Wildlife & FOD Workshop

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A MID Region Wildlife& FOD Risk Reduction Program

Session #7
Presentation #2

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Common FOD damage expenses:

- Engine damage
- fuselage damage
- Tire damage
- Flight delay/cancellation cost

FOD presented by ECAA

***Egyptian Law #28 issued 1981 amended by law 136 2010**

Article 20 bis Responsibility for the Operation of the Aerodromes and Air Navigation Services:

- **A person authorized to operate any of the aerodromes, landing areas, airstrips or the facilities of air navigation services shall be responsible for their operation and the implementation of the requirements of the flight's security and safety under the supervision of the Civil Aviation Authority.**

FOD presented by ECAA

ECAR Part 139

Certification and Operations: Land Airports Intended To Serve Commercial Or Non-Commercial Aircraft Operations States that"

139.315 Paved areas.

(a) Each certificate holder shall maintain, and promptly repair the pavement of, each runway, taxiway, loading ramp, and parking area on the airport which is available for air carrier use as follows:

- **(4) Mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits, and other contaminants shall be removed promptly and as completely as practicable.**
- (b) **EAC 139-26** contains standards and procedures for the maintenance and configuration of paved areas which are acceptable to the ECAA.

FOD presented by ECAA

- ***139.349 (last amended October 2013)***

- *c) Removal of contaminants*
- *(1) (2)(3)Slush, standing water, mud, dust, sand, oil, rubber deposits and other contaminants shall be removed from the surface of runways ,Taxiways and Aprons in use as rapidly and completely as possible to minimize accumulation.*

FOD presented by ECAA

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FOD presented by ECAA

EAC 139-25 Chapter 3

Airport Surface Inspections

- **Frequency of Inspection**
- 3.1.1 Inspections of the movement areas should be regular and as frequent as possible. In any event the minimum frequency should be:
- (a) Runways –four inspections daily as described below:
- Dawn inspection-A detailed surface inspection covering the full width of all runways should be undertaken. This should take approximately 15 minutes for each runway (two runs).
- Morning inspection-All runways normally carried out on an on\off basis concentrating on the area between the runway edge lights.
- Afternoon inspection - same as the morning inspection.
- Dusk inspection-This should cover all runways. It is designed to bridge the gap in runway inspections when the lighting inspection is not required until late in the evening, and should cover the whole runway surface.
- *(b) Taxiways-daily for those in normal regular use.*
- *(c) Aprons-Daily.*

FOD presented by ECAA

EAC 139-25 Chapter 10

Apron Management and Apron Safety

- 10.6.3 Apron sweeping.
- 10.6.3.1 The Cleanliness of paved areas is vital in prevent foreign object damage (FOD) to the engines of taxiing aircraft. A regular program should be instituted for the mechanical sweeping of aprons and taxiways so that in a given period of time all the operational paved areas where aircraft taxi or park will have been swept. In addition, sweeping should be available "on request" to deal with those areas on which loose material has accumulated since the last regular sweeping and which represent a hazard to aircraft. It is unlikely that there will be any requirement to sweep the runway on a regular basis unless the airfield is located in a dusty or sandy area.

FOD presented by ECAA

ECAR Part 121.703 Mechanical reliability reports

(a) Each certificate holder shall report the occurrence or detection of each failure, malfunction, or defect concerning:

…

(8) Engine shutdown during flight due **to foreign object** ingestion or icing;

……

(d) Each certificate holder shall make the notification and send each report required by this section in accordance with **Part 39 subpart (B) to the ECAA**.

FOD presented by ECAA

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FOD presented by ECAA

ECAR Part 121.703 Mechanical reliability reports (Cont.)

(e) The certificate holder shall transmit the reports required by this section in a manner and on a form that is convenient to its system of communication and procedure, and shall include in the first daily report as much of the following as is available:

(1)Type and identification number of the aircraft;

(2)The name of the operator;

(3)The date, flight number, and stage during which the incident occurred (e.g., preflight, takeoff, climb, cruise, descent, landing, and inspection);

(4)The emergency procedure effected (e.g., unscheduled landing and emergency descent);

FOD presented by ECAA

ECAR Part 121.703 Mechanical reliability reports (Cont.)

(5)The nature of the failure, malfunction, or defect;
(6)Identification of the part and system involved, including available information pertaining to type designation of the major component and time since overhaul;
(7)Apparent cause of the failure, malfunction, or defect (e.g., wear, crack, design deficiency, or personnel error);
(8)Whether the part was repaired, replaced sent to the manufacturer, or other action taken;
(9) Whether the aircraft was grounded; and
(10)Other pertinent information necessary for more complete identification, determination of seriousness, or corrective action.

FOD presented by ECAA

ECAR Part 39 Subpart B

The Mandatory Occurrence Reporting System

39.21 General requirements(cont.)

(1) Airworthiness occurrences

(3) Flight Safety Occurrences

(VII) Engine shutdown during flight due **to foreign object** ingestion or icing;

…

(6) Aerodrome occurrences

Physical surface deficiency

Physical obstruction

(vi) Wildlife incursion

Apron management deficiency

(8) Bird hazard

Strike

Near strike

FOD presented by ECAA

ECAR Part 39 Subpart B

The Mandatory Occurrence Reporting System

39.21 General requirements

(a) The mandatory occurrence reporting system is the feedback, which provides the most efficient database for effective decisions on all aviation field matters.

(b) This system is established to support the ECAA in its mandate to foster an acceptable level of safety.

(c) Occurrences shall be immediately notified to the ECAA by telephone or telex. The report (Refer to the form on the next page for mandatory occurrence reporting system) shall be submitted within 72 hours if any of the following occurrences happen:

FOD presented by ECAA

Most important thing (FOD is preventable)

- **A FOD-prevention program of training, facility inspection, maintenance, and coordination between all affected parties can minimize FOD and its effects.**
- **FOD at airports includes any object found in an inappropriate location that -- as a result of being in that location -- can damage equipment or injure airplane or airport personnel.**
- **We can reduce this cost by taking steps to prevent airport FOD.**

FOD presented by ECAA

Most important thing (FOD is preventable)

- **FOD includes a wide range of material, including loose hardware, pavement fragments, catering supplies, building materials, rocks, sand, pieces of luggage, and even wildlife.**
- **FOD is found at terminal gates, cargo aprons, taxiways, runways, and run-up pads.**
- **It causes damage through direct contact with airplanes, such as by cutting airplane tires or being ingested into engines, or as a result of being thrown by jet blast and damaging airplanes or injuring people.**

FOD presented by ECAA

A program to control airport FOD is most effective when it addresses four main areas:

1)Training.

2) Inspection by airline, airport, and airplane handling agency personnel.

3) Maintenance.

4) Coordination.

FOD presented by ECAA

Conclusion

"ECAA" ANALYSES THE "OCCURENCES/INCIDENT, and notices that:-

1) THE NUMBER OF OCCURENCES INVESTIGATED DURING THE LAST YEARS DUE TO (FOD) IS MINIMIZED (SUCCESS)*

*ONLY (ONE ON 2012) –REFERENCE ACCIDENT INVESTIGATION CENTRAL ADMINISTRATION REPORT

2) MORE SPECIAL ATTENTION IS MADE FOR THE INCREASING NUMBER OF (BIRD STRIKE) INCIDENTS RELATIVE TO FOD INCIDENTS**

** 15BIRD STRIKE /293 TOTAL INCIDENT DURING 2012

FOD presented by ECAA

- ECAA activities to ensure implementation of the previous requirements :-

1. ECAA held many workshops for service providers (aerodrome operator) to enhance safety culture concerning FOD prevention.
2. ECAA participates in most of the committees held at aerodromes for example; Runway safety committee, airport safety committee ,…… to improve safety awareness in this issue.
3. 3. ECAA provides technique advise to aerodrome operators by holding several meetings at CAA building in how to rectify all operating documents including safety inspection program, FOD prevention program , APRON sweeping & cleaning program.

THANK YOU