



United Arab Emirates



الهيئة العامة للطيران المدني  
GENERAL CIVIL AVIATION AUTHORITY

## Air Accident Investigation Sector

### Incident

## Investigation Summary Report

AAIS Case N° AIFN/0007/2013

# Aircraft Damage Due to Impact by Wind Blown Containers

Operator: Flydubai  
Type: Boeing 737-800  
Registration: A6-FDE  
Location: Dubai International Airport  
State of Occurrence: United Arab Emirates  
Date of Occurrence: 6 April 2013



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Air Accident Investigation Sector  
General Civil Aviation Authority  
The United Arab Emirates

## Incident Brief

<b>GCAA AAI Report No.:</b>	AIFN/0007/2013
<b>Operator:</b>	Flydubai
<b>Aircraft Type and Registration:</b>	Boeing737-800, A6-FDE
<b>MSN:</b>	40235
<b>No. and Type of Engines:</b>	Two, CFM56-7B27
<b>Date and Time (UTC):</b>	06 April 2013, 1645
<b>Location:</b>	Dubai International Airport
<b>Type of Flight:</b>	Passengers
<b>Persons On-board:</b>	178
<b>Injuries:</b>	None

## Investigation Objective

This Investigation considers the aspects related to empty containers, which were blown from 10F dollies parked in an area adjacent to the aircraft, which struck the aircraft causing damage.

This Investigation is performed pursuant to the UAE Federal Act No 20 of 1991, promulgating the Civil Aviation Law, Chapter VII, Aircraft Accidents, and Article 48. The Investigation complies with the UAE Civil Aviation Regulations, Part VI, Chapter 3, in conformity with Annex 13 to the Convention on International Civil Aviation and in adherence to the Air Accidents and Incidents Investigation Manual.

This Summary Report is adapted from the standard report format depicted in, the Appendix to Annex 13 to the Convention International Civil Aviation for achieving the objective of this limited scope Investigation.

The sole objective of this Investigation is to prevent aircraft accidents and incidents. It is not the purpose of this activity to apportion blame or liability.

## Investigation Process

The occurrence involved a Boeing 737-800 Passenger Aircraft, registration A6-FDE, and was notified to the General Civil Aviation Authority (GCAA) Duty Investigator (DI) by phone call to the Hotline Number +971 50 641 4667.

After the Initial/On-Site Investigation phase, the occurrence was classified as an 'Incident'.

An Investigation Team was formed in line with the ICAO Annex 13 obligations of the United Arab Emirates (UAE) being the State of Occurrence.

The scope of this Investigation is limited to the events leading up to the occurrence; no in-depth analyses of non-contributing factors were undertaken.



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## Synopsis

On 6 April 2013, a Flydubai Boeing 737-800 Aircraft, registration mark A6-FDE, was parked on Stand E-10 at Dubai International Airport, the Aircraft was scheduled to operate a flight departing at 1645 UTC to Doha International airport, Doha, Qatar.

The crew were awaiting pushback clearance and the tug was connected. While doing some cockpit work, the flight crew felt a shock, called the maintenance personnel, and asked them to check the Aircraft.

It was found that two empty containers, which were blown off 10F dollies had impacted the Aircraft causing damage. The fuselage sustained two tears and a puncture to the port side, aft of the wing. Staff who were present at the scene attempted to stop the containers and whilst doing so, one of the Flydubai maintenance personnel sustained minor bruising to his nose and forehead.

Separately, at 1705, the Turnaround Coordinator (TAC) noticed that due to the high wind, four containers from the adjacent bay E-9 were blown towards the Aircraft. The TAC, together with other staff at the scene, stopped these containers and avoided further damage to the Aircraft.

The damage to the Aircraft was assessed by an engineer, and the Aircraft was grounded. All the 178 passengers onboard disembarked the Aircraft normally through door R1 at 1750.

During the time that this activity was taking place, the handling staff observed more containers being blown towards the Aircraft. Two of these containers struck the Aircraft causing further damage.

The engineer who sustained minor bruising to his nose and forehead received first aid at the Airport Emergency Medical Centre and returned to duty.

Empty containers were observed loaded on 10F dollies located between stands E-9 and E-10 and seven empty containers blown off the 10F dollies due to high winds, two containers out of the seven impacted the Aircraft.

The Aircraft Accident Investigation Sector determines that the causes of the containers impacting the Aircraft were:

1. The containers had not been secured to the dollies.
2. The existing procedure involving the airport authority and ground handler for adverse weather operations were not implemented.

A total of three safety recommendations are included in this report, which are addressed to the GCAA and Dubai Airport.

# 1. Factual Information

## 1.1 History of the Incident

On 6 April 2013, a Flydubai Boeing 737-800 Aircraft, registration mark A6-FDE, was parked on Stand E-10 at Dubai International Airport (OMDB), and was scheduled to operate a flight departing at 1645 UTC to Doha International airport (OTBD), Doha, Qatar.

The crew were awaiting pushback clearance and the tug was connected. While doing some cockpit work, the flight crew felt a shock, called the maintenance personnel, and asked them to check the Aircraft.

It was found that two empty containers, which were blown off 10F dollies had impacted the Aircraft causing damage. The fuselage sustained two tears and a puncture to the port side, aft of the wing. Staff who were present at the scene attempted to stop the containers and whilst doing so, one of the Flydubai maintenance personnel sustained minor bruising to his nose and forehead.

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Empty containers were observed loaded on 10F dollies located between stands E-9 and E-10 and seven empty containers blown off the 10F dollies due to high winds, two containers out of the seven impacted the Aircraft.

## 1.2 Injuries to Persons

There were no injuries to persons onboard as a result of this incident.

## 1.3 Aircraft Damage

- Beyond limit dent on LH lower fuselage between station (ST) 727E and 727F, stringers 24I and 25I
- Beyond limit dent on fuselage lower skin between ST 727G and 727H, stringers 24L and 25L
- Beyond limit puncture on fuselage lower skin between ST 727J and 747 stringers 24L and 25L
- Puncture on LH wing to body fairing (194fl)

See figure 1

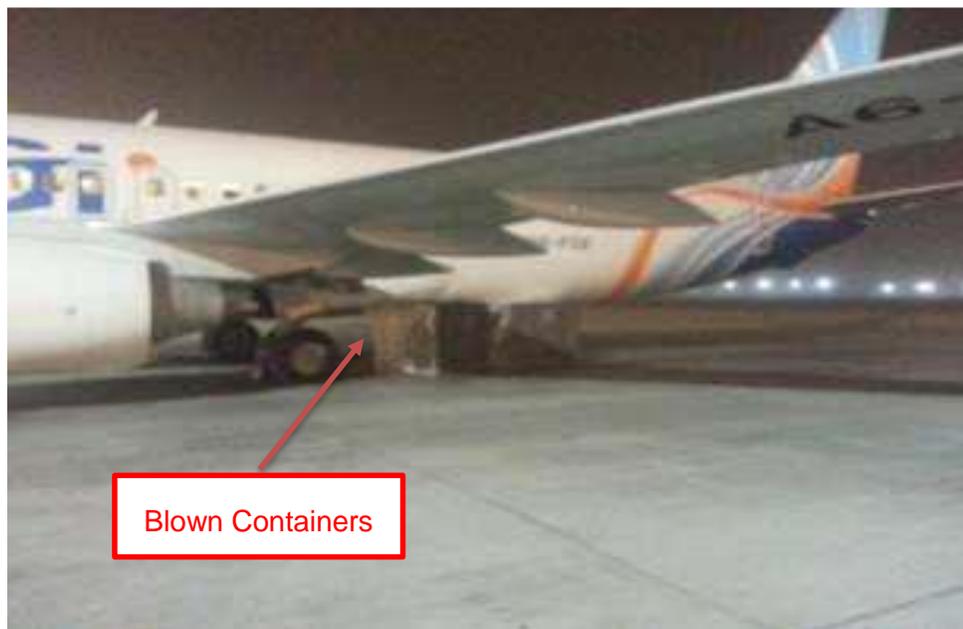


Figure 1. Damage to the Aircraft

## 1.4 Meteorological Information

The incident occurred at night-time during a sand storm with rain and strong winds (45Knots).

### 1.4.1 Adverse Weather Forecast:

Five pre-alert messages were transmitted by the Joint Control Room (JCR) and the Dubai Operation Control Centre on 6 April 2013 between 08:26 and 18:55 LT.

Adverse weather information was transmitted by JCR on the day of incident;  
Transmission of information is by email and phone calls made by the Airport Duty Manager;

The Joint Control Room was informed by ATC and the Met Office regarding the weather warnings and forecasts. Five weather warnings were emailed to a standard distribution list.

DNATA operation control center (DOCC) received weather warnings from the Dubai Meteorological Office directly by email, mobile phone messages and fax messages.

DOCC also monitors Met Forecasts on the Met website screen, which is available in the DOCC Office.

DOCC confirmed that these communications are passed to all concerned, if the wind warnings are above 12 knots.

## 1.5 Aerodrome Information

Dubai International Airport, ICAO code OMDB, 25°15'10"N 55°21'52"E,, is located 4.6 kilometres east of Dubai, UAE. The airport elevation is 62 ft.

The airport has two asphalt runways: 30R/12L and 30L/12R, with lengths of about 4,000 meters and 3,500 meters, respectively.

### 1.5.1 Organisational and Management Information

#### Dubai Airports

Dubai Airport has a procedures for sending out weather information and the ground handler has the following work instructions in place:

#### **Existing Working Instruction Terminal-2 and Baggage Services**

##### **1. Terminal-2 WI-003-Ref-7.1.3-**

*“Ensure that respective sections/areas are prepared to meet the severe weather conditions (ADM-SDC-Ramp)”*

##### **2. Terminal-2 WI-003-Ref-7.2.11**

*“Ensure all containers (ULDs) left in the open are locked on dollies or transporters with doors/curtains secured. Remove all empty loose containers from areas around aircraft. If possible tie them together and/or to a structure or store them indoors”.*

##### **3. Baggage Services WI-001-Ref-7.2.4**

*“Ensure all containers (ULDs) left in the open are locked on dollies with doors/curtains secured. Remove all empty loose containers from staging areas and move them to a sheltered place”.*



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## DNATA

DNATA is a ground handling service provider at Dubai International Airport and it provides such services to Flydubai.

DNATA has its own procedures manual, which is distributed to all DNATA staff. The manual contains the general safety procedures for use when weather conditions change. e.g. to ensure that equipment is locked down and that the aircraft are properly chocked, but it does not include procedures for stopping operations in the case of high wind conditions.

DNATA has two communications networks: internal and external. The internal network uses the IVR domain which is a messaging system provided by Etisalat. All DNATA key staff are linked to this network and can be alerted to emergencies as required.

The external network is linked via email. All information received from the Joint Control Room (JCR) is usually sent to the DOCC in a similar manner to the JCR. The JCR has a group email that is used for communicating the JCR emails to all personnel who represent their organizations in the JCR. The JCR and other networks are usually linked together through emails. The JCR is the only communication center where all stakeholders are represented. It also covers the Flight Information Display System (FIDS) that shows the flight arrival and departure times.

A DNATA Safety Representative attends safety meetings with Dubai Airports and DNATA Operations meet Dubai Operations for briefings on daily operations.

### **1.6 Additional Information**

Following the Incident, the Investigation Team met with the aerodromes certification and oversight body within the GCAA. The Meeting's main points were: The responsibilities of the Aerodrome certificate holder, communication network, standards and procedures, training, and airport facility requirements.

- The following were the main points discussed during the meeting:
  - Aerodrome certificate holder/responsibility and authority such as:
    - Airport monetary penalty system
    - Airport responsibility for oversight and enforcement of all aerodrome stakeholders
    - Service Level Agreement (SLA) between handling agent and the Aerodrome Certificate Holder
  - UAE Airports Activities
    - A number of presentations have been held, discussing important points regarding adverse weather:
      - Adverse Weather Operations / ADAC Airports (Al Ain International airport)
      - Dubai International Airport Adverse Weather Procedures
      - Adverse Weather Notification, Safety & Quality Department, Fujairah Intl Airport
      - Low Visibility/Adverse Weather Operations /By: RAK Airport Operations.

## 2. Analysis

The ramp agents Procedures Manual did not contain a detailed procedure for managing operations during high wind conditions. However, General Safety Procedures apply when weather conditions change. The procedures ensure that equipment is locked down and aircraft are properly chocked.

When the duty shift was handed over, at 0600 on the morning of the Incident, DNATA personnel were aware that there was a weather alert for high winds exceeding 30 kts.

In such conditions, DNATA coordinate with the ramp team. The ramp service controller in charge of the ramp area is available at the ramp area 24/7 to ensure that all equipment is secured and aircraft are chocked.

On the day of Incident, the wind suddenly became strong and visibility decreased. Seven containers moved due to the high wind and two of them reached the Aircraft. Four other containers moved from the other side of the service road and crossed the road.

There was no secured area at Terminal 2 to secure dollies, trollies, or containers because of the fact that the type of operations at Terminal 2 do not require a large number of containers. In addition, the E-Stand at Terminal 2 concourse was open and thus would be affected by strong winds. The investigation believes that, the ground staff did not follow the adverse weather procedures.



## 3. Conclusions

### 3.1 Causes

The Aircraft Accident Investigation Sector determines that the causes of the containers impacting the Aircraft were:

- 3.1.1 The containers were not properly secured to the dollies.
- 3.1.2 The existing procedure involving the airport authority and ground handler for adverse weather operations were not implemented.



## 4. Safety Recommendations

The Air Accident Investigation Sector recommends that:

**The General Civil Aviation Authority to:**

**SR 22/2015**

Re-address the Civil Aviation Regulations and the applicable checklists to require the local meteorology agencies establish/improve procedures for disseminating adverse weather conditions information.

**SR 23/2015**

Conduct a review of the Aerodrome Contingency Plan to ensure that high wind forecasts are appropriately conveyed to ground handling agencies.

**Dubai Airports, to**

**SR 24/2015**

Establish an appropriate oversight system to ensure that all ground handling agents take appropriate equipment securing actions during adverse weather conditions.

This Report is issued by:

**Air Accident Investigation Sector**

**General Civil Aviation Authority**

**The United Arab Emirates**