



Fifth Meeting of Aerodrome Safety & Planning Implementation Group

(Doha, Qatar, 13-15 June 2023)

(ASPIG/5)

Overview of the:

***Aerodrome Restart iPack implemented for Libya and its
Deployment Report***

***Presented by : Eng. Mohamed Wali
June 2023***



Aerodrome Restart iPack Deployed



Overview of the iPack Libya LBY22401

Further to the agreement to the deployment of the Implementation Package entitled “Aerodromes Restart” expressed by Libya, the ICAO Technical Cooperation Bureau (TCB) deployed this iPack to Civil Aviation Authority of Libya.





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Overview of the iPack Libya LBY22401

- The ADRM iPack was deployed from August 31, 2022, to October 04, 2022, to Libya CAA
- The kick off meeting started with a general overview of the “Aerodrome Restart” Implementation Package (iPack), iPack objectives, iPack components, and iPack deployment process followed by a presentation by the project manager and the SME on the deployment plan and the deployment schedule as well.



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Overview of the iPack Libya LBY22401

- The Covid -19 pandemic was not the only cause that has an impact on airport closures in Libya but the particular situation that Libya has gone through over the past ten years (conflict, economic sanction, etc.) which affected airport facilities, equipment, number and training of employees, and lack of knowledge of the latest ICAO Standards and Recommended Practices.



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iPack start and implemented

- The program targeted four international airports to implement the package provided by the International Civil Aviation Organization (ICAO)
- The implementation teams of the package program accompanied from the Libyan Civil Aviation Authority LYCAA and the Airports Authority
- An online training course was implemented for 12 trainees

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iPack start and implemented



مصلحة المطارات
مطار معيترقة الدولي

OMAR TAILMOUN
BASSAM GHULAM
JAMALADHIM



مصلحة المطارات
مطار مصراتة الدولي

ALI ABEAD
OMAR MOHAMED
GLOUS
MOHAMEDELMAHDI



مصلحة المطارات الليبية
إدارة مطار بنينا الدولي

ALI ABEAD
HAFED MOHAMED
ALSAKLOUL
HAMZA KHALLEFAH



مصلحة المطارات
AIRPORTS AUTHORITY
مطار سبها الدولي

ESSAM EL FAKIH
AYHAB WANNES
SABRI AWAD

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The program was implemented to cover five areas for each airport

Aerodrome infrastructure

Aerodrome operations

Certification and compliance

Coordination & collaboration

Human resource

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Detailed guidance for implementation of the aerodrome restart checklist

A. Aerodrome infrastructure *Benina (Banghazi) Airport*

Item	Areas/Topic to be covered	ICAO reference			Action taken	Remarks
		Item No.	Item description	Specific references		
1	Visual aids for Navigation Including but not limited to the status of all markings, lights including calibration of PAPI, signs, status of obstacle lights, etc.	VA-1	Frequency of inspection of visual aids.	Annex 14, Vol. I 2.9.1 to 2.9.3; Annex 15, para 6.3.2.3 Aerodrome Design Manual (Doc 9157) Part 4; 8.3.17, Chapter 17.	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	No daily regular inspections. No documented inspections. No written procedure for carrying out the inspections.
		VA-2	Condition of movement area and related facilities	Airport Services Manual (Doc 9137) Part 8, Chapter 4 & 5 ;	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	Runway centerline marking contaminated by rubber and invisible in the touch down zone area. Faded apron marking. No closed runway marking for runway 15 – 33 R.
		VA-3	Maintenance of visual aids	Annex 14, Vol. I 10.5.1 to 10.5.13; Doc 9137 Part 9, Chapter 2	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	There is maintenance but it is not scheduled and not documented.
		VA-4	Inspection of movement areas	Doc 9981 PANS-AERODROMES, Part II, Chapter 3	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	No regular inspection.



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A2 – Electrical systems

Item	Areas/Topic to be covered	ICAO reference			Action taken	Remarks
		Item No.	Item description	Specific references		
2	Electrical systems Including but not limited to the status of primary and secondary power supply systems supporting airfield lighting and radio navigation aids, etc.	ES-1	Electrical power supply systems for AN facilities & visual aids	Annex 14, Vol. I; 8.1.1 to 8.1.11; 8.3.1 to 8.3.5; Doc 9157 Part 5; Chapter 3	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	Standby generator without UBS.
		ES-2	Monitoring & Maintenance of electrical systems	Annex 14, Vol. I 8.1.1 to 8.1.11; 8.3.1 to 8.3.5; Doc 9157 Part 5; 10.10, chapter 15. Doc 9137 Part 9 Chapter 3.	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	Only repair when there is damage but no planned and documented maintenance.

A3 - Non visual aids for navigation

Item	Areas/Topic to be covered	ICAO reference			Action taken	Remarks
		Item No.	Item description	Specific references		
3	Non-visual Aids for Navigation Status of radio navigation aids, especially of those which were not in use during the lockdown period i.e. VOR/DME, ILS for a specific runway.	NVA-1	Flight/ground inspection of radio navigational aids	Annex 10, Vol. 1, 2.2.1 Manual on Testing of Radio Navigation Aids (Doc. 8071), Vol 1 Chapter 1	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	Nav Aids under commissioning (ILS & VOR/DME)
		NVA-2	Management of ILS critical and sensitive areas	Annex 10, Vol. 1, Att. C, 2.1.9, 2.1.9.1, 2.1.9.2, 2.1.9.3	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	Requires cleaning from grass and FODs

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A4 - Rescue and fire fighting

Item	Areas/Topic to be covered	ICAO reference			Action taken	Remarks
		Item No.	Item description	Specific references		
4	Rescue and Fire Fighting Including but not limited to the status of fire-fighting equipment, extinguishing agents and readiness of personnel to meet the RFF category and response time requirements, status of access roads, disabled aircraft removal plans/equipment, etc.	RFF-1	Level of protection provided and its publication	Annex 14, Vol. I 2.11.1 to 2.11.4; 9.2.4 to 9.2.7; 9.2.26; 9.2.41; 9.2.8 to 9.2.25; Doc. 9137, Part 1 2.1, 2.2, 2.3	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	Does not meet requirements. No water supply.
		RFF-2	RFF personnel	Annex 14, Vol. I 9.2.42 to 9.2.46; Doc. 9137, Part 1 10.3, 10.4 & 10.5	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	Lack of qualified personnel.
		RFF-3	Response time	Annex 14, Vol. I 9.2.27 to 9.2.27; 9.2.34 to 9.2.36 ; Doc. 9137, Part 1 2.7	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	Out of response time.
		RFF-4	Communication and alerting systems	Annex 14, Vol. I 9.2.39 ;9.2.40 ; Doc. 9137, Part 1 Chapter 4	<input checked="" type="checkbox"/> Checked <input type="checkbox"/> NA	No alarm system in place. Communication available



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Recommendation Actions Benina Airport

Aerodrome infrastructure	Recommendation Actions Benina Airport	
A1 – Visual aids for navigation A2- Electrical systems A3 - Non visual aids for navigation A4 - Rescue and fire fighting	Recommendation Actions No.: VA-1 / VA-2 / VA-4 / NVA-1/ NVA-2 / RFF-1 / RFF-2 / RFF-3 / RFF-4	Date of Issuance:20/09/2020
Section 1: Identification .		
Issued by: Hatem Position: Safety officer LAA	Issued to: Ali Abead / Essam Omar / Mohamed ben Esmael Office: DASS Position: Aerodrome Ins	
Regulatory Reference: VA-1 - Annex 14, Vol. I , 2.9.1 to 2.9.3; Annex 15, para 6.3.2.3 VA-2- Airport Services Manual (Doc 9137) Part 8, Chapter 4 & 5 ; VA-4 - Doc 9981 PANS-AERODROMES, Part II, Chapter 3 NVA-1 - Annex 10, Vol. 1, 2.2.1 Manual on Testing of Radio Navigation Aids (Doc. 8071), Vol 1 Chapter 1 NVA-2- Annex 10, Vol. 1, Att. C, 2.1.9, 2.1.9.1, 2.1.9.2, 2.1.9.3 RFF-1- Annex 14, Vol. I2.11.1 to 2.11.4; 9.2.4 to 9.2.7; 9.2.26; 9.2.41; 9.2.8 to 9.2.25; Doc. 9137, Part 1 2.1, 2.2, 2.3 RFF-2- Annex 14, Vol. I9.2.42 to 9.2.46; Doc. 9137, Part 1 10.3, 10.4 & 10.5 RFF-3- Annex 14, Vol. I9.2.27 to 9.2.27; 9.2.34 to 9.2.36 ; Doc. 9137, Part 1 2.7. RFF-4- Annex 14, Vol. I 9.2.39 ;9.2.40 ; Doc. 9137, Part 1 Chapter 4		



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Recommendation Actions Benina Airport

Description of Discrepancies/ Weaknesses:

VA-1 - No daily regular inspections.

VA-2 - Runway centerline marking contaminated by rubber and invisible in the touch down zone area.
Faded apron marking.
No closed runway marking for runway 15 – 33 R.

VA-4- No regular inspection

NVA-1- Nav Aids under commissioning (ILS & VOR/DME).

NVA-2- Requires cleaning from grass and FODs

RFF-1- Does not meet requirements.

RFF-2 - Lack of qualified personnel.

RFF-3- Out of response time

RFF-4- No alarm system in place.

Section 2: Recommendation Action Plan

(To be filled-out by the non-conforming party. Use additional paper if necessary. Attach any relevant records, documents or pictures as support)

Planned Recommendation Actions:

VA-1 – the procedure for evaluation the movement area will be prepared and the movement area were good during the audit was carried out.

VA-2- An assessment of the level of rubber accumulation on the runway will carried out
Repainting of apron marking. closed runway marking will painted for runway 15 – 33 R.

VA-4 – inspection for movement area and related facilities (visual and flight) will conduct

NVA-1- Conduct calibration of navigation aids

NVA-2- Cleaning of ILS critical and sensitive areas

RFF-1- provide material and equipment to meet the published ARFF CAT.

RFF-2- Conduct a training programe for all ARFF Personal

RFF-3 – maintenance of existing of ARFF vehicles and support the ARFF facility at Airport with New vehicle.

RFF-4- Installation of an alarm system between the control tower and fire station.



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Task Table	Assigned To	Start	End	Days	Status
Developing and implementing a self-inspection program	Benina Airport Safety unit & Engineering unit	17/10/22	30/10/22	13	completed
Develop a procedure to periodically measure the runway surface friction characteristics, assessing their adequacy and any action required	Benina Airport Safety unit & Engineering unit	24/10/22	27/10/22	3	completed
Removing rubber build-up on runways according	Benina Airport Safety unit & Engineering unit	17/10/22	27/11/22	41	completed
Repaint runway marking	Benina Airport Safety unit & Engineering unit	25/11/22	5/12/22	10	completed
Developing and implementing a self-inspection program	Benina Airport Safety unit & Engineering unit	25/10/22	30/11/22	36	completed
Commissioning the radio navigation aids and conducting a flight inspection	Benina Airport CNS Department	25/10/22	25/11/22	31	completed
Cleaning of ILS critical and sensitive areas	Benina Airport CNS Department & Engineering unit	17/10/22	23/10/22	6	completed
Conducting a task resource analysis to determine the minimum number of RFF personnel required, equipment, and extinguishing agents	Benina Airport Safety unit	25/10/22	30/11/22	36	completed
Recruit and train the necessary RFF staff	Benina Airport HR unit	20/10/22	5/12/22	46	completed
Formulate method to ensure that response time complies with the applicable regulation and is regularly tested	Benina Airport Safety unit	18/10/22	18/11/22	31	completed
Maintenance of existing of ARFF vehicles and support the ARFF facility at Airport with New vehicle	Benina Airport Safety unit	17/10/22	30/11/22	44	completed
Installation of an alarm system between the control tower and fire station	Benina Airport Safety unit	17/10/22	25/10/22	8	completed



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Tasks	Assigned To	Start	End	Days	Status
Develop a procedure to periodically measure the runway surface friction characteristics, assessing their adequacy and any action required	Mitiga Airport Airport Operator & air carrier	20/10/22	25/10/22	5	completed
Removing rubber build-up on runways according. Repaint runway marking.	Mitiga Airport Engineering Department	17/10/22	25/11/22	39	completed
Commissioning the radio navigation aids and conducting a flight inspection	Mitiga Airport CNS Department	20/10/22	9/12/22	50	completed
Remove and cleaning of ILS critical and sensitive areas	Mitiga Airport Airport operator & CNS Department	17/10/22	25/10/22	8	completed
Installation of an alarm system between the control tower and fire station and installation communication equipment for RFF vehicles.	Mitiga Airport Engineering Department	25/10/22	25/11/22	31	completed
Commissioning the radio navigation aids and conducting a flight inspection.	Misrata Airport CNS Department	25/10/22	8/12/22	44	completed
Remove and cleaning of ILS critical and sensitive areas	Misrata Airport Safety Dep.	17/10/22	22/10/22	5	completed
maintenance of existing of ARFF vehicles and support the ARFF facility at Airport with New vehicle.	Misrata Airport Safety Dep.	22/10/22	29/11/22	38	completed
Installation of an alarm system between the control tower and fire station and installation communication equipment for RFF vehicles.	Misrata Airport Safety Dep.	29/11/22	4/12/22	5	completed
Develop a procedure to periodically measure the runway surface friction characteristics, assessing their adequacy and any action required	Sebha Airport safety unit & Engineering unit	18/10/22	15/11/22	28	completed
Removing rubber build-up on runways according. Repaint runway marking.	Sebha Airport safety unit & Engineering unit	18/10/22	25/10/22	7	completed



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Tasks	Assigned To	Start	End	Days	Status
Developing and implementing a self-inspection program.	Sebha Airport safety unit	17/10/22	18/11/22	32	completed
Commissioning the radio navigation aids and conducting a flight inspection.	Sebha Airport CNS Department & Airport operator	25/10/22	9/12/22	45	completed
Cleaning of ILS critical and sensitive areas.	Sebha Airport safety unit & Engineering unit	18/10/22	9/12/22	52	completed
Conducting a task resource analysis to determine the minimum number of RFF personnel required, equipment, and extinguishing agents.	Sebha Airport safety unit	22/10/22	16/11/22	25	completed
Formulate method to ensure that response time complies with the applicable regulation and is regularly tested.	Sebha Airport safety unit	17/10/22	25/10/22	8	completed
Recruit and train the necessary RFF staff.	Sebha Airport safety unit & HR Dip.	20/10/22	5/12/22	46	completed
maintenance of existing of ARFF vehicles and support the ARFF facility at Airport with New vehicle.	Sebha Airport safety unit & Engineering unit	18/10/22	5/12/22		In progress
Installation of an alarm system between the control tower and fire station.	Sebha Airport safety unit & Engineering unit	20/10/22	30/10/22	10	completed
Closing					



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After the successful deployment of this iPack, the following recommendations were discussed

- Recommendation 1: the civil aviation authority (the regulator) should monitor the effective implementation of the follow-on plan.
- Recommendation 2: giving certification process a priority, complete self-inspection checklist as per the provisions in the PANS-Aerodromes (Doc 9981) and Manual on Certification of Aerodromes (Doc 9774).
- Recommendation 3: updating all corrective action plans.



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After the successful deployment of this iPack, the following recommendations were discussed

- Recommendation 4: Libya civil aviation authority will take supervision of conducting safety assessments for all non-compliance to national aerodrome regulations/standards or deviations from Standard Operating Procedures (SOPs).
- Recommendation 5: assurance of adequate staff with appropriate skills is available across all shifts.
- Recommendation 6: providing all equipment and facilities necessary for the safety of operations.



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Lessons learned

- Given the situation in Libya and limited resources, working in teams is a powerful tool to share knowledge and experience to support each other's and improve the efficiency and safety of the operations.
- Active communication between the authority and airports management during the project although the current circumstances have shown a significant impact on improving the efficiency and safety of operations and it's highly recommended to continue.
- Starting to plan ahead to what recovery might look like is a very helpful tool.
- Considering using downtime for online training as an alternate method and the aerodrome restart online course is a good example.



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Thank you for your kind attention