dec. 2018 for the identified Aerodromes/TMAs |

***B0 – CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)***

**Description and purpose:**

To implement continuous climb operations in conjunction with performance-based navigation (PBN) to provide opportunities to optimize throughput, improve flexibility, enable fuel-efficient climb profiles and increase capacity at congested terminal areas.

**Main performance impact:**

| KPA- 01 – Access and Equity | KPA-02 – Capacity | KPA-04 – Efficiency | KPA-05 – Environment | KPA-10 – Safety |
|---|---|---|---|---|
| N/A | N/A | Y | Y | Y |

**Applicability consideration:**

Regions, States or individual locations most in need of these improvements. For simplicity and implementation success, complexity can be divided into three tiers:

a) least complex: regional/States/locations with some foundational PBN operational experience that could capitalize on near-term enhancements, which include integrating procedures and optimizing performance;

b) more complex: regional/States/locations that may or may not possess PBN experience, but would benefit from introducing new or enhanced procedures. However, many of these locations may have environmental and operational challenges that will add to the complexities of procedure development and implementation; and

c) most complex: regional/States/locations in this tier will be the most challenging and complex to introduce integrated and optimized PBN operations. Traffic volume and airspace constraints are added complexities that must be confronted. Operational changes to these areas can have a profound effect on the entire State, region or location.

| ***B0 – CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)*** | | | |
|---|---|---|---|
| **Elements** | **Applicability** | **Performance Indicators/Supporting Metrics** | **Targets** |
| PBN SIDs | OBBI, HESN, HESH, HEMA, HEGN, HELX, OIIE, OISS, OIKB, OIMM, OIFM, ORER, ORNI, OJAM, OJAI, OJAQ, OKBK, OLBA, OOMS, OOSA, OTHH, OEJN, OEMA, OEDF, OERK, HSNN, HSOB, HSSS, HSPN, OMAA, OMAD, OMDB, OMDW, OMSJ | Indicator: % of International Aerodromes/TMA with PBN SID implemented as required.<br><br>Supporting Metric: Number of International Aerodromes/ TMAs with PBN SID implemented as required. | 100% by Dec. 2018 for the identified Aerodromes/TMAs |
| International aerodromes/TMAs with CCO | OBBI, HESN, HESH, HEMA, HEGN, HELX, OIIE, OIKB, OIFM, ORER, ORNI, OJAM, OJAI, OJAQ, OKBK, OLBA, OOMS, OOSA, OTHH, OEJN, OEMA, OEDF, OERK, HSNN, HSOB, HSSS, HSPN, OMAA, OMDB, OMDW, OMSJ | Indicator: % of International Aerodromes/TMA with CCO implemented as required.<br><br>Supporting Metric: Number of International Aerodromes/TMAs with CCO implemented as required. | 100% by Dec. 2018 for the identified Aerodromes/TMAs |

**MID REGION TMAs Procedures Implementation (ASBU B0-APTA, B0-CCO and B0-CDO)**
**(*Status as of December 2017*)**

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN | LNAV | LNAV / VNAV | PBN | RNAV | PER | CCO | PER | RNAV STAR | PER | CDO | PER | |
| | | xLS | CAT | | Update date | | | RWY | SID | AD | | AD | | AD | | AD | |
| **BAHRAIN** | | | | | | | | | | | | | | | | | 1 |
| OBBI | 12L | ILS | I | VORDME | | Y | | Y | | | | | Y | Y | | | |
| | 30R | ILS | I | VORDME | | Y | | Y | | | | | Y | | | | |
| Total | 2 | 2 | | 2 | Y | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | |
| % | | 100 | | 100 | Dec 2016 | 100 | 0 | 100 | 0 | 0 | 0 | 0 | 100 | 100 | 0 | 0 | |
| **EGYPT** | | | | | | | | | | | | | | | | | 7 |
| HEBA | 14 | | | | | | | | | | | | | | | | |
| | 32 | ILS | I | | | Y | | Y | Y | Y | | | | | | | |
| HESN | 17 | | | VORDME | | Y | | Y | Y | Y | | | Y | Y | | | |
| | 35 | ILS | I | VORDME | | Y | | Y | Y | | | | Y | | | | |
| HECA | 05L | ILS | I | VORDME | | Y | | Y | | | | | | | | | |
| | 05C | ILS | II | VORDME | | Y | | Y | | | | | | | | | |
| | 05R | ILS | II | | | Y | | Y | | | | | | | | | |
| | 23L | ILS | II | VORDME | | Y | | Y | | | | | | | | | |
| | 23C | ILS | II | VORDME | | Y | | Y | | | | | | | | | |
| | 23R | ILS | I | VORDME | | Y | | Y | | | | | | | | | |
| HEGN | 16L | | | VORDME | | Y | Y | Y | | Y | | | | Y | | | |
| | 16R | | | VORDME | | Y | Y | Y | | | | | | | | | |
| | 34L | | | VORDME | | Y | Y | Y | Y | | | | Y | | | | |
| | 34R | ILS | I | VORDME | | Y | Y | Y | Y | | | | Y | | | | |
| HELX | 2 | ILS | I | VORDME | | Y | | Y | Y | Y | | | Y | Y | | | |
| | 20 | ILS | I | VORDME | | Y | | Y | Y | | | | Y | | | | |

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN | LNAV | LNAV / VNAV | PBN | RNAV | PER | CCO | PER | RNAV STAR | PER | CDO | PER | |
| | | xLS | CAT | | Update date | | | RWY | SID | AD | | AD | | AD | | AD | |
| HEMA | 15 | | | VORDME | | Y | | Y | Y | Y | | | Y | Y | | | |
| | 33 | | | VORDME | | Y | | Y | Y | | | | Y | | | | |
| HESH | 04L | ILS | I | VORDME | | Y | Y | Y | Y | Y | | | Y | Y | | | |
| | 04R | | | VORDME | | Y | Y | Y | Y | | | | Y | | | | |
| | 22L | | | | | Y | Y | Y | Y | | | | Y | | | | |
| | 22R | | | | | Y | Y | Y | Y | | | | Y | | | | |
| Total | 22 | 12 | | 17 | Y | 21 | 8 | 21 | 13 | 6 | 0 | 0 | 12 | 5 | 0 | 0 | |
| % | | 55 | | 77 | Oct 2017 | 95 | 36 | 95 | 59 | 86 | 0 | 0 | 55 | 71 | 0 | 0 | |

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN | LNAV | LNAV / VNAV | PBN | RNAV | PER | CCO | PER | RNAV STAR | PER | CDO | PER | |
| | | xLS | CAT | | Update date | | | RWY | SID | AD | | AD | | AD | | AD | |
| **I.R. IRAN** | | | | | | | | | | | | | | | | | 9 |
| OIKB | 03L | | | | | | | | | | | | | | | | |
| | 03R | | | VORDME / NDB | | | | | | | | | | | | | |
| | 21L | ILS | I | VORDME / NDB | | | | | | | | | | | | | |
| | 21R | | | | | | | | | | | | | | | | |
| OIFM | 08L | | | VORDME / NDB | | | | | | | | | | | | | |
| | 08R | | | VORDME / NDB | | | | | | | | | | | | | |
| | 26L | | | VORDME / NDB | | | | | | | | | | | | | |
| | 26R | ILS | I | VORDME / NDB | | | | | | | | | | | | | |
| OIMM | 13L | | | VORDME | | | | | | | | | | | | | |
| | 13R | | | VORDME | | | | | | | | | | | | | |
| | 31L | | | VORDME / NDB | | | | | | | | | | | | | |
| | 31R | ILS | I | VORDME / NDB | | | | | | | | | | | | | |
| OISS | 11L | | | | | | | | | | | | | | | | |
| | 11R | | | | | | | | | | | | | | | | |
| | 29L | ILS | I | VORDME / NDB | | | | | | | | | | | | | |
| | 29R | | | VORDME / NDB | | | | | | | | | | | | | |
| OITT | 12L | | | VORDME / NDB | | | | | | | | | | | | | |
| | 12R | | | VORDME / NDB | | | | | | | | | | | | | |
| | 30L | ILS | I | VORDME / NDB | | | | | | | | | | | | | |
| | 30R | ILS | I | VORDME / NDB | | | | | | | | | | | | | |

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN | LNAV | LNAV / VNAV | PBN | RNAV | PER | CCO | PER | RNAV STAR | PER | CDO | PER | |
| | | xLS | CAT | | Update date | | | RWY | SID | AD | | AD | | AD | | AD | |
| OIIE | 11L | | | VORDME | | | | | | | | | Y | Y | | | |
| | 11R | | | VORDME | | | | | | | | | Y | | | | |
| | 29L | | | | | | | | | | | | Y | | | | |
| | 29R | ILS | II | VORDME | | Y | Y | Y | | | | | Y | | | | |
| OIII | 11L | | | VORDME | | | | | | | | | | | | | |
| | 11R | | | VORDME | | | | | | | | | | | | | |
| | 29L | ILS | I | VORDME | | Y | Y | Y | | | | | | | | | |
| | 29R | | | VORDME | | | | | | | | | | | | | |
| OIZH | 17 | | | | | Y | Y | Y | | | | | Y | Y | | | |
| | 35 | ILS | I | VORDME | | Y | Y | Y | | | | | Y | | | | |
| OIYY | 13 | | | VORDME | | | | | | | | | | | | | |
| | 31 | | | VORDME | | | | | | | | | | | | | |
| Total | 32 | 9 | | 26 | Y | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 6 | 2 | 0 | 0 | |
| % | | 28 | | 81 | Mar. 2016 | 13 | 13 | 13 | 0 | 0 | 0 | 0 | 19 | 22 | 0 | 0 | |
| **IRAQ** | | | | | | | | | | | | | | | | | 6 |
| ORBI | 15L | ILS | I | VORDME | | | | | | | | | | | | | |
| | 15R | | | | | Y | | Y | | | | | | | | | |
| | 33L | | | | | Y | | Y | | | | | | | | | |
| | 33R | ILS | I | VORDME | | | | | | | | | | | | | |
| ORMM | 14 | | | VORDME | | | | | | | | | | | | | |
| | 32 | ILS | I | VORDME | | | | | | | | | | | | | |
| ORER | 18 | ILS | II | | | Y | | Y | | | | | | | | | |
| | 36 | ILS | I | | | Y | | Y | | | | | | | | | |
| ORSU | 13 | ILS | I | VOR | | Y | | Y | | | | | | | | | |
| | 31 | ILS | I | VOR | | Y | | Y | | | | | | | | | |

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN | LNAV | LNAV / VNAV | PBN | RNAV | PER | CCO | PER | RNAV STAR | PER | CDO | PER | |
| | | xLS | CAT | | Update date | | | RWY | SID | AD | | AD | | AD | | AD | |
| ORNI | 10 | ILS | I | VOR | | Y | Y | Y | Y | Y | | | Y | Y | | | |
| | 28 | ILS | I | VOR | | Y | Y | Y | Y | | | | Y | | | | |
| ORBM | 15 | | | | | | | | | | | | | | | | |
| | 33 | | | | | | | | | | | | | | | | |
| Total | 14 | 9 | | 8 | N | 8 | 2 | 8 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | |
| % | | 64 | | 57 | | 57 | 14 | 57 | 14 | 17 | 0 | 0 | 14 | 17 | 0 | 0 | |

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN | LNAV | LNAV / VNAV | PBN | RNAV | PER | CCO | PER | RNAV STAR | PER | CDO | PER | |
| | | xLS | CAT | | Update date | | | RWY | SID | AD | | AD | | AD | | AD | |
| **JORDAN** | | | | | | | | | | | | | | | | | 2 |
| OJAI | 08L | ILS | I | NDB | | | | | Y | Y | | | Y | Y | | | |
| | 08R | | | NDB | | | | | Y | | | | Y | | | | |
| | 26L | ILS | II | VOR | | Y | Y | Y | Y | | | | Y | | | | |
| | 26R | ILS | I | VORDME | | Y | Y | Y | Y | | | | Y | | | | |
| OJAQ | 1 | ILS | I | | | Y | Y | Y | Y | Y | | | Y | Y | | | |
| | 19 | ILS | I | | | Y | N/A | Y | Y | | | | Y | | | | LNAV/VNAV not feasible |
| **Total** | **6** | **5** | | **4** | **Y** | **4** | **4** | **4** | **6** | **2** | **0** | **0** | **6** | **2** | **0** | **0** | |
| **%** | | **83** | | **67** | **July 2009** | **67** | **67** | **67** | **100** | **100** | **0** | **0** | **100** | **100** | **0** | **0** | **Plan needs update** |
| **KUWAIT** | | | | | | | | | | | | | | | | | 1 |
| OKBK | 15L | ILS | II | VORDME | | Y | Y | Y | Y | Y | | | Y | Y | | | |
| | 15R | ILS | II | VORDME | | Y | Y | Y | Y | | | | Y | | | | |
| | 33L | ILS | II | VORDME | | Y | Y | Y | Y | | | | Y | | | | |
| | 33R | ILS | II | VORDME | | Y | Y | Y | Y | | | | Y | | | | |
| **Total** | **4** | **4** | | **4** | **Y** | **4** | **4** | **4** | **4** | **1** | **0** | **0** | **4** | **1** | **0** | **0** | |
| **%** | | **100** | | **100** | **Mar. 2015** | **100** | **100** | **100** | **100** | **100** | **0** | **0** | **100** | **100** | **0** | **0** | **Plan needs update** |
| **LEBANON** | | | | | | | | | | | | | | | | | 1 |
| OLBA | 3 | ILS | I | VORDME | | Y | | Y | | | | | Y | Y | Y | Y | |
| | 16 | ILS | I | VORDME | | Y | | Y | | | | | Y | | Y | | |
| | 17 | ILS | I | VORDME / NDB | | Y | | Y | | | | | Y | | Y | | |
| | 21 | | | | | Y | | Y | | | | | Y | | Y | | |
| | 34 | N/A | | N/A | | | | | | | | | | | | | Not used for landing |
| | 35 | N/A | | N/A | | | | | | | | | | | | | Not used for landing |
| **Total** | **4** | **5** | | **5** | **N** | **4** | **0** | **4** | **0** | **0** | **0** | **0** | **4** | **1** | **4** | **1** | |
| **%** | | **125** | | **125** | | **100** | **0** | **100** | **0** | **0** | **0** | **0** | **100** | **100** | **100** | **100** | |

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN Update date | LNAV | LNAV / VNAV | PBN RWY | RNAV SID | PER AD | CCO | PER AD | RNAV STAR | PER AD | CDO | PER AD | |
| | | xLS | CAT | | | | | | | | | | | | | | |
| **LIBYA** | | | | | | | | | | | | | | | | | 3 |
| HLLB | 15R | | | VORDME | | | | | | | | | | | | | VOR not flight checked |
| | 15L | | | VORDME | | | | | | | | | | | | | VOR not flight checked |
| | 33R | | | VORDME | | | | | | | | | | | | | VOR not flight checked |
| | 33L | ILS | I | VORDME | | | | | | | | | | | | | ILS not flight checked |
| HLLS | 13 | ILS | I | VORDME | | | | | | | | | | | | | ILS not flight checked |
| | 31 | | | VORDME | | | | | | | | | | | | | VOR not flight checked |
| HLLT | 9 | | | VORDME | | | | | | | | | | | | | VOR not flight checked |
| | 27 | ILS | I | VORDME | | | | | | | | | | | | | ILS not flight checked |
| Total | 8 | 3 | | 8 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| % | | 38 | | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| **OMAN** | | | | | | | | | | | | | | | | | 2 |
| OOMS | 08L | ILS | I | VORDME | | Y | Y | Y | Y | Y | | | Y | Y | | | |
| | 26R | ILS | I | VORDME | | Y | Y | Y | Y | | | | Y | | | | |
| OOSA | 7 | ILS | I | VORDME | | Y | Y | Y | Y | Y | | | Y | Y | | | |
| | 25 | ILS | I | VORDME | | Y | Y | Y | Y | | | | Y | | | | |
| Total | 4 | 4 | | 4 | Y | 4 | 4 | 4 | 4 | 2 | 0 | 0 | 4 | 2 | 0 | 0 | |
| % | | 100 | | 100 | Feb. 2015 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 | 100 | 0 | 0 | |
| **QATAR** | | | | | | | | | | | | | | | | | 2 |
| OTBD | 15 | ILS | I | VORDME | | Y | N/A | Y | Y | Y | Y | Y | Y | Y | Y | Y | LNAV/VNAV not feasible |
| | 33 | ILS | II/III | VORDME/ NDB | | Y | Y | Y | Y | | Y | | Y | | Y | | CCO/CDO tactically achieved |

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN | LNAV | LNAV / VNAV | PBN | RNAV | PER | CCO | PER | RNAV STAR | PER | CDO | PER | |
| | | xLS | CAT | | Update date | | | RWY | SID | AD | | AD | | AD | | AD | |
| OTHH | 16L | ILS | I/II/III | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | CCO/CDO tactically achieved |
| | 16R | ILS | I/II/III | VORDME | | Y | Y | Y | Y | | Y | | Y | | Y | | CCO/CDO tactically achieved |
| | 34L | ILS | I/II/III | VORDME | | Y | Y | Y | Y | | Y | | Y | | Y | | CCO/CDO tactically achieved |
| | 34R | ILS | I/II/III | VORDME | | Y | Y | Y | Y | | Y | | Y | | Y | | CCO/CDO tactically achieved |
| Total | 6 | 6 | | 6 | Y | 6 | 5 | 6 | 6 | 2 | 6 | 2 | 6 | 2 | 6 | 2 | |
| % | | 100 | | 100 | Jan. 2016 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN Update date | LNAV | LNAV / VNAV | PBN RWY | RNAV SID | PER AD | CCO | PER AD | RNAV STAR | PER AD | CDO | PER AD | |
| | | xLS | CAT | | | | | | | | | | | | | | |
| **SAUDI ARABIA** | | | | | | | | | | | | | | | | | 4 |
| OEDF | 16L | ILS | I | VORDME | | | | | | | | | | | | | |
| | 16R | ILS | I | VORDME | | | | | | | | | | | | | |
| | 34L | ILS | I | VORDME | | | | | | | | | | | | | |
| | 34R | ILS | I | VORDME | | | | | | | | | | | | | |
| OEJN | 16L | ILS | I | | | | | | | | | | | | | | |
| | 16C | ILS | I | | | | | | | | | | | | | | |
| | 16R | ILS | I | VORDME | | | | | | | | | | | | | |
| | 34L | ILS | I | VORDME | | | | | | | | | | | | | |
| | 34C | ILS | I | VORDME | | | | | | | | | | | | | |
| | 34R | ILS | I | | | | | | | | | | | | | | |
| OEMA | 17 | ILS | I | VORDME | | Y | | Y | Y | Y | | | Y | Y | | | |
| | 18 | | | VORDME | | Y | | Y | Y | | | | Y | | | | |
| | 35 | ILS | I | VORDME | | Y | | Y | Y | | | | Y | | | | |
| | 36 | ILS | I | VORDME | | Y | | Y | Y | | | | Y | | | | |
| OERK | 15L | ILS | I | VORDME | | | | | | | | | | | | | |
| | 15R | ILS | I | | | | | | | | | | | | | | |
| | 33L | ILS | I | | | | | | | | | | | | | | |
| | 33R | ILS | I | VORDME | | | | | | | | | | | | | |
| **Total** | **18** | **17** | | **13** | **Y** | **4** | **0** | **4** | **4** | **1** | **0** | **0** | **4** | **1** | **0** | **0** | |
| **%** | | **94** | | **72** | **May 2012** | **22** | **0** | **22** | **22** | **25** | **0** | **0** | **22** | **25** | **0** | **0** | **Plan needs update** |

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN Update date | LNAV | LNAV / VNAV | PBN RWY | RNAV SID | PER AD | CCO | PER AD | RNAV STAR | PER AD | CDO | PER AD | |
| | | xLS | CAT | | | | | | | | | | | | | | |
| **SUDAN** | | | | | | | | | | | | | | | | | 4 |
| HSNN | 4 | | | | | Y | | Y | | | | | | | | | |
| | 22 | | | | | Y | | Y | | | | | | | | | |
| HSOB | 1 | | | | | Y | | Y | | | | | | | | | |
| | 19 | | | | | Y | | Y | | | | | | | | | |
| HSSS | 18 | ILS | I | VORDME | | Y | | Y | Y | Y | | | Y | Y | | | |
| | 36 | ILS | I | VORDME | | Y | | Y | Y | | | | Y | | | | |
| HSPN | 17 | | | VORDME / NDB | | Y | | Y | | | | | | | | | |
| | 35 | ILS | I | VORDME / NDB | | Y | | Y | | | | | | | | | |
| Total | 6 | 3 | | 4 | Y | 6 | 0 | 6 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | |
| % | | 50 | | 67 | Dec. 2015 | 100 | 0 | 100 | 33 | 25 | 0 | 0 | 33 | 25 | 0 | 0 | |
| **SYRIA** | | | | | | | | | | | | | | | | | 3 |
| OSAP | 9 | | | VORDME | | | | | | | | | | | | | |
| | 27 | ILS | II | VORDME / NDB | | | | | | | | | | | | | |
| OSLK | 17 | ILS | I | VORDME / NDB | | | | | | | | | | | | | |
| | 35 | | | | | | | | | | | | | | | | |
| OSDI | 05L | | | VOR | | | | | | | | | | | | | |
| | 05R | ILS | II | VORDME / NDB | | | | | | | | | | | | | |
| | 23L | | | VORDME / NDB DME | | | | | | | | | | | | | |
| | 23R | ILS | II | VORDME | | Y | Y | Y | | | | | | | | | |
| Total | 8 | 4 | | 7 | Draft | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| % | | 50 | | 88 | Dec. 2009 | 13 | 13 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN | LNAV | LNAV / VNAV | PBN | RNAV | PER | CCO | PER | RNAV STAR | PER | CDO | PER | |
| | | xLS | CAT | | Update date | | | RWY | SID | AD | | AD | | AD | | AD | |
| **UNITED ARAB EMIRATES** | | | | | | | | | | | | | | | | | 8 |
| OMAA | 13L | ILS | II | | | AR | AR | Y | Y | Y | Y | Y | Y | Y | Y | Y | RNP AR |
| | 13R | ILS | I | VOR | | AR | AR | Y | Y | | Y | | Y | | Y | | RNP AR |
| | 31L | ILS | II/III | VOR | | AR | AR | Y | Y | | Y | | Y | | Y | | RNP AR |
| | 31R | ILS | II | | | AR | AR | Y | Y | | Y | | Y | | Y | | RNP AR |
| OMAD | 13 | | | VORDME | | Y | | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | 31 | ILS | I | VORDME | | Y | | Y | Y | | Y | | Y | | Y | | |
| OMAL | 1 | ILS | I | VOR | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | 19 | | | VOR | | Y | Y | Y | Y | | Y | | Y | | Y | | |
| OMDB | 12L | ILS | I/II/III | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | 12R | ILS | I/II/III | | | Y | Y | Y | Y | | Y | | Y | | Y | | |
| | 30L | ILS | I/II/III | | | Y | Y | Y | Y | | Y | | Y | | Y | | |
| | 30R | ILS | I/II/III | | | Y | Y | Y | Y | | Y | | Y | | Y | | |
| OMDW | 12 | ILS | II/III | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | 30 | ILS | II/III | | | Y | Y | Y | Y | | Y | | Y | | Y | | |
| OMFJ | 11 | | | | | | | | Y | Y | Y | Y | | Y | | Y | |
| | 29 | ILS | I | VOR | | Y | Y | Y | Y | | Y | | Y | | Y | | |
| OMRK | 16 | | | VOR | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | 34 | ILS | I | VOR | | Y | Y | Y | Y | | Y | | Y | | Y | | |
| OMSJ | 12 | ILS | I | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | RNP AR |
| | 30 | ILS | II | | | Y | Y | Y | Y | | Y | | Y | | Y | | RNP AR |
| Total | 20 | 16 | | 9 | Y | 19 | 17 | 19 | 20 | 8 | 20 | 8 | 19 | 8 | 19 | 8 | |
| % | | 80 | | 45 | Dec. 2015 | 95 | 85 | 95 | 100 | 100 | 100 | 100 | 95 | 100 | 95 | 100 | |

| Int'l AD (Ref. MID ANP) | RWY | Conventional Approaches | | | APTA | | | | CCO | | | | CDO | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision | | VOR or NDB | PBN PLAN Update date | LNAV | LNAV / VNAV | PBN RWY | RNAV SID | PER AD | CCO | PER AD | RNAV STAR | PER AD | CDO | PER AD | |
| | | xLS | CAT | | | | | | | | | | | | | | |
| **YEMEN** | | | | | | | | | | | | | | | | | 5 |
| OYAA | 8 | ILS | I | VORDME | | | | | | | | | | | | | |
| | 26 | | | VORDME | | | | | | | | | | | | | |
| OYHD | 3 | | | VOR | | | | | | | | | | Y | | | |
| | 21 | | | VOR / NDB | | Y | | Y | | | | | Y | | | | |
| OYRN | 6 | | | | | | | | | | | | | | | | |
| | 24 | | | VORDME | | | | | | | | | | | | | |
| OYSN | 18 | ILS | I | VORDME/ NDB | | Y | Y | Y | Y | Y | | | Y | Y | | | |
| | 36 | | | VOR | | Y | Y | Y | Y | | | | Y | | | | |
| OYTZ | 1 | | | | | | | | | | | | | | | | |
| | 19 | | | | | | | | | | | | | | | | |
| **Total** | **10** | **2** | | **7** | **Draft Plan** | **3** | **2** | **3** | **2** | **1** | **0** | **0** | **3** | **2** | **0** | **0** | **58** |
| **%** | | **20** | | **70** | **Jan. 2010** | **30** | **20** | **30** | **20** | **20** | **0** | **0** | **30** | **40** | **0** | **0** | |
| **Results** | | | | | **Plans** | | | **PBN** | | **SID** | | **CCO** | | **STAR** | | **CDO** | |
| **Total** | **164** | **101** | | **124** | **10** | **90** | **51** | **90** | **63** | **25** | **26** | **10** | **74** | **29** | **29** | **11** | **13 PBN APV + 102 ILS (115/160)** |
| **Percentage (%)** | | **62** | | **76** | **67** | **55** | **31** | **55** | **38** | **43** | **16** | **17** | **18** | **50** | **18** | **19** | **72% RWY Ends with Vertical guidance** |
| **58** | Aerodrmes | | | | | | | | | | | | | | | | |
| **Note.** 6 RNP AR Approach were implemented in OMAA and OMSJ, UAE. | | | | | | | | | | | | | | | | | |

---

International Civil Aviation Organization | Organisation de l'aviation civile internationale | Organizacion de Aviación Civil Internacional | Международная организация гражданской авиации | منظمة الطيران المدنى الدولـــى | 国际民用航空组织

File Ref: AN 6/33 – 18/144 9 May 2018

**Subject:** **ICAO MID Region Flight Procedure Programme Draft Project Document**

**Action required:** **Reply not later than 10 June 2018**

Sir,

I have the honor to refer to the outcome of the Fourth Meeting of the Directors General of Civil Aviation-Middle East Region (DGCA-MID/4), Muscat, Oman, from 17 to 19 October 2017 and the Kick-off meeting of the MID Region Flight Procedures Programme (MID FPP), Cairo, Egypt, 22 – 24 January 2018.

The MID FPP objective is to assist States to develop sustainable capability in the Instrument Flight Procedure (IFP) design, PBN Airspace Design and PBN OPS Approval, including regulatory oversight, so as to meet their obligations related to instrument flight procedure and the regional requirements (MID Region Air Navigation Strategy, MID Region PBN Implementation Plan and the Doha Declaration on Aviation Safety and Air Navigation in the MID Region) related to PBN implementation. In this respect, the MID FPP would support States to overcome the challenges identified as the main impediments faced by States in meeting the agreed global and regional PBN Performance Targets.

As a follow-up to the DGCA-MID/2 meeting (Jeddah, Saudi Arabia, 20 - 22 May 2013) Conclusion 2/5, the ICAO MID Office exerted all efforts for the establishment of the MID FPP. Several meetings/workshops addressing the subject were convened with the support of ICAO HQ, African and Asia Pacific Flight Procedure Programmes and other stakeholders. I would like to recall that the Global Ministerial Aviation Summit (Riyadh, Saudi Arabia, 29-31 August 2016) endorsed the MID FPP as the regional air navigation project with the highest priority.

States willing to join the MID FPP are required to sign a Project Document with ICAO, which defines the institutional framework of the MID FPP, organizational structure, scope, operating concept, host/location, expected outcomes and objectives, first year work plan, Job Descriptions, budget, etc.

The attached Draft MID FPP Project Document was consolidated by ICAO based on the outcome of the MID FPP Kick-off Meeting (Cairo, Egypt, 22-24 January 2018).

../.

Ministry of Civil Aviation Complex
Cairo Airport Road
P.O. Box 85,
Airport Post Office
Cairo 11776 A.R.E

Tel: +2 (02) 22674840/1/5/6
Fax: +2 (02) 22674843

E-mail: icaomid@icao.int
http://www.icao.int/mid

The MID FPP will be established as an ICAO technical cooperation project and its office will be hosted by Lebanon in Beirut, based on the results of the selection process of the host State, which was communicated to your Administration through my Letter Ref.: AN 6/33 – 16/176 dated 30 June 2016.

In order for the ICAO Technical Cooperation Bureau (TCB) to initiate the recruitment of the Manager of the Programme at least five (5) States should sign the Project Document and an amount of **USD 300,000** should be available in the bank account of the Programme. Accordingly, States have been strongly encouraged to make advance payments, which would be deducted later from their annual financial contributions based on the agreed funding mechanism. It is to be highlighted that ICAO is exploring all resource mobilization opportunities from donors to expedite the establishment/start of operation of the MID FPP.

Currently, Saudi Arabia and UAE gratefully offered to provide **USD 50,000** each to support the establishment of the MID FPP.

I would like to highlight that the funding mechanism of the MID FPP including the annual amount that should be paid by each Active State will be agreed upon by the MID FPP Steering Committee, which should meet tentatively during the last quarter of 2018 (after the signature of the Project Document by at least five States).

I would be grateful, if you could review the attached Draft MID FPP Project Document and provide the ICAO MID Office with your comments/inputs, if any, preferably not later than **10 June 2018**, in order to consolidate the final version of the Document to be signed by the ICAO Secretary General and then sent to Sates for signature.

I would also appreciate if you could confirm, by **10 June 2018**, your willingness to join the MID FPP as Active State or User State, indicating the amount of the advanced financial contribution or the in-kind contribution your Administration will provide to the MID FPP.

Mr. Elie El Khoury, Regional Officer, Air Traffic Management and Search and Rescue (RO/ATM/SAR) (ekhoury@icao.int), the MID FPP focal point, could be contacted if additional information/clarification is needed.

Accept, Sir, the assurances of my highest consideration.


*for/* Mohamed Khalifa Rahma
Middle East Regional Director

**Attachments**

**INTERNATIONAL CIVIL AVIATION ORGANIZATION**


# MID REGION FLIGHT PROCEDURE PROGRAMME (MID FPP)

**Prepared by the**

**International Civil Aviation Organization (ICAO)**

**for the**

**Directorate General of Civil Aviation (DGCA) of Lebanon**
**and the**
**Civil Aviation Administrations of other Participating States**

**March 2018**

**INTERNATIONAL CIVIL AVIATION ORGANIZATION**
**PROJECT DOCUMENT**

| | |
|---|---|
| **Project Title:** | MID Region Flight Procedure Programme (MID FPP) |
| **Project Number:** | RAB/18801 |
| **Duration:** | 3 years: |
| **Project Cost:** | US$ |
| **Participating State:** | [State] |
| **Sector and Subsector:** | Air Navigation/Air Traffic Management (ATM)/PANS-OPS |
| **Governments Executing Agency:** | Civil Aviation Authorities of the MID States |
| **Executing Agency:** | International Civil Aviation Organization (ICAO) |
| **Location :** | Beirut, Lebanon |
| **Estimated Starting Date:** | 01 January 2019 |

☐ **Active State:** A MID Participating State that commits to funding the Programme by means of an annual financial contribution in line with an approved budget

☐ **User State:** A MID Participating State that is not an Active State, but one that intends to use the MID FPP services

**Brief Description**: The Programme objective is to assist States to develop sustainable capability in the instrument flight procedure (IFP) design, PBN airspace design and PBN OPS approval, including regulatory oversight, so as to meet their commitments under Assembly Resolutions A37-11 for Performance Based Navigation (PBN) implementation and the regional requirements, and comply with ICAO provisions related to flight procedure design and PBN.

| Signed by | Signature | Name | Title | Date |
|---|---|---|---|---|
| **State** | ……. | …….. | …….. | ……..... |
| **ICAO** | ……. | …….. | …….. | ……..... |

## 1. BACKGROUND

1.1 ICAO developed harmonized navigation specifications for all existing area navigation applications, and published these navigation specifications in the Performance Based Navigation (PBN) Manual (Doc. 9613).

1.2 The 37th session of the ICAO Assembly in 2010 in its Resolution A37-11 reaffirmed the global commitment for PBN implementation and called upon the States to complete a PBN implementation plan as a matter of urgency and ICAO to develop a coordinated action plan to assist States in the implementation of PBN and to ensure development and/or maintenance of globally harmonized SARPs, Procedures for Air Navigation Services (PANS) and guidance material including a global harmonized safety assessment methodology to keep pace with operational demands.

1.3 In 2009, ICAO published the Quality Assurance Manual for Flight Procedure Design (Doc. 9906). This document addresses two levels of processes. A high-level process, called the Instrument Flight Procedure (IFP) process, covers all elements from initiation to publication of the procedure and the relevant maintenance, safety, validation and flight inspection activities. The process does not end with publication. Feedback from users must be considered in the improvement process. A second specific process, for the design of the IFP — the Flight Procedure Design (FPD) process — is part of the IFP process.

1.4 The MID Air Navigation Strategy (ICAO MID Doc 002), endorsed by MIDANPIRG, includes the Aviation System Block Upgrades (ASBU) B0-APTA, B0-CCO and B0-CDO Modules, which are considered as priority 1 for implementation in the MID Region. In this respect, the MID FPP would support its Participating States with the implementation of the mentioned Modules.

1.5 The Directors General of Civil Aviation-Middle East (DGCA-MID) Region through the Doha, Declaration, April 2015, agreed to take necessary measures to implement PBN approach procedures with vertical guidance, for all runways ends at international aerodromes, either as the primary approach or as a back-up for the precision approaches by 2017

1.6 The DGCA-MID/2 (Jeddah, Saudi Arabia, 20 - 22 May 2013) recognized the need for cooperation and exchange of experience between MID States in the field of procedure design (PANS-OPS). The meeting through DGCA-MID Conclusion 2/5 agreed that a study related to the establishment of FPP be carried out within the framework of the PBN/GNSS TF taking into consideration similar programs in other ICAO Regions.

1.7 The MIDANPIRG/15 meeting (Bahrain, 8-11 June 2016) emphasized that the establishment of the MID Flight Procedure Programme (MID FPP) would foster the PBN implementation in the Region. The meeting noted that the MID FPP was endorsed as one of the MID Region ATM Enhancement Programme (MAEP) projects.

1.8 The MIDANPIRG/15 meeting noted with appreciation that ICAO is ready to provide necessary support for the establishment of the MID FPP and to share the experience gained from the ASIA-Pacific and AFI FPPs' establishment. Accordingly, the meeting agreed, through Conclusion 15/13, that a Workshop on the establishment of the MID FPP to be held in Cairo, Egypt, 18-19 October 2015, back-to-back with the Second meeting of the MAEP Steering Committee (MAEP SC/2) (20-22 October 2015). The main objective of the Workshop was to develop a framework for establishing an FPP for the MID Region along with the proposed organizational structure, governance procedures, scope of activities and services, work plan and deliverables, resources and financial structure to be presented in a Project Document.

1.9 The MID FPP Workshop developed the draft MID FPP Project Document, which was further reviewed by the PBN SG/2 meeting (Sharm El Sheikh, Egypt, 22-25 February 2016) and circulated to States for their comments and inputs on 16 March 2016.

1.10 The MAEP Board/2 meeting (Cairo, Egypt, 11-13 April 2016) noted that, as a follow-up action to the MAEP SC/2 Draft Conclusion 2/2, the ICAO MID Regional Office circulated a Questionnaire to seek

States' willingness to join the MID FPP and/or provide in-kind contributions, get their views regarding the hosting, identify the States' needs and determine the flight procedures design and PBN capabilities in the MID Region. The meeting reviewed the survey results as presented to the PBN SG/2 meeting and noted with appreciation that the majority of States are supporting the establishment of the MID FPP.

1.11 The MAEP Board/2 meeting received with appreciation three (3) offers for hosting the MID FPP from Egypt, Lebanon and Sudan. The meeting agreed that the evaluation process of the offers should be based on clear criteria and procedure of evaluation.

1.12 The Evaluation Committee met on 26 June 2016 and selected Lebanon as the hosting State for the MID FPP based on the agreed criteria. The selection result was communicated to States through State Letter Ref. AN 6/33 – 16/176 dated 30 June 2016.

1.13 The Global Ministerial Aviation (GMA) Summit (Riyadh, Saudi Arabia, 29-31 August 2016) supported the MID FPP and agreed to the following Recommendation:

*MID FPP Recommendation*

*a. States are encouraged to sign the MID FPP Project Document*

*b. States and Stakeholders are encouraged to support:*

*i. the establishment of MID FPP through the provision of cash and/or in-kind contributions; and*

ii. *the MID FPP activities through the assignment of experts to be part of the MID FPP pool of resources*

1.14 The DGCA-MID/4 meeting (Muscat, Oman, 17-19 October 2017) emphasized that the establishment of the MID FPP would enhance the States' capabilities related to PANS-OPS and eventually foster PBN implementation in the Region. The DGCA-MID/4 meeting agreed to the following Conclusion:

*DGCA-MID/4 CONCLUSION 4/3 – MID FLIGHT PROCEDURE PROGRAMME*

*That:*

*a) States are urged to sign the MID FPP Project Document with ICAO TCB;*

*b) till the recruitment of a MID FPP Manager/Coordinator, the ICAO MID Office provide full support to run the Programme, in close coordination with the Host State;*

*c) a Kickoff meeting of the MID FPP be held in January 2018; and*

*d) States and Stakeholders are urged to participate in the Kickoff meeting of the MID FPP*

## 2. INSTITUTIONAL FRAMEWORK

2.1. **Participating States**: The Programme will be executed on the basis of the Project Document signed by the Host (*Lebanon)* and ICAO and to which any State wishing to participate may sign on. Upon signature onto the Project Document, such State becomes a Participating State. Participating States are grouped in two categories:

- **Active States:** All Participating States that commit to funding the Programme by means of an annual financial contribution in line with an approved budget become an Active State. The Host State (*Lebanon)* is considered an Active State, based on the in-kind contribution provided to the Programme.

- **User States:** MID States that are not Active States but intend to use the MID FPP services are User States.

2.2. **Donors:** States, organizations and entities that support the MID FPP by financial and/or in-kind contribution (experts, equipment, services, etc.). A specific agreement with the Donor might be required.

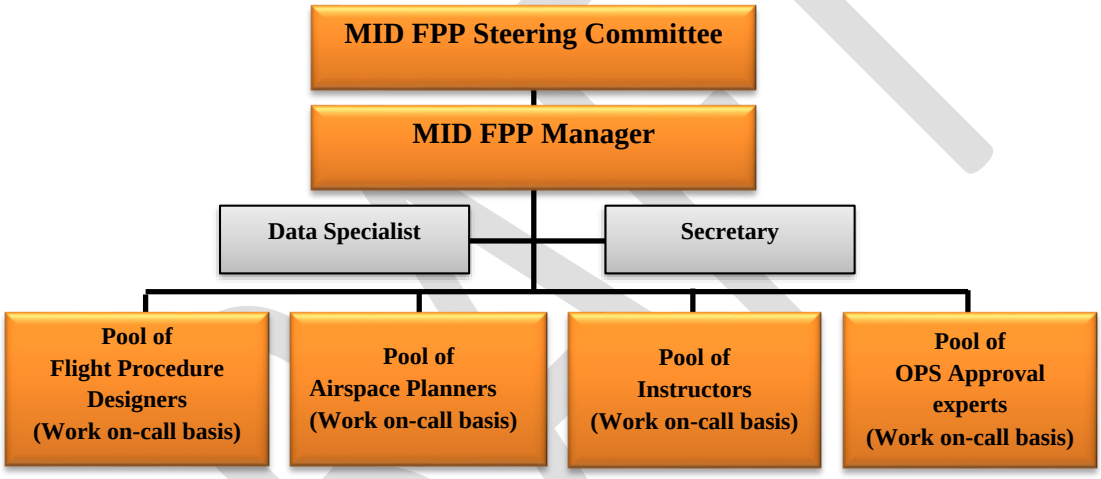
2.3. **Observer States**: States that are not Participating States or Donors and are interested in the Programme.

2.4. The Host State's in kind-contribution related to the hosting of the MID FPP should be taken into account by the MID FPP SC for offsetting its annual financial contribution to the Programme. Contributions in kind from other Participating States may also be taken into account for offsetting their annual financial contribution to the Programme

***Host Administration***

2.5. During Phase I of the Programme, *Lebanon* is the Host Administration. The MID FPP will be located at the Lebanese Safety Training Centre, Hariri international Airport, Beirut, Lebanon.

***MID FPP Organizational Structure***




2.6. The Programme will be governed by the MID FPP Steering Committee (MID FPP SC), in accordance with its Terms of Reference at **Appendix A**.

2.7. The MID FPP Manager should present to the ICAO Regional Director, Middle East Office, on a quarterly basis, progress reports related to the Programme developments, recommending necessary measures to improve the effectiveness and efficiency of the Programme. The MID FPP Manager should present progress reports on an annual basis to the MID FPP Steering Committee, including recommendations to improve the performance and efficiency of the Programme.

2.8. The MID FPP Manager will be responsible for the local coordination and the management of the Programme, for maintaining liaison with States and stakeholders as well as ensuring full coordination and cooperation between the MID FPP assigned experts and CAA counterparts. The FPP Manager will also be responsible for the submission of periodic progress reports and for the preparation of the draft Terminal Report prior to the termination of his/her assignment.

***Roles and Responsibilities***

2.9. In the context of the MID FPP, the roles and responsibilities of the MID FPP Steering Committee, as outlined in **Appendix A**, should include but not be limited to the following:

- review the Programme performance;
- review and approval of the:
  - strategic objectives of the MID FPP;

- annual Work Plan of the MID FPP;
- annual Budget;
- annual financial contribution of the Active States. Contributions in-kind from Participating States may also be taken into account for offsetting their annual financial contribution to the Programme;
- fee schedule for services and trainings in compliance with ICAO existing Policy; and
- MID FPP Project Document as deemed necessary.

2.10. The role of the ICAO MID Regional Office is as follows:

- support the MID FPP Manager who is responsible for the execution of the work plan approved by the MID FPP Steering Committee;
- collaborate with the MID FPP Manager to develop the work plan;
- ensure that the MID FPP work plan is in line with the MID Region priorities and would support States in meeting the regional targets related mainly to PBN implementation;
- monitor PBN implementation and capacity building progress; and
- communicate to the MID FPP the States' needs.

2.11. The role of Technical Cooperation Bureau (TCB) is as follows:

- Assign a Focal Point for the MID FPP;
- Recruit and deploy the MID FPP Manager;
- procure services and goods in accordance with ICAO's Procurement Code, Financial Regulations and Rules, and applicable process and procedures; and
- provide administrative and financial support to the MID FPP.

2.12. The role of Air Navigation Bureau (ANB) at ICAO Headquarters is as follows:

- review the MID FPP Technical work programme/plan to ensure that it is consistent with the ANB PBN regular programme;
- provide the technical/operational input/advice; and
- facilitate the global coordination amongst the FPPs (African, APAC and MID), specifically on educative tools/presentations etc. as necessary.

2.13. The role of the MID FPP Manager includes but is not limited to the following:

- act as the Secretary of the MID FPP Steering Committee;
- develop the Work Plan in collaboration with the MID Regional Office;
- work under the supervision of the ICAO MID Regional Director;
- report to the MID Office technical and operational matters;
- provide progress reports on the Programme to the relevant MIDANPIRG subsidiary bodies; and
- represent the MID FPP in relevant events that would support the achievements of the MID FPP objectives.

## 3. CHALLENGES AND OPERATING CONCEPT

### *Challenges*

3.1. Instrument flight procedures developed to take advantage of the benefits of PBN are reliant on the data in a database on the aircraft. For this reason, quality assurance in the flight procedure design process, while always important, takes on added importance for PBN-based procedures. A great safety concern in this respect is that many States lack the expertise to establish a sustainable internal procedure design capability, meeting the requirements of PANS-OPS and their responsibility under Annex 15 for the quality of their aeronautical information and data, including instrument flight procedures.

3.2. Following are some of the main procedure design-related challenges and problems faced by States:

a) Insufficient number of procedure designers;

b) Insufficient procedure design work in some States to attain or maintain proficiency;

c) Lack of airspace and procedure design training: initial, On-the-Job Training (OJT), and/or recurrent;

d) Lack of knowledge to integrate procedure design efficiently into airspace design;

e) Lack of depth in procedure design organization to perform quality assurance (QA);

f) Insufficient expertise in procedure design organization to provide adequate QA of procedures;

g) Lack of procedure design and obstacle data storage automation in the States;

h) Lack of operational approval expertise to obtain proper operational approval and to oversee operators for PBN operations;

i) Lack of regulatory expertise to oversee the process leading to procedure publication; and

j) Lack of service provision for Air Traffic Control/ Air Traffic Management (ATC/ATM) training for PBN implementation.

### *Operating Concept*

3.3. The MID FPP would serve as a means to assist Participating States to address the issues listed in para 3.2. The MID FPP will foster the implementation of instrument flight procedures, developed with the appropriate quality systems, especially focusing on PBN in Terminal Area and vertically guided instrument approach procedures by:

a) assisting States with sufficient number of procedures to establish a sustainable internal procedure design capability capable of meeting the requirements of PANS-OPS and their responsibility for the quality of their procedures;

b) providing the appropriate level of technical expertise necessary to enable States that do not have the volume of procedures necessary to sustain an internal procedure design capability; and

c) providing a vehicle to improve quality in the States' procedure design process through access to procedure design automation solutions and associated data storage; and assisting States with airspace design and operational approval functions.

3.4. At Participating States' request the MID FPP would:

a) assist State's procedure and airspace designers in developing their Instrument Flight Procedures (IFP) with priority for PBN procedures;

b) assist State with the development of a Quality Assurance (QA) system for IFP, including flight procedure regulatory approval;

c) provide refresher, recurrent and PBN initial training courses and OJT to procedure designers, remotely, on-site or at the MID FPP location;

d) provide training course and OJT on QA for IFP including flight procedure regulatory approval;

e) provide training course and OJT on operators' approval for PBN operations;

f) assist State in PBN Plan implementation through operational assessment, business case, and activity planning for PBN Implementation;

g) assist States in the design of IAPs, SIDs, STARs, Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO);

h) assist State in developing PBN-related regulations;

i) develop procedures implementation for States that have no or little procedure design capability;

j) assist State with data origination and validation;

k) assist State with ground and flight validation;

l) assist State in operators' approval for PBN operations;

m) provide training courses for air traffic controllers about PBN flight procedures operations;

n) provide State with any other associated assistance, as required;

o) provide training courses for newly recruited flight procedures designers in accordance with ICAO Doc 9906;

p) assist States with the estimation of environmental benefit accrued from the implementation of instrument flight procedures/PBN procedures; and

q) assist States with PBN airspace design.

*Note: in order to assist the Participating States in expediting the implementation, both training and services may be extended to air navigation service providers of the Participating States in accordance with applicable ICAO policies.*

3.5. As part of the services provided in 3.4 above, the Programme would:

a) provide States access to procedure design software applications at the MID FPP location; and

b) provide States access to available databases for training purposes.

3.6. The services listed in 3.4 will be provided free of charge to the Active States. The provision of additional services by MID FPP including the design of new instrument flight procedures, may be against a fee determined based on a cost formula agreed upon by the MID FPP SC.

3.7. User States will be charged for the services provided by the MID FPP in accordance with applicable ICAO policies and as agreed by the MID FPP SC.

3.8. Other States may benefit from the services provided by the MID FPP against fees in accordance with applicable ICAO policies and as agreed by the MID FPP SC.

3.9. For on-site missions/training courses, the travel and accommodation expenses and the daily subsistence allowance for the MID FPP personnel, ICAO Team and course' instructors should be covered by the beneficiary State in accordance with applicable ICAO policies.

## 4. RELEVANT DOCUMENTS

a) Global Air Navigation Plan (GANP) (Doc 9750)

b) Procedures for Air Navigation Services – Aircraft Operations (Doc 8168)

c) Performance Based Navigation Manual (Doc 9613)

d) World Geodetic System Manual (Doc 9674)

e) Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information **(**Doc 9881)

f) Required Navigation Performance – Authorization Required Procedure Design Manual (Doc 9905)

g) Quality Assurance Manual for Flight Procedure Design (Doc 9906)

h) Continuous Descent Operations Manual (Doc 9931)

i) Manual on Use of PBN in Airspace Design **(**Doc 9992)

j) Continuous Climb Operations Manual (Doc 9993)

k) PBN Operational Approval Manual (Doc 9997)

l) PANS-ATM (Doc 4444)

m) ICAO Annexes 4, 6, 10, 11, 14 and 15

n) ICAO Assembly Resolutions A37-11

o) Manual of All-Weather Operations (Doc 9365)

p) Aeronautical Charting Manual (Doc 8697)

## 5. PROGRAMME IMPLEMENTATION STRATEGY

5.1 In order to support the goals of the Assembly Resolution A37-11, GANP and the MID regional requirements, Phase I of the Programme will commence on **1 January 2019** and is expected to last at least until **31 December 2021**.

5.2 The following resources are planned to achieve the Programme objectives for Phase I:

a) The MID FPP is hosted by Lebanon in Beirut. The inputs to be provided by Lebanon are specified in **Appendix B1**; and the MID FPP office minimum requirements are at **Appendix B2**;

b) The ICAO MID Office will support setting up the office and building the pool of experts for the MID FPP during the first year and may organize some activities as appropriate funded through the Programme budget;

c) The MID FPP Manager is appointed by ICAO for a period of one-year renewable. The Job descriptions of the MID FPP Manager are presented in **Appendix C1**;

d) Experts in PANS-OPS, Airspace Planning, OPS Approval, and Instructors, as well as data specialist may be nominated by States, Organizations, and Industry to create a pool of experts who will support the provisions of the MID FPP services. Their Job descriptions are presented in **Appendices C2**, **C3**, **C4** and **C5**, respectively. Candidates nominated by Participating States and Donors shall meet the job description requirements. The Regional Director of the MID Office and the Chief of the Programmes Coordination and Implementation Section at ICAO Headquarters in coordination with the MID FPP Manager will evaluate the nominated experts. The appointment of the

experts shall be carried out in accordance with the ICAO Policies on Secondment, Consultancy, ICAO Programme for Aviation Volunteers (IPAV), Internship, etc.

5.3 The MID FPP will build its capacity to provide assistance, training, quality assurance, procedure and airspace design, and operational approval to the Participating States. Other specific fields may be identified during implementation. Additional staff may be needed, as deemed necessary, to meet the demand.

5.4 The draft work plan for the first year to be agreed upon by the MID FPP SC is presented at **Appendix D**.

5.5 Implementation strategy detailed in 5.1 through 5.4 herein may be revised by a decision of the MID FPP SC and ICAO.

## 6. STRATEGIC OBJECTIVES OF THE PROGRAMME

6.1. The strategic objectives of the MID FPP are detailed in **Table 1.**

*Note: "T0" in the table refers to the start of operation date of the Programme:*

| Category | | Objective | | Target | Remarks |
|---|---|---|---|---|---|
| 1 | Building MID FPP human resources (pool of experts) | a | Assignment of expert by States and stakeholders (PANS-OPS, OPS approval, Airspace Planners, Instructors) to support the MID FPP activities | T0 + 3 Months | |
| | | b | Ensuring competency of the MID FPP experts through training courses and workshops | T0 + 12 Months | |
| 2 | Regulatory oversight framework | a | Develop PANS-OPS Regulation for **80%** of Active Participating States | T0 + 15 Months | |
| | | b | Assist States as appropriate in meeting the requirements of the USOAP CMA related to PANS-OPS. 100% of Active Participating States receiving USOAP CMA activity to score above **70%** EI in PANS-OPS field | T0 + 24 Months | |
| 3 | Meeting the targets set out in the MID Region Air Navigation Strategy related to PBN | a | Develop/update PBN National Implementation Plans for **100%** of Active Participating States | T0 + 12 Months | |
| | | b | Implementation of PBN flight procedures at **80%** runway ends at international aerodromes of Active Participating States | T0 + 24 Months | |
| | | c | Implementation of PBN SIDs and STARs at **70%** international aerodromes of Active Participating States, with due regard to incorporate CCO and CDO | T0 + 24 Months | |

| | | | | | |
|---|---|---|---|---|---|
| 4 | Training Programmes | a | **100%** of Participating States develop Training Programme for PANS OPS inspectorate | T0 + 18 Months | |
| | | b | **100%** of Participating States develop Training Programme for PANS OPS technical experts (service provider) | T0 + 18 Months | |
| | | c | Qualify at least **one** OPS Approval expert for **each** Active participating State | T0 + 24 Months | |

**Table. 1**

6.2. A review by the MID FPP Steering Committee should be conducted at least one (1) year prior to the end of Phase I to determine whether the Programme should be continued into the next Phase, and if so, the strategic direction that the Programme should take.

## 7. MID FPP FIRST YEAR OUTPUTS AND ACTIVITIES

7.1 The following outputs and activities, related mainly to the setup of the MID FPP capabilities, are targeted for the first year of the Programme.

***Objective 1:*** Convene the First MID FPP Steering Committee meeting

| Outputs | Activities |
|---|---|
| Output 1.1: Convene the kickoff meeting of MID FPP from 22 to 24 January 2018 to officially launch the Programme | Activity 1.1.1: The ICAO MID Regional Office to issue the invitation for the meeting by 20 November 2017 to the 15 MID States and stakeholders. |
| Output 1.2: Convene the First MID FPP Steering Committee meeting in in second half of 2018 | Activity 1.2.1: The ICAO MID Regional Office to issue the invitation for the first MID FPP SC/1 meeting at least 2 months in advance.<br>Activity 1.2.2: The MID FPP SC/1 meeting to agree on the MID FPP work plan for the first year and the funding mechanism. |

***Objective 2:*** Establish capability for PBN Workshop Implementation Plan, using external expertise, if required.

| Outputs | Activities |
|---|---|
| Output 2.1: Establish workshop programme for PBN Implementation Plan | Activity 2.1.1<br>Define external expertise origin and source of funding<br>Activity 2.1.2<br>Determine contents and schedule for the workshop |

***Objective 3:*** Establish capability for operational approval of air operators by Civil Aviation Authorities (CAA) course, using external expertise if required.

| Outputs | Activities |
|---|---|
| Output 3.1: Establish workshop programme for operational approval of air operators by CAA | Activity3.1.1: Define external expertise origin and source of funding<br>Activity 3.1.2: Determine contents and schedule for the course |

***Objective 4:*** Establish capability for airspace design course, using external expertise if required.

| Outputs | Activities |
|---|---|
| Output 4.1: Establish workshop | Activity 4.1.1: Define external expertise origin and source of funding |

| | |
|---|---|
| programme for Airspace Design Course | Activity 4.1.2: Determine contents and schedule for the course |

***Objective 5:*** Establish operating capability of the MID FPP in the areas of procedure design including initial PANS-OPS, PBN and OJT (On-The-Job) training capability.

| Outputs | Activities |
|---|---|
| Output 5.1: Establish automation system for the input, storage and output of aeronautical data required for the instrument flight procedure process, based on global standards that will interface with flight procedure design automation tools and avionics database packing tools | Activity 5.1.1: Install automated software and middleware supporting on the software on technical computers of the internal network |
| Output 5.2: Establish initial procedure design and OJT (On-The-Job) training capabilities. | Activity 5.2.1: Train procedure designers as instructors.<br>Activity 5.2.2: Determine contents for procedure design training sessions and OJT sessions |

***Objective 6:*** Establish Flight Procedure validation process and regulatory approval process support capability.

| Outputs | Activities |
|---|---|
| Output 6.1: Establishment of Flight Procedure validation process support capability | Activity 6.1.1: Identify a list and pricing or through in-kind contribution of Flight procedure validation suppliers to cover MID Region to establish initial Flight procedure validation capability,<br>Activity 6.1.2: Train MID FPP staff in Flight Procedure design ground validation process.<br>Activity 6.1.3: Establish a support framework to assist States in validating flight procedures. |
| Output 6.2: Establishment of Flight Procedure regulatory approval process support capability | Activity 6.2.1: Train MID FPP staff in Flight Procedure regulatory validation process based on Doc 9906 (Quality Assurance Manual), examples from competent States (at least three) and consultation with ICAO<br>Activity 6.2.2: Continue updating the training as new ICAO documentation becomes available.<br>Activity 6.2.3: Establish a support framework to assist States in approving flight procedures |

***Objective 7:*** Execute -2019 MID FPP annual work plan, as at **Appendix D**.

| Outputs | Activities |
|---|---|
| Output 7.1: Successful execution of MID FPP 2019 annual work plan | Activity 7.1.1: Provide to Member States the schedule list of training and support activities.<br>Activity 7.1.2: Provide trainings and support activities according to annual work plan.<br>Activity 7.1.3: initiate procedure design projects for the top priority runway ends identified in consultation with the airspace users. |

***Objective 8:*** Attain the full capability for MID FPP for Phase I.

| Outputs | Activities |
|---|---|
| Output 8.1: Establish a pool of specialists in PANS-OPS, OPS Approval and Flight procedures Instructors who will mainly work remotely with the MID FPP Manager (on-call basis). | Activity 8.1.1: Establish selection process and identify a pool of suitable candidates, preferably through approaching MID States, Organizations, Airlines, and Donors, according to the job descriptions at **Appendices C2-C5**.<br>Activity 8.1.2: select the required pool of resources for the execution of the MID FPP work plan. |

***Objective 9:*** Obtain approved work plan, budget and agreement on annual States contribution for the second year of operation

| Outputs | Activities |
|---|---|
| Output 9.1: Obtain approved work plan, budget and agreement on States contribution for the second year. | Activity 9.1.1: provide progress report on the implementation of -2019 work plan to PBN SG and/or MIDANPIRG meetings Activity 9.1.2: Prepare and propose work plan, budget and annual States contribution level for the second year. |

## 8. INPUTS

8.1. The minimum requirements for the hosting of the MID FPP are specified in **Appendix B2**.

8.2. By 1 January 2019, Lebanon as the Host Administration will provide the facilities and services as outlined in **Appendix B1** (Lebanese offer to host the MID FPP) based on the minimum hosting requirements at **Appendix B2**.

8.3. The host State will facilitate the issuances of visas, accreditations or residence permits for the ICAO experts and recognized dependents ensuring the expeditious relocation of them at the duty station and for the whole duration of their ICAO contracts and subsequent renewals.

***Active States***

8.4. Active States will provide the following:

a) annual financial contributions covering the cost of the Programme, as indicated in the annual budget of the Programme; and

b) participation in the MID FPP SC meetings as Member States with the right to vote.

***Participating States***

a) Participating States might provide in-kind contribution to support the MID FPP such as:

- Computer and Information Technology equipment.
- Procedure design and charting equipment and software.
- Suitably equipped classroom(s) for MID FPP training courses held in their States.

b) support the MID FPP by nominating Procedure Designers, Instructors, Airspace Planners, OPS Approval experts, etc. to support the MID FPP with the implementation of its work plan;

c) authorize and release to the MID FPP of aeronautical data from third parties, including AIP and electronic terrain and obstacle data, as well as appropriate topographic mapping

data and charts pertaining to their State for the purposes of the Programme, in particular for the design of instrument flight procedures and for quality assurance assistance;

d) bear the expenses of duty travel (Air Tickets, Transportation, Accommodation and Daily Subsistence Allowances, in accordance to ICAO policies and practices) of MID FPP and ICAO staff as required supporting the MID FPP activities in their States.

e) release of the assigned experts from their daily duties in order to support the MID FPP activities using their facilities (software, etc.), as required; and

f) complete all remaining necessary steps to publish instrument flight procedures developed wholly or partly within the MID FPP framework in their State Aeronautical Information Publication.

***ICAO (funded by the FPP Programme)***

8.5. ICAO will provide the following:

a) full support from the ICAO MID Office to run the Programme, in close coordination with the Host State, until such a time when the recruitment of a MID FPP Manager is completed;

b) International Personnel (Programme Manager) for the MID FPP for 3 years;

c) mission travel of ICAO personnel for monitoring purposes;

d) administrative and other services for the handling of the Programme;

e) financial account management and budgetary control of the Programme;

f) technical support to the Programme experts in the performance of their duties including monitoring missions; and

g) procurement through TCB: turn-key services for the procurement of goods and services as requested by the MID FPP SC; provided the requisite funds are made available and the project budget is revised, as appropriate. The procurement of equipment or services will be carried out in accordance with ICAO's Procurement Code, Financial Regulations and Rules, and applicable process and procedures.

## 9. RISKS, MITIGATION MEASURES AND PREREQUISITES

***Risks and Risk Levels***

9.1. The following are the main identified risks with their associated level:

| Risks | Risk Level |
|---|---|
| a) Delay in the recruitment of MID FPP Manager | High |
| b) Delays in transfer of funds to ICAO | High |
| c) Delays in sourcing OPS Approval Instructor | High |
| d) Delays in nominating of experts from participating States and Organizations | Medium to High |
| e) Delays in identification of suitably qualified candidates for positions | Medium to High |
| f) Delays in sourcing of implementation workshop facilitator | Low |
| g) Delays in MID FPP expert training as Procedure Design Instructor | Low |

***Risk Mitigation Measures***

9.2. It may be considered that low level in risk is acceptable and does not need any mitigation measure.

9.3. Considering the high and medium to high level for delays in:

a) Delay in transferring fund to MID FPP account: follow-up by ICAO with the concerned States and Donors would mitigate the risk to an acceptable low level;

b) Delay in the recruitment of the MID FPP Manager: the MID Office, based on the Steering Committee approval, could set up the Programme in coordination with the host State, establish the pool of expertise, and initiate the implementation of some activity from the first year's work plan, until the recruitment of the Manager. This action could mitigate the risk to an acceptable low level;

c) Designation and release of experts by States: the MID FPP work plan could be difficult to implement. The MID FPP activity supposed to be provided by the missing expert would be replaced by another activity with capacity to provide. This action could mitigate the risk to an acceptable low level; and

d) Identification of suitably qualified candidates: MID FPP Manager will support States with the identification of candidates. This mitigation could reduce risk to medium level. The MID FPP activity supposed to be provided by the missing nominated expert would be replaced by another activity that MID FPP is in capacity to provide. This action could mitigate the risk to an acceptable low level.

***Pre-requisites***

9.4. The Project Document should be signed by the host State and a minimum of four (4) Active States before the start of the Programme to ensure funding for the Annual Budget and to permit the MID FPP to perform its activities effectively and efficiently.

9.5. The establishment of the pool of resources and the readiness of the premises.

## 10. PROGRAMME WORK PLAN

10.1 The work plan for the first year is provided at **Appendix D**.

## 11. PROGRAMME BUDGET

11.1 MID FPP budget is composed of resources and expenses.

Resources are composed of:

- Annual contribution paid by the Active States;
- Cash contribution provided by Donors; and
- Fees paid by States in relation to services provided by MID FPP as outlined in Section 3.

Expenses mainly relate to:

- Manager Salary and allowances;
- Allowances paid to MID FPP experts;
- Workshops and courses organization, consultant expertise costs,
- Travel Missions Expenses (travel, transportation and DSA),
- Office costs, and
- Administrative Overhead.

11.2 The activities/events should normally be convened at the MID FPP premises. If a State/Organization offers to host an activity, it shall coordinate with the MID FPP Manager as early as possible, but in any case at least six (06) months in advance and, shall be responsible for providing a venue, services and all costs of travel, accommodation and daily subsistence allowance for MID FPP experts, ICAO personnel, Instructors and Experts performing the activity.

11.3 The Programme budget corresponding to Phase I is provided at **Appendix E**.

## 12. LEGAL FRAMEWORK

12.1 The funds and activities under this Agreement shall be administered according to applicable ICAO regulations, rules, directives, procedures and practices.

12.2 The obligations assumed by the parties under this Agreement shall continue to exist after termination of this Agreement to the extent necessary to permit the orderly finalization of activities, the withdrawal of personnel, the distribution of funds and assets, the liquidation of accounts existing between the parties, and the settlement of contractual obligations. Additional funds, if necessary, to cover the above-mentioned expenditures shall be provided by the Participating States.

12.3 All cash receipts to, and payments made by, ICAO under this Agreement shall be recorded in a separate account, opened, inter alia, in order to place on record the receipt and administration of payments. All payments made to ICAO shall be made in U.S. dollars and deposited in ICAO's bank account as follows:

Pay to://CC000305101
Royal Bank of Canada
Ste. Catherine and Stanley Branch
1140 Ste. Catherine Street West
Montreal, Quebec
Canada H3B 1H7
For credit to: 05101 404 6 892
Project: RAB/18/801
ICAO Account
Swift code: ROYCCAT2

12.4 ICAO shall not be obliged to begin or continue the provision of the Services until the payments of this Agreement have been received and ICAO shall not be obliged to pay or commit any sums exceeding the funds deposited in the aforementioned account.

12.5 ICAO shall furnish the Participating States with unaudited financial statements concerning the Services covered in this Agreement, showing the status of the funds in U.S. dollars as at the end of March, June, September and December. After ICAO has concluded the provision of the Services, it shall submit a final financial statement. In the event that the Participating State(s) requests that a special audit/evaluation of its account or project under this Agreement be performed by the Internal or External Auditor of ICAO, the Participating State(s) shall bear the cost of such audit.

12.6 If due to unforeseen circumstances the funds received under this Agreement should prove insufficient to cover the total cost of provision of the Services and Administrative Charges, ICAO shall inform the Participating States to that effect and additional funds, if required, shall be made available to ICAO before the continuation of the project

12.7 Any dispute, controversy or claim arising out of or relating to this Agreement, or the breach, termination or invalidity thereof, shall be settled, in the first instance, by direct negotiations between the parties. If unsuccessful, such dispute, controversy or claim shall be settled by arbitration in accordance with the United Nations Commission on International Trade Law (UNCITRAL) Arbitration Rules, as in force at the time of arbitration. The place of arbitration shall be Montreal, Province of Quebec, Canada, conducted in the English language. Arbitration shall be conducted by one arbitrator. The arbitral award shall contain a statement of reasons on which it is based and shall be accepted by the Parties as the final adjudication of the dispute.

12.8 Nothing in or relating to this Agreement shall be deemed a waiver, express or implied, of any immunity from suit or legal process or any privilege, exemption or other immunity enjoyed or which may be

enjoyed by ICAO, its officers, staff, assets and funds either pursuant to the Convention on the Privileges and Immunities of the Specialized Agencies, 1947 or other applicable conventions, agreements, laws or decrees

12.9 The Participating States shall indemnify, hold harmless and, in consultation with ICAO, defend ICAO, including its personnel from any and all actions, claims or other demands arising out of any act performed by ICAO on behalf of the Participating States pursuant to this Agreement.

---

**Appendix A**

**MID FPP STEERING COMMITTEE (MID FPP SC)**

**TERMS OF REFERENCE**

## A) Purpose of the MID FPP SC:

The MID FPP Steering Committee shall meet at least once a year at a venue and time agreed upon by the SC Members.

In order to meet its Terms of Reference, the MID FPP SC shall:

1. elect a Chairperson for a cycle of three years unless re-elected;
2. review regional objectives, plans and users' requirements;
3. monitor and evaluate the Programme activities since the previous meeting;
4. formulate policies and assign priorities for the activities of the MID FPP taking into account the requirements of this Institutional Framework, the provisions of the MID FPP Project document and the availability of funds;
5. review and approve the annual work plan and budget of the MID FPP; taking into account the Host State's and Participating States' in kind-contributions for offsetting their annual financial contribution to the Programme.
6. review plans submitted by the MID FPP Manager;
7. ensure that the business plans are in line with the MID Air Navigation Strategy;
8. oversee the activities of the MID FPP in line with the plans and approved budgets;
9. monitor the financial performance at project level in line with the approved budget;
10. monitor and follow-up the implementation of the MIDANPIRG Conclusions and Decisions related to the MID FPP;
11. follow up with the implementation of the agreed projects and provide regular progress report to the relevant MIDANPIRG subsidiary bodies;
12. coordinate technical issues with the appropriate MIDANPIRG subsidiary bodies; and
13. review and update its terms of reference as deemed necessary.

## B) Composition:

The MID FPP SC is composed of:

a) MID FPP Active States: Directors General of Civil Aviation of the MID FPP Active States, or their designated representatives;

b) ICAO: Regional Director, Middle East Office, Director, Technical Cooperation Bureau (TCB), and Chief of Programmes Coordination and Implementation Section (ANB/PCI) or their representatives; and

c) MID FPP Manager, who will act also as the Secretary of the Steering Committee meetings.

The following may participate in the Steering Committee meetings as observers:

a) MID FPP Users States: Directors General of Civil Aviation of the MID FPP Member States, or their designated representatives;

b) Donor States, agencies, organizations and industry having made a financial or in-kind contribution (recognized as "Partners" in the implementation of the Programme);

c) Representatives from observers States, agencies, organizations and industry with an interest in

aviation safety or air navigation issues in the MID Region; and

d) Representatives from the following Partners:

AACO, ACAC, ACI, AIRBUS, BOEING, CANSO, EUROCONTROL/SESAR JU, IATA, IFALPA IFAIMA, and IFATCA.

Other representatives from States and industry may be invited on ad-hoc basis, as required.

***Note 1:*** *The composition of the MID FPP SC may be updated over time to include only States and/or Partners that could participate actively and contribute to the work of the SC.*

**Appendix B1**

# MID FPP LEBANON HOSTING OFFER

| State Name: | Lebanese General Directorate of Civil aviation | date: 18 JUNE 2016 |
|---|---|---|
| Filled by: | Kamal Nassereddine/chief of air naviagtion Department | email:atm@beirutairport.gov.lb |

***Please complete and send in a closed envelope by caurier (DHL, ARAMEX, etc.) to the ICAO Middle East Office, Cairo International Airport, Ministry of Civil Aviation Complex, P.O.Box 85, Postal Code 11776, Cairo, Egypt***

*During evoluotion grades will be set out of 10 marks and then multiplied by the relevont factors.*

| Item | Requirements | Multiply Factor | Details | Your Offer/Answers |
|---|---|---|---|---|
| **General Living conditions** | | | | |
| 1 | City Accessibility | 2 | Indicate which of the MID States have NO direct flight to your State | All states have more than one daily direct flights to Beirut airport Except for sudan, libya, and yemen. |
| 2 | Visas | 2 | Indicate which of the MID States require entry visa to your State | ( Egypt , Libya, Sudan, Yemen) |
| 3 | | | Will your Administration facilitate the visa process for the participants? | these states need some documents to get the visas at Beirut airport like hotel reservation ,2way flight tickets, 2000 USD cache, a security check might also be required for some participants, even though the DGCA will provide appropriate support to facilitate visa issuance for them. |
| 4 | United Nations privileges | 2 | Is the necessary procedures in place that facilitate the issuances of visas, accreditations or residence permits for the MID FPP Manager and his family members (UN-ICAO expert) ensuring the expeditious relocation of them at the duty station and for the whole duration of their ICAO contracts and subsequent renewals. | yes lebanon will facilitate the issuances of their visas also The Programme Coordinator will be benefit from the same privileges provided to the United Nations Staff working in Lebanon (residency, Immunities, etc.) in accordance with the Lebanese law and policies. |
| 5 | Transportation | 1 | What are you offering for the MID FPP Manager for his daily transportation? | upon request DGCA can provide the transportation with driver to/from within Beirut city Zone for the FPP coordinator and for purposes of official movements between progamme office and supporting facilities as needed or requested. |
| **Premises** | | | | |
| 6 | Building | 2 | Building Type (Villa, Apartment, Centre, etc.) | the premises will be in the safety training center located within Beirut Rafic Hariri International Airport-Beirut Area and just away 9 km from Beirut city center. |
| 7 | Offices | 3 | Number of Offices for the Manger and experts. | 2 -3 OFFICES as requested by ICAO letters :AN 6/33-16/023, and Letter Ref: AN 6/33-16/149 dated 2 June 2016. |
| 8 | Facilities | 1 | List the facilities that will be proved within the premises such as: parking, garden, kitchen, cafeteria, playground, coffee machines, etc. | **the center include: large parking for more than 50 cars, backyard garden, kitchen, small self service cafeteria , play ground ,coffee machines and Beverages machines, library with study room .** (please see the pictures No 1 &2) |
| 9 | Furniture | 1 | What furniture will be provided? | all requested by ICAO letter:AN 6/33-16/023 AN 6/33-16/023, and Letter Ref: AN 6/33-16/149 dated 2 June 2016 for fully new furnished offices. |
| 10 | Labs | 3 | Number of laboratory to be used by procedure designers | Two laboratories are available upon request with pre-reservation :<br>1- Computer LAB contains 20 workstations. (see the pictures No 3)<br>2- Another availble large ROOM (20 persons) can be used as LA8 |
| 11 | Meeting Rooms | 3 | Number and capacity of meeting rooms | 3 meeting rooms are available upon request with pre-reservation with the center coordinator and CERSA (security traning academy) :<br>1- examination hall can contain 80 persons.(see the pictures No 4)<br>2- Amphitheatre capacity 64 people .(see the pictures No 5).<br>3- one meeting room for 18 persons equipped with smart projector (see the pictures No 6). |
| 12 | Classrooms | 3 | Number and capacity of classrooms | the center has 7 classrooms (Capacity between 10 and 25 trainees) (see the pictures No 7). |
| 13 | Air conditioning | 2 | Indicate if the premises is or will be air-conditioned through the hosting offer | the center is already air-conditioned 24/24hours through the lebanese DGCA offer. |

| | | | | |
|---|---|---|---|---|
| **Running cost of the premises** | | | | |
| **14** | Security of the premises | 1 | Are you willing to provide security services? | yes Centre is provided with private parking ,fence and the police is guarding the center 24/24 hours since in the same location there is the CERSA Aviation Security Training Academy and police office (see the pictures No 8). |
| **15** | Electricity | 1 | Is electricity fees covered by your offer? | yes for 24/24hours through the lebanese DGCA offer. |
| **16** | Internet | 1 | Is internet fees covered by your offer? | yes 4 MB HDSL will be provided through the lebanese DGCA offer. |
| **17** | Telephone | 1 | Is telephone bills covered by your offer (specify if local and/or international calls)? | the local telephone bills will be only covered by lebanon DGCA offer, for the international calls the center is equipped by a pay-phone machine. |
| **18** | Cleaning services | 1 | Are you willing to provide cleaning services of the premises? | yes / a daily cleaning services are already provided through DGCA to all training center premises including MFPP offices. |
| **19** | Maintenance | 1 | Are you willing to cover the maintenance expenses related to the premises? | yes maintenance are already covered through DGCA to all training center premises . |
| **Man power support** | | | | |
| **20** | PANS-OPS experts | 2 | Indicate the number of experts that will support the MID FPP and in which area (PANS-OPS, Airspace Planners, OPS-Approval, Instructors) | LEBANON Doesn't have procedures designer experts (we have one person didn't complete all the required courses and without OJT ) and we are willing to train 3-4 persons in the mentioned area through the MFPP project training courses. |
| **21** | data analyst | 1 | Are you willing to support the MID FPP with a Data Analyst? | NO |
| **22** | secretary | 1 | Are you willing to support the MID FPP with a Secretary? | NO |
| **Equipment and software** | | | | |
| **23** | PCs | 3 | Indicate number of PCs that will be provide (Workstations and Server) | 1 server + 4 workstations (PC) |
| **24** | Monitors | 3 | Number of 19 inch monitors for the above PCs | 5 Monitors |
| **25** | Maps Storage cabinet | 1 | Cabinet for MAPs and documentation storage | yes (and we will provide more than one cabinet if needed) |
| **26** | A0 Printer or Plotter | 1 | Type of the A0 printer | HP DESIGN-JET |
| **27** | Maps A3 printer | 1 | Type of the A3 printer | HP |
| **28** | A0 scanner | 1 | Type of the A0 scanner | HP DESIGN-JET |
| **29** | Computer Data Projector | 2 | Projector (type and numbers) | ALL classrooms and meeting rooms in the center are equipped with projectors and there is one meeting room is equipped with smart projector and we can provide one extra projector (sony or epson) if needed or requested by MFPP manager. |
| **30** | Supplies for training sessions** | 1 | Are willing to provide supplies for training sessions such as: set squares, protractors, compasses, rulers and pocket calculators? | yes ( but we need a list of the items needed+ numbers and types) |
| **31** | 2 Procedure Design Software Licenses | 3 | Are willing to provide the procedure design software? Indicate type and how many licenses? | the MFPP STAFF will have access ( if requested or needed) to use the lebanese flight procedure design software and tools(GeoTiTan) which we are going to upgarde to the new version during 2016/17 and we are planning to get 2 licenses and we will then dedicate one of them to the MFPP project. |
| **32** | 2 GOOGLE EARTH licenses | 1 | Are willing to provide 2 GOOGLE EARTH licenses? | yes |
| **33** | 2 ACROBAT READER licenses | 1 | Are willing to provide2 ACROBAT READER licenses? | yes |
| **34** | 2 COREL DRAW licenses | 1 | Are willing to provide 2 COREL DRAW licenses? | yes |
| **35** | Simulator | 2 | Are you willing to provide or make available the use of a Fast Time Simulator. | A project for a new ATC Simulator ( Tower - Approach - Area), including a FTS has been already initiated with ICAO TCB and could be used by the MID FPP . |
| **36** | 2 virtual machines (such as VMWARE) licenses | 1 | Are willing to provide 2 virtual machines (such as VMWARE) licenses for the remotely use of the MID FPP software? | YES |
| **Readiness to sign the Agreement** | | | | |
| **37** | Premises | 2 | How much time is needed for the readiness of the premises? | the premises is already exist and the training center is opened and operated many years ago. |
| **38** | Agreement | 3 | how much time is needed for the signature of the Hosting Agreement with ICAO Technical Cooperation Bureau (TCB)? | after the signature of the hosting agreement with ICAO (TCB) we need 6 months for purchasing the furniture , tools , and the softwares offered by the Lebanese DGCA. |

**END**

**Appendix B2**

## MID FPP MINIMUM OFFICE REQUIREMENTS

| | |
|---|---|
| **MID FPP staff** | |
| | • Programme Manager (1) Full Time Recruited by ICAO TCB<br>• 5 to 10 Procedure Designers and Airspace Planners, 2- to 4 OPS Approval experts and 2 to 4 PD Instructors assigned by States and Donors, who will work on-call-basis.<br>• PANS-OPS Specialist, Data Specialist (1), Administrative Assistant (1) and/or IT Specialist (1) should be seconded when needed in compliance with the ICAO policy on secondment. |
| **Office space** | |
| 1 office | • Programme Manager |
| 1 office | • PANS-OPS Expert |
| 1 room | • Lab for procedure design |
| 1 room | • Classroom/ Meeting room |
| **Furniture equipment** | |
| Manager | • Desk and chair<br>• Storage/File cabinet<br>• Book case<br>• Conference table (6 persons) and chairs<br>• Monitor/Webcam for conferences |
| Offices | • Standard furniture for all offices<br>• Desk, chair, storage/file cabinet, book case – per person |
| Classroom<br>OJT room | • Adequate space for 20 students<br>• 4 drawing tables<br>• White boards<br>• Student tables<br>• Projector |
| Meeting room | • Adequate equipment for 20 persons |
| **IT equipment** | |
| | • Secure Wi-Fi Internet connection<br>• Desk-top Phone with international services<br>• 1 Mobile phone (Manager)<br>– Laptop computer with docking station<br>– monitor 19”<br>• Data Specialist when seconded<br>– Office computer equipment (monitor 19”)<br>• External storage disks<br>• 1 desktop multi-functional color copier/scanner/printer |
| **Procedure Design equipment** | |
| Offices | • Maps Storage cabinet<br>• Maps A3 printer<br>• A0 scanner<br>• A0 printer Semi-professional<br>• GPS<br>• 1 server and 2 workstations (PCs) |
| Classroom | • Computer Data Projector<br>• Supplies for training sessions : set squares, protractors, compasses, rulers and pocket calculators |
| software | • 2 Procedure Design Software Licenses<br>• 2 GOOGLE EARTH licenses<br>• 2 ACROBAT READER licenses<br>• 2 COREL DRAW licenses<br>• 2 virtual machines (such as VMWARE) licenses for the remotely use of the Procedure Design Software |

**APPENDIX C - JOB DESCRIPTION**

# International Civil Aviation Organization
# Technical Cooperation Bureau – Job Description

## POSITION INFORMATION

| | | | |
|---|---|---|---|
| Generic Title: | Programme Manager | Position Number (ID): | |
| Specific Title: | MID FPP Manager | Job Card: | |
| Project Number: | | Post Number/Job Code: | |
| Duty Station: | TBD | CCOG code: | |
| Duration: | 1 year | Starting Date: | 1 January 2019 |

## ORGANISATIONAL SETTING

Under the direction of the Director/Technical Cooperation Bureau, the Field Operations Section is responsible for the strategic planning, development, execution and evaluation of Projects in TCB. The Section assists with the identification of priority development requirements across civil aviation and with technical cooperation to recipient States. It carries out resource mobilization with multilateral and bilateral development partners and industry and develops regional and country specific technical cooperation programmes and projects. The Section executes these programmes and projects in accordance with the policies and contractual modalities of TCB.

## MAJOR DUTIES AND RESPONSIBILITIES

Under the direction of the ICAO Middle East Regional Director and in cooperation with the national counterparts and other MID FPP Programme personnel:

- work with ICAO and the participating States on the establishment of the MID FPP Office and commencement of operations, including establishment of office capability and processes;
- be responsible for all aspects of the operation and management of the Flight Procedure Programme to include Programme coordination functions, personnel resourcing and training, office software and automation implementation, work plans, travel, and budget;
- implement of the work plan agreed upon by the MID FPP Steering Committee;
- perform frequent coordination with ICAO MID Regional Office, other FPP offices, sub-regional groups, international and regional Organizations and States on issues related to FPP operations;
- foster positive relationships and cooperation among assigned staff, international experts, nominated experts, seconded officers and CAA counterparts;
- identify, and develop Programme resources;
- report on a quarterly basis to the MID FPP Steering Committee and the ICAO Middle East Regional Director, on the progress of the FPP to include:
  a. Programme Status (Interim or Full Operational Capability, status of resources, budget, etc.);
  b. Accomplishments (since last report);
  c. Objectives for the next reporting period; and
  d. Other (new requirements, concerns, issues, etc.)
- develop and amend business plans (deliverables, timeline, budget and concerned entities) for MID FPP and recommends them to the Steering Committee;
- develop Key Performance Indicators (KPIs) to monitor the implementation, assess and measure the effectiveness of the Programme;
- identify and report Programme risk to the MID FPP SC and maintain a risk database;
- assign projects to the MID FPP personnel;
- supervise/monitor the performance of the MID FPP Specialists; and
- perform other related duties as required.

## QUALIFICATIONS AND EXPERIENCE

### Educational background

A first level university degree in aeronautics, ATM, or in a related field, is required. A technical qualification in aviation such as an Airline Transport Pilot License (ATPL) and Air Traffic Control (ATC) License may be accepted in lieu of a university degree.

### Professional experience and knowledge

- At least 10 years' operational experience as PANS-OPS Specialist, Airspace Planner, pilot or Air Traffic Controller, with a good understanding of instrument flight procedure design process. A working knowledge of the Ops Approval and Airspace Design processes is highly desirable.
- Knowledge in aeronautical data quality and trajectories' publication.
- At least 5 years' aviation management experience.
- Knowledge of the ICAO GANP as well as the Performance Based Navigation (PBN) concept, objectives and supporting ICAO provisions and guidance.
- Ability to work and coordinate with civil aviation officials at all levels, as well as industry, regional and sub-regional groups, to accomplish the goals of the Programme.
- Ability to successfully lead major projects under a team structure; Experience in team management with the ability to foster and maintain harmonious, positive working relationships in a multi-national environment.
- Satisfactory completion of PANS-OPS, Airspace planning or PBN course(s).
- Satisfactory completion of the ICAO online course related to PBN.
- Knowledge of the process related to the development of IFPs for conventional and PBN procedures.
- Completion of SMS or Quality assurance course(s) with knowledge about the implementation of Flight Procedure Design Quality Assurance (Doc 9906) requirements.
- Experience using Flight Procedure Design automation systems for flight procedure design is preferable.
- Experience as an Instrument Flight Procedure Design Instructor for ICAO PANS-OPS (Doc 8168) courses is preferable.

### Language Skills

**Essential**

- Fluent reading, writing and speaking abilities in English is essential.

**Desirable**

- A working knowledge of Arabic is an asset

### Competencies

- **Judgment/Decision-Making**: Demonstrated ability to take ownership of all responsibilities and commitments, to exercise a mature opinion, to recognize key issues and analyse relevant information, to formulate viable recommendations and make decisions.
- **Vision**: Identifies strategic issues, opportunities and risks.
- **Leadership**: Drives for change and improvement, does not accept the status quo, establishes and maintains relationships with a broad range of people to understand needs and gain support.
- **Managing Performance**: Monitor progress against milestones and deadlines.
- **Building Trust**: Operates with transparency, treats sensitive or confidential information appropriately.
- **Teamwork**: Ability to work with colleagues to achieve the project objectives and maintain harmonious working relations in a multinational environment.
- **Client Orientation**: Ability to establish and maintain partnerships with outside partners, to work and argue effectively in a system based on consensus and to successfully manage and resolve conflicts.
- **Communication**: Ability to write clearly and concisely and present oral reports.

## REMUNERATION

**APPENDIX B - JOB DESCRIPTION**

# International Civil Aviation Organization
# Technical Cooperation Bureau – Job Description

## POSITION INFORMATION

| | | | |
|---|---|---|---|
| Generic Title: | Procedure Designer | Position Number (ID): | |
| Specific Title: | Procedure Designer | Job Card: | |
| Project Number: | | Post Number/Job Code: | |
| Duty Station: | Remotely | CCOG code: | |
| Duration: | 1 year | Starting Date: | |

## ORGANISATIONAL SETTING

Under the direction of the Director/Technical Cooperation Bureau, the Field Operations Section is responsible for the strategic planning, development, execution and evaluation of Projects in TCB. The Section assists with the identification of priority development requirements across civil aviation and with technical cooperation to recipient States. It carries out resource mobilization with multilateral and bilateral development partners and industry and develops regional and country specific technical cooperation programmes and projects. The Section executes these programmes and projects in accordance with the policies and contractual modalities of TCB.

## MAJOR DUTIES AND RESPONSIBILITIES

Under the direction of the ICAO Middle East Regional and with the supervision of the MID FPP Manager:

- design instrument flight procedures;
- review, verify, maintain and make sure that the flight procedure is ready for the final approval;
- guarantee a quality assurance in the flight procedure design;
- provide OJT training to new procedure designers;
- maintain a well-structured database for obstacles assessment; and
- perform other related duties as assigned.

## QUALIFICATIONS AND EXPERIENCE

### Educational background

University degree or equivalent qualifications and experience in the air navigation.

### Professional experience and knowledge

- Minimum five (5) years' experience at increasing levels of responsibility in flight procedure design
- Experience in aviation operations as a pilot, navigator or air traffic controller is desirable.
- Satisfactory completion of an approved PANS OPS flight procedures design courses and advanced courses on PANS OPS flight procedures design (PBN, RNAV, GBAS, etc.) at a specialized recognized institution.
- Knowledge in the aeronautical information conceptual and exchange model (AIXM), automation, digital terrain model (DTM), geographic information systems and cartography.
- Experience in the use of flight procedure design software.
- Knowledge in participating in the work of International Organization for Standardization (ISO) and quality assurance.
- Thorough knowledge of ICAO Standards and Recommended Practices (SARPs) and Procedures for Air Navigation Services (PANS).
- Ability to write clearly and concisely detailed technical and specialized reports and to make verbal presentations.
- Ability to develop clear goals that are consistent with agreed strategies.

## Language Skills

**Essential**

- Good command of oral and written English is essential.

**Desirable**

- A working knowledge of Arabic is an asset.

## Competencies

- **Judgment/Decision-Making**: Demonstrated ability to take ownership of all responsibilities and commitments, to exercise a mature opinion, to recognize key issues and analyse relevant information, to formulate viable recommendations and make decisions.
- **Vision**: Identifies strategic issues, opportunities and risks.
- **Leadership**: Drives for change and improvement, does not accept the status quo, establishes and maintains relationships with a broad range of people to understand needs and gain support.
- **Managing Performance**: Monitor progress against milestones and deadlines.
- **Building Trust**: Operates with transparency, treats sensitive or confidential information appropriately.
- **Teamwork**: Ability to work with colleagues to achieve the project objectives and maintain harmonious working relations in a multinational environment.
- **Client Orientation**: Ability to establish and maintain partnerships with outside partners, to work and argue effectively in a system based on consensus and to successfully manage and resolve conflicts.
- **Communication**: Ability to write clearly and concisely and present oral reports.

# REMUNERATION

**Appendix C3**

**APPENDIX B - JOB DESCRIPTION**

# International Civil Aviation Organization
# Technical Cooperation Bureau – Job Description

## POSITION INFORMATION

| | | | |
|---|---|---|---|
| Generic Title: | Instructor | Position Number (ID): | |
| Specific Title: | Instructor | Job Card: | |
| Project Number: | | Post Number/Job Code: | |
| Duty Station: | Remotely | CCOG code: | |
| Duration: | 1 year | Starting Date: | |

## ORGANISATIONAL SETTING

Under the direction of the Director/Technical Cooperation Bureau, the Field Operations Section is responsible for the strategic planning, development, execution and evaluation of Projects in TCB. The Section assists with the identification of priority development requirements across civil aviation and with technical cooperation to recipient States. It carries out resource mobilization with multilateral and bilateral development partners and industry and develops regional and country specific technical cooperation programmes and projects. The Section executes these programmes and projects in accordance with the policies and contractual modalities of TCB.

## MAJOR DUTIES AND RESPONSIBILITIES

Un Under the direction of the ICAO Middle East Regional and with the supervision of the MID FPP Manager:

- conduct airspace planning, procedure design and OPS Approval courses as tasked by the MID FPP Manager; and
- perform other related duties as assigned by the MID FPP Manager.

## QUALIFICATIONS AND EXPERIENCE

### Educational background

University degree or equivalent qualifications and experience in the air navigation.

### Professional experience and knowledge

- Significant aviation experience as air traffic controller or a pilot or demonstrated equivalencies.
- Significant experience as Instrument Flight Procedure Design specialist with extensive knowledge of ICAO PANS-OPS (Doc 8168) and ICAO PBN (Doc 9613) requirements.
- Significant experience as an Airspace Design specialist with knowledge of ICAO use of PBN in Airspace Design (ICAO Doc 9992).
- Training and Experience as an Instrument Flight Procedure Design Instructor for ICAO PANS-OPS (Doc 8168) courses with thorough understanding of teaching techniques and assessment methods is desirable.
- Thorough understanding of Flight Procedure Design Quality Assurance (Doc 9906) requirements and its implementation.

### Language Skills

**Essential**

- Good command of oral and written English is essential.

**Desirable**

- A working knowledge of Arabic is an asset.

## Competencies

- **Judgment/Decision-Making**: Demonstrated ability to take ownership of all responsibilities and commitments, to exercise a mature opinion, to recognize key issues and analyse relevant information, to formulate viable recommendations and make decisions.
- **Vision**: Identifies strategic issues, opportunities and risks.
- **Leadership**: Drives for change and improvement, does not accept the status quo, establishes and maintains relationships with a broad range of people to understand needs and gain support.
- **Managing Performance**: Monitor progress against milestones and deadlines.
- **Building Trust**: Operates with transparency, treats sensitive or confidential information appropriately.
- **Teamwork**: Ability to work with colleagues to achieve the project objectives and maintain harmonious working relations in a multinational environment.
- **Client Orientation**: Ability to establish and maintain partnerships with outside partners, to work and argue effectively in a system based on consensus and to successfully manage and resolve conflicts.
- **Communication**: Ability to write clearly and concisely and present oral reports.

# REMUNERATION

**Appendix C4**

**APPENDIX B - JOB DESCRIPTIONS**

# International Civil Aviation Organization
# Technical Cooperation Bureau – Job Description

## POSITION INFORMATION

| | | | |
|---|---|---|---|
| Generic Title: | OPS approval Expert | Position Number (ID): | |
| Specific Title: | OPS approval Expert | Job Card: | |
| Project Number: | | Post Number/Job Code: | |
| Duty Station: | Remotely | CCOG code: | |
| Duration: | 1 year | Starting Date: | |

## ORGANISATIONAL SETTING

Under the direction of the Director/Technical Cooperation Bureau, the Field Operations Section is responsible for the strategic planning, development, execution and evaluation of Projects in TCB. The Section assists with the identification of priority development requirements across civil aviation and with technical cooperation to recipient States. It carries out resource mobilization with multilateral and bilateral development partners and industry and develops regional and country specific technical cooperation programmes and projects. The Section executes these programmes and projects in accordance with the policies and contractual modalities of TCB.

## MAJOR DUTIES AND RESPONSIBILITIES

Under the direction of the ICAO Middle East Regional and with the supervision of the MID FPP Manager:

- assist States with the developments/implementation of flight procedure regulatory approval as tasked by the MID FPP Manager;
- review, verify, maintain and make sure that the flight procedure is ready for the final approval;
- provide on-the-job training to OPS Approval experts; and
- perform other related duties as assigned

## QUALIFICATIONS AND EXPERIENCE

### Educational background

University degree or equivalent qualifications and experience in the air navigation.

### Professional experience and knowledge

- Satisfactory completion of formal PANS-OPS course(s) to cover the conventional and PBN procedure design criteria.
- Experience in the development of IFPs for conventional and PBN procedures.
- Understanding of Flight Procedure Design Quality Assurance (Doc 9906) requirements and its implementation.
- Experience using Flight Procedure Design automation systems for flight procedure design is preferable.
- Experience as an Instrument Flight Procedure Design Instructor for ICAO PANS-OPS (Doc 8168) courses is preferable.
- Experience of working with CAAs (Regulatory authorities).

### Language Skills

**Essential**

- Good command of oral and written English is essential.

**Desirable**

- A working knowledge of Arabic is an asset.

## Competencies

- **Judgment/Decision-Making**: Demonstrated ability to take ownership of all responsibilities and commitments, to exercise a mature opinion, to recognize key issues and analyse relevant information, to formulate viable recommendations and make decisions.
- **Vision**: Identifies strategic issues, opportunities and risks.
- **Leadership**: Drives for change and improvement, does not accept the status quo, establishes and maintains relationships with a broad range of people to understand needs and gain support.
- **Managing Performance**: Monitor progress against milestones and deadlines.
- **Building Trust**: Operates with transparency, treats sensitive or confidential information appropriately.
- **Teamwork**: Ability to work with colleagues to achieve the project objectives and maintain harmonious working relations in a multinational environment.
- **Client Orientation**: Ability to establish and maintain partnerships with outside partners, to work and argue effectively in a system based on consensus and to successfully manage and resolve conflicts.
- **Communication**: Ability to write clearly and concisely and present oral reports.

# REMUNERATION

**Appendix C5**

**APPENDIX B - JOB DESCRIPTIONS**

# International Civil Aviation Organization
# Technical Cooperation Bureau – Job Description

## POSITION INFORMATION

| | | | |
|---|---|---|---|
| Generic Title: | Data Specialist | Position Number (ID): | |
| Specific Title: | Data Specialist | Job Card: | |
| Project Number: | | Post Number/Job Code: | |
| Duty Station: | TBD | CCOG code: | |
| Duration: | 1 year | Starting Date: | |

## ORGANISATIONAL SETTING

Under the direction of the Director/Technical Cooperation Bureau, the Field Operations Section is responsible for the strategic planning, development, execution and evaluation of Projects in TCB. The Section assists with the identification of priority development requirements across civil aviation and with technical cooperation to recipient States. It carries out resource mobilization with multilateral and bilateral development partners and industry and develops regional and country specific technical cooperation programmes and projects. The Section executes these programmes and projects in accordance with the policies and contractual modalities of TCB.

## MAJOR DUTIES AND RESPONSIBILITIES

Under the direction of the ICAO Middle East Regional and with the supervision of the MID FPP Manager:

- establish and update MID FPP data base of aeronautical data to support procedure design;
- acquire and store obstacle data to support procedure design; and
- perform other related duties as assigned

## QUALIFICATIONS AND EXPERIENCE

### Educational background

University degree or equivalent qualifications and experience in the air navigation.

### Professional experience and knowledge

- Significant experience in aeronautical data management.
- Knowledge of ICAO PANS-OPS (Doc 8168) and ICAO PBN (Doc 9613) data requirements.
- Thorough understanding of Flight Procedure Design Quality Assurance (Doc 9906) requirements and its implementation.
- Training and experience using Flight Procedure Design automation systems for flight procedure design.
- Experience of working with CAAs, preferably in the MID Region.

### Language Skills

**Essential**

- Good command of oral and written English is essential.

**Desirable**

- A working knowledge of Arabic is an asset.

### Competencies

- **Judgment/Decision-Making**: Demonstrated ability to take ownership of all responsibilities and commitments, to

exercise a mature opinion, to recognize key issues and analyse relevant information, to formulate viable recommendations and make decisions.

- **Vision**: Identifies strategic issues, opportunities and risks.
- **Leadership**: Drives for change and improvement, does not accept the status quo, establishes and maintains relationships with a broad range of people to understand needs and gain support.
- **Managing Performance**: Monitor progress against milestones and deadlines.
- **Building Trust**: Operates with transparency, treats sensitive or confidential information appropriately.
- **Teamwork**: Ability to work with colleagues to achieve the project objectives and maintain harmonious working relations in a multinational environment.
- **Client Orientation**: Ability to establish and maintain partnerships with outside partners, to work and argue effectively in a system based on consensus and to successfully manage and resolve conflicts.
- **Communication**: Ability to write clearly and concisely and present oral reports.

## REMUNERATION

**Appendix D**

**WORK PLAN 2019**

## MID FPP Objectives for Year 1 (2019)

The first year will be an important year for the MID Flight Procedures Programme (MID FPP). The purpose of the Programme is to provide opportunity to use the training activities and services proposed by the Programme for Participating States.

In order to propose a variety of training activities and services addressing the needs of Participating States while complying with the ICAO Resolution A37-11, ASBU B0-APTA and the Global and regional requirements, the MID FPP training programme is composed of workshops, training courses and support activities. The training activities centered on PBN Implementation Plan, regulatory approval procedures and PBN OPS Approval for operators have to be considered as essential to improve or start PBN implementation in States.

On the other hand, specific projects and implementation support activities will assist Participating States to consolidate or implement the flight procedures through ground validation and approval process.
These activities will allow the Participating States to expedite or to make the first steps for implementing PBN flight procedures in the Region.

The MID FPP Objectives for 2019 are as follows;

- Commence Phase 1 MID FPP operations on **01 January 2019**;
- Conduct 4 Training activities; and
- Conduct 2 Project-orientated implementation support activities

## MID FPP Training Activities for-2019

### 1) PBN Implementation Workshop–-5 days – [date]

**Description:** This PBN Implementation Workshop is intended to assist States/Administrations in enhancing their PBN Implementation Plans and move forward with actual PBN implementations. The Workshop will also provide updated information regarding global PBN activities and how PBN can be an enabler for enhancing ATM operations. During the workshops, the participants with assistance from MID FPP facilitators will develop a list of short-term action items aiming to enhance their existing PBN Implementation Plans and advance their on-going PBN implementations and deployments. The list of action items along with relevant recommendations will then be submitted to appropriate CAAs for their actions.

Participants to these workshops should be representatives from all aviation stakeholders with an interest in PBN implementation.

- Facilitator – TBD
- Coordination/Sponsorship –TBD
- Material – ANB, APAC FPP, AFI FPP, MID FPP
- Facility – TBD
- Funding – TBD

### 2) PBN Ops Approval Course - 1 week - [date]

**Description:** The course is based on ICAO Doc 9997 and conducts to support States in developing their operational approval capability for approving PBN operations and air operators in obtaining PBN OPS approvals. The purpose of the course is to provide experienced flight inspectors, flight operations regulators and air operators' personnel with a comprehensive understanding of the requirements for PBN operational approval.

At the end of the course, each participant will be individually assessed and the outcome of the assessment will be reported to each participant and his/her agency. The course is open to qualified and experienced flight inspectors, regulators and air operator personnel involved in PBN flight operations.

- Instructor – TBD
- Coordination/Sponsorship – TBD
- Material – ANB, TBD
- Facility – TBD
- Funding - TBD

**3) PANS-OPS Initial Procedure Design Course– 4 Weeks – [dates]**

**Description:** The course is based on ICAO PANS-OPS and aims to support States in developing their conventional flight procedures and basic procedure design capability by providing fundamental knowledge regarding procedure design. The instruction consists of lecturing, exercises, progress tests and examinations.
At the end of the course, each participant will be individually assessed and the outcome of the assessment will then be reported to each participant and his/her agency.

- Instructor – TBD
- Material – TBD
- Facility – TBD
- Funding – TBD

**4) PBN Procedure Design – 4 Weeks – [dates]**

**Description:** The course aimed to support States/Administrations in developing their PBN procedure design capacity. The course is a follow-up to the ICAO PANS-OPS Initial Procedure Design Course.
At the end of the course, each student will be individually assessed and the outcome of the assessment will then be reported to each student and his/her agency.
The course is open to qualified procedure designers who have successfully completed PANS-OPS Initial Course either at the MID FPP or other institutions.

- Instructor – TBD
- Material – TBD
- Facility – TBD
- Funding - TBD

**MID FPP Project-oriented Implementation Support for 2019**

**1) OJT on ground validation and approval procedures with specific projects, [States, dates]**
**Description:** The OJT sessions are targeted to assist regulators in validating and approving specific PBN procedures. The purpose of the session is to provide hands-on assistance for regulators in reviewing specific procedure design and validation packages which have been submitted prior to actual approvals and publications into the State AIPs. It is expected that once the validation and approval process is completed, the said procedures will be promptly published and implemented.

- Instructor - Qualified procedure designer from MID FPP
- Funding by States participating on the OJTs or Donors if available
- Facility - TBD
- Conditions – This OJT session is available for
    - Active States with annual contributions to the MID FPP; or
    - States that request this support under a service fee

**2) Provision of assistance for the development of IFPs including Quality Assurance. [States, dates]**

**Description:** The MID FPP would assist States for the development of instrument flight procedures with a focus on quality assurance, including the conduct of training courses or workshops for the personnel involved in the development process.

## Appendix E

## INTERNATIONAL CIVIL AVIATION ORGANIZATION
## TECHNICAL CO-OPERATION PROGRAMME

### PROJECT BUDGET COVERING MSA CONTRIBUTION
### (IN UNITED STATES DOLLARS)

| | |
|---|---|
| COUNTRY: | REGIONAL PROJECT |
| PROJECT NO: | RAB18801 |
| PROJECT TITLE: | FLIGHT PROCEDURES PROGRAMME - MID |
| WORK ORDER: | RAB18801-01 |
| VERSION: | 3 |

| | | TOTAL | | 2019 | | 2020 | | 2021 | |
|---|---|---|---|---|---|---|---|---|---|
| | | w/m | $ | w/m | $ | w/m | $ | w/m | $ |
| PROJECT PERSONNEL | | | | | | | | | |
| INTERNATIONAL PROFESSIONAL POSTS | | | | | | | | | |
| B500A | 900186 / PROGRAMME MANAGER | 36.0 | 809 200 | 12.0 | 286 400 | 12.0 | 226 200 | 12.0 | 296 600 |
| B554A | CONSULTANTS | | 85 000 | | 25 000 | | 30 000 | | 30 000 |
| SUB-TOTAL (INTERNATIONAL PROFESSIONAL POSTS) | | 36.0 | 894 200 | 12.0 | 311 400 | 12.0 | 256 200 | 12.0 | 326 600 |
| B814A | INTERNATIONAL TRAVEL | | 45 000 | | 15 000 | | 15 000 | | 15 000 |
| TOTAL (PROJECT PERSONNEL) | | | 939 200 | | 326 400 | | 271 200 | | 341 600 |
| SUB-CONTRACTS | | | | | | | | | |
| B803A | SUB-CONTRACT - LOCAL | | 45 000 | | 15 000 | | 15 000 | | 15 000 |
| TOTAL (SUB-CONTRACTS) | | | 45 000 | | 15 000 | | 15 000 | | 15 000 |
| EQUIPMENT | | | | | | | | | |
| B751D | EXPENDABLE EQUIPMENT - LOCAL | | 15 000 | | 5 000 | | 5 000 | | 5 000 |
| TOTAL (EQUIPMENT) | | | 15 000 | | 5 000 | | 5 000 | | 5 000 |
| MISCELLANEOUS | | | | | | | | | |
| B807M | MISCELLANEOUS EXPENSES | | 25 000 | | 8 700 | | 7 300 | | 9 000 |
| B754A | OVERHEAD CHARGES | | 102 500 | | 35 500 | | 29 900 | | 37 100 |
| TOTAL (MISCELLANEOUS) | | | 127 500 | | 44 200 | | 37 200 | | 46 100 |
| PROJECT TOTAL | | | 1 126 700 | | 390 600 | | 328 400 | | 407 700 |

**-END-**