

# ADVISORY CIRCULAR

## N°

### LYCAA-FSD-AC-OPS 004-I

## EMERGENCY EVACUATION DEMONSTRATION (On Land / Ditching)

DATE	Issue	Description	MODIFICATIONS
28 Sep 2013	1	Initial Issue of the Circular	
30 Sep 2013	2	Review of the document	

**Published by:**  
Libyan Civil Aviation Authority (LYCAA)

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## 1. Purpose

The purpose of this Advisory Circular is to advise operators or prospective operators on the principles of planning, conducting and evaluating Emergency Evacuation and Ditching Demonstrations performed by an applicant for an AOC as required by LYCAR's Part 119 &121 and LYCAA's AC FSD-OPS 002R02.

## 2. Reference Materials

The Regulatory Requirements are exposed in the following documents:

- LYCAR's Part 121,
- LYCAR's Part 119
- LYCAA's AC FSD-OPS 002R02

## 3. General

When a cabin crew is trained in emergency evacuation and ditching procedures, there will be a significant reduction in casualties if the aircraft were involved in a survivable accident.

Each AOC holder shall conduct a partial emergency evacuation and ditching evacuation, observed by the Authority, which demonstrates the effectiveness of its crew member emergency training and evacuation procedures.


The purpose of an emergency evacuation demonstration is to:

- Test the basic aeroplane design and the efficiency with which passengers can be safely evacuated from it.
- Test the emergency evacuation systems on the airplane.
- Verify the manufacturer's / operator's approved emergency evacuation procedures.

There are three types of Emergency Evacuation Demonstrations:

- Full-capacity demonstrations (which are not within the scope of this AC).
- Partial demonstrations.
- Ditching demonstrations.



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## 4. Full capacity demonstration

### 4.1 Applicability

LYCAR's Part 119, General, Part 121.921 & 121.365 states that an aircraft type and model in commercial air transport passenger-carrying operations utilizing more than 44 passenger seats requires an actual full capacity emergency evacuation demonstration for the configuration in 90 seconds or less.


This demonstration typically is conducted by the aircraft manufacturer during type certification in a manner acceptable to the CAA authority of the State of aircraft design. Should a manufacturer of a transport category aircraft (military or civil) not conduct such a demonstration prior to the CAA's issuance of type certification, then, the first intended operator of the aircraft would have to accomplish the full-capacity emergency evacuation in 90 seconds or less before the aircraft could be used in passenger-carrying operations under an AOC.

Criteria for full-capacity emergency evacuations are exposed in LYCAR Part 121.

### 4.2 Requirements to Operators

This AC states that the full-capacity actual demonstration may not be required, if the AOC holder provides a written petition for deviation with evidence that:

- A satisfactory full-capacity emergency evacuation for the aircraft to be operated was demonstrated during the aircraft type certification or during the certification of another air operator;  
and
- if the AOC holder's aircraft configuration differs with regard to number of exits or exit type or number of cabin attendants or location of the attendants. There is an engineering analysis, that demonstrates that an evacuation is still possible within the 90-seconds standard delay.

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## 5. Partial demonstration

### 5.1 Applicability

When a full-capacity demonstration is not required, the AOC holder shall demonstrate to the Authority that its available personnel, procedures and equipment could provide sufficient open exits for evacuation in 15 seconds or less.

If the applicant's petition satisfies the conditions above, the LYCAA may grant a deviation from a full-capacity demonstration.

This type of demonstration is called a partial emergency evacuation demonstration.

The following situations require an AOC holder / applicant to conduct a partial Emergency Evacuation Demonstration that is observed by the LYCAA:

- When an AOC holder / applicant intends to operate a specific make and model aircraft for the first time. This would apply to each aircraft type for initial operation certification and to each new aircraft type introduced in the fleet.
- When an operator proposes to significantly change the number of cabin attendants, their seating location, duties or emergency procedures.
- When a change in seating configuration requires the addition of a cabin attendant.
- When an operator changes a cabin attendant seating location that results in new procedures or procedures change.
- Changes to duties or procedures that have not previously been required or demonstrated.
- When an operator proposes to change the number, location, type of emergency exits or opening mechanisms on the emergency.

### 5.2 Demonstration requirements


#### 5.2.1 Application Requirements

Prior to conducting an emergency evacuation demonstration, the AOC holder shall apply for and obtain approval from the Authority.

The applicant should submit its plan to the LYCAA no less than 15 working days in advance of the demonstration. The applicant's Request shall contain the following information:

- Reference to the regulation that identifies the demonstration to be covered.
- The subject airplane type model and full seating capacity including crew members.
- The number of cabin attendants and their duty assignment positions.
- Proposed date, time and location for the demonstration.
- Name and telephone number of the applicant's coordinator.
- A plan showing how the applicant intends to perform the demonstration. (Demonstration Plan).



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- A list of all flight deck and cabin crewmembers qualified to participate in the demonstration.
- The Emergency aircraft lay Out Plan.
- The passenger information cards.

The applicant's demonstration plan must explain:

- The signal to be used for initiating the demonstration.
- How the applicant will block aircraft exits that are not to be used
- How the aircraft will be positioned to allow for unobstructed deployment of slides and emergency equipment.
- How dark-of-the-night conditions will be maintained if artificial means of illumination are used.

The aircraft lay-out must include:

- The location and designation of all exits by type and exit pairs.
- The assigned seating location of each required crew member during take-off.
- The cabin configuration showing the location of:
  - Each passenger seat.
  - Galleys.
  - Aisles.
  - Lavatories.
  - Passenger compartment partitions and bulkheads.
  - Location and type of emergency equipment on the aircraft.

The list all flight deck and cabin crewmembers qualified to participate in the demonstration should contain:


- Flight crew membersdullyqualified on the aircraft to be used for the demonstration.
- Cabin attendants:
  - Whohave completed the training program as approved by LYCAA for the aircraft type and model
  - Whohave passed the required drills and proficiencychecks on the aircraft to be used for the demonstration.
  - Whohave passed the drills and competence check on the emergency equipment and procedures.

### 5.2.2 Demonstration Requirements

Cabin crew members used in the emergency evacuation demonstrations willbe selected at random by the Authority;  
LYCAA's team will select from the list the crew members which ones of them will actually participate in the demonstration.

To conduct the partial emergency evacuation demonstration, the AOC holder's assigned cabin crew members shall, using the AOC holder's line operating procedures:

- Demonstrate within 15 seconds:
  - the opening of 50 percents of the required floor-level emergency exits

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- the opening of 50 percents of the required non-floor-level emergency exits (whose opening by a cabin crew member is defined as an emergency evacuation duty)
- the deployment of 50percents of the exit slides, as selected by the Authority;
- the prepare for use of those exits and slides.

For a partial emergency evacuation demonstration, one slideraft selected by the LYCAA willbe launched and inflated.

### 5.2.3 Partial Emergency evacuation Sequence of events

#### **Briefing by LyCAA:**

##### **Before the demonstration starts:**

Cabin attendants shall prepare for normal departure in accordance with the applicant's procedures.

Cabin attendants shall conduct a passenger briefing in accordance with the applicant's procedures.

Cabin attendants shall be seated at their assigned positions with restraint systems fastened.

LYCAA team ensures that external exits and internal doors/curtains are in position for takeoff.

The flight crew accomplishes all pre-takeoff actions.

##### **At start:**

The LYCAA team leader issues a warning signal (air horn blast) followed in approximately 30 seconds by the initiation signal.

##### **At the 15-second point:**

The LYCAA team leader issues a signal to stop the demonstration and control the result of the demonstration.

The occurrence of one of the following itemor condition constitutes an unsatisfactory demonstration:

- Exits, slides or slide-rafts not ready for use before the termination signal.
- Equipment malfunctions even after time limit was met.
- Deficiencies in crew member effectiveness.



## 6. Ditching Demonstration

### 6.1 Applicability

LYCAA's AC – FSD-OPS 002R02 requires that an applicant for an AOC shall demonstrate to the Authority that it has the ability and equipment to efficiently carry out its ditching procedures.

The purpose of this demonstration is to evaluate an applicant's ability to safely prepare the passengers, airplane, safety and ditching equipment for a planned water landing.

Ditching demonstrations are normally conducted after the successful completion of the AOC applicant's emergency evacuation demonstration.

### 6.2 Demonstration requirements

#### 6.2.1 Application Requirements

Prior to conducting an emergency evacuation demonstration, the AOC holder shall apply for and obtain approval from the Authority.

#### 6.2.2 Demonstration Requirements

Ditching demonstrations are normally conducted during daylight hours or in a lighted hanger.

To conduct the ditching evacuation demonstration, the AOC holder's assigned cabin crewmembers shall:

- Prepare the cabin for ditching within 6 minutes after the intention to ditch is announced;
- Remove each life raft from storage (one life raft, selected by the Authority, shall be launched and properly inflated or one slide life raft properly inflated); and
- Enter the raft (the raft shall include all required emergency equipment)
- Completely set it up for extended occupancy.
- Demonstrate their knowledge and use of each item of required emergency equipment;

#### 6.2.3 Ditching demonstration sequence of events

##### **Briefing by LyCAA:**

LYCAA should brief all categories of participant prior to initiate the demonstration


##### **Demonstration start:**

The captain initiates the demonstration by ordering the crew members to Prepare for ditching.

##### **After 6 minutes:**

The LYCAA team leader issues a signal to stop the demonstration and control the result of the demonstration.



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At the end of the 6 minute planned ditching period, the crew must be prepared for a simulated water landing.

The cabin crew during the 6-minutes period must have accomplished:

- Correctly putting on their life preservers.
- Briefing the passengers.
- Securing the cabin.

#### **Simulated water landing.**

##### **Rafts Inspection:**

After the simulated water landing, all life rafts / slide rafts must be removed from stowage and placed on the cabin floor by Cabin Crew for inspection by LyCAA. This raft control action is NOT timed.

##### **Life Rafts launch:**

One life raft will be removed from the aircraft and positioned on the ground before inflation. Another launched slide-raft will be inflated on deployment. This will be removed from its door mounting by company personnel and positioned on the ground.

Crewmembers will be questioned about launch procedures.

##### **Inside life rafts:**

Once inside the raft, Crewmembers will be questioned about location and description of the use of each item of emergency equipment within the raft.

##### **Result of the demonstration:**

The following areas will be evaluated during the demonstration:

- The AOC applicant's emergency training program efficiency.
- The AOC applicant's ditching procedures.
- Crew member competency.
- Equipment reliability and capability.

The occurrence of one of the following item or condition constitutes an unsatisfactory demonstration:

- Failing to meet a specified time limit.
- Equipment malfunctions (even after a time limit is met).
- Deficiencies in crew member effectiveness