SERIOUS INCIDENT

Aircraft Type and Registration:	1) Embraer ERJ 190-200 LR G-FBEE, 2) Embraer EMB 121 Xingu F-TEZZ
Date & Time (UTC):	1 June 2010 at 1000 hrs
Location:	Jersey Airport, Channel Islands
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - N/A Passengers - N/A
Injuries:	Crew - None Passengers - None
Nature of Damage:	None
Information Source:	AAIB Field Investigataion and Jersey Airport Limited internal investigation

Synopsis

A bird scaring vehicle entered Runway 27, without an ATC clearance, and operated on the runway for a period of between two and four minutes. Low Visibility Procedures (LVPs) were in force and ATC were unaware that the vehicle had entered the runway.

Sequence of events

The weather conditions at Jersey Airport comprised westerly winds with low cloud, fog and drizzle. LVPs were in force. A routine bird scaring patrol was carried out by a Fire Service vehicle, callsign 'Rescue 6', at 0545 hrs, prior to the airfield's published opening time at 0600 hrs.

Later that morning, an officer in the watch room observed some bird activity on the north side of the airfield during a slight improvement in the weather. The driver of a fire vehicle, callsign 'Rescue 6', was tasked to carry out a bird dispersal patrol. He drove from the fire station, along the roadway south of Taxiway A, to Holding Point H. (A chart showing the airfield layout is included at Figure 1.) At 0956 hrs the driver contacted Ground Movement Control (GMC), using the radio installed in the vehicle, and requested entry to the runway for bird dispersal purposes. The driver was instructed to proceed to Holding Point A1 and to contact the Tower on frequency 119.45 Megahertz (MHz). The instruction was acknowledged and the vehicle moved ahead to A1. The driver stated that he then contacted the Tower on 119.45 MHz using a separate portable radio. At 0958 hrs a carrier wave transmission was recorded on 119.45 MHz. This was followed by an ATC instruction to an aircraft, callsign 'BEE933', registration G-FBEE which had just landed, to "REPORT VACATED".

Rescue 6 entered the runway and stopped for a time on the northern side, opposite Taxiway F, where the driver had observed some birds. The birds dispersed and the vehicle continued along the runway.

At 1000 hrs the Tower Controller (TC) was replaced for a routine break. He carried out a handover and advised the replacement controller that Rescue 6 was holding

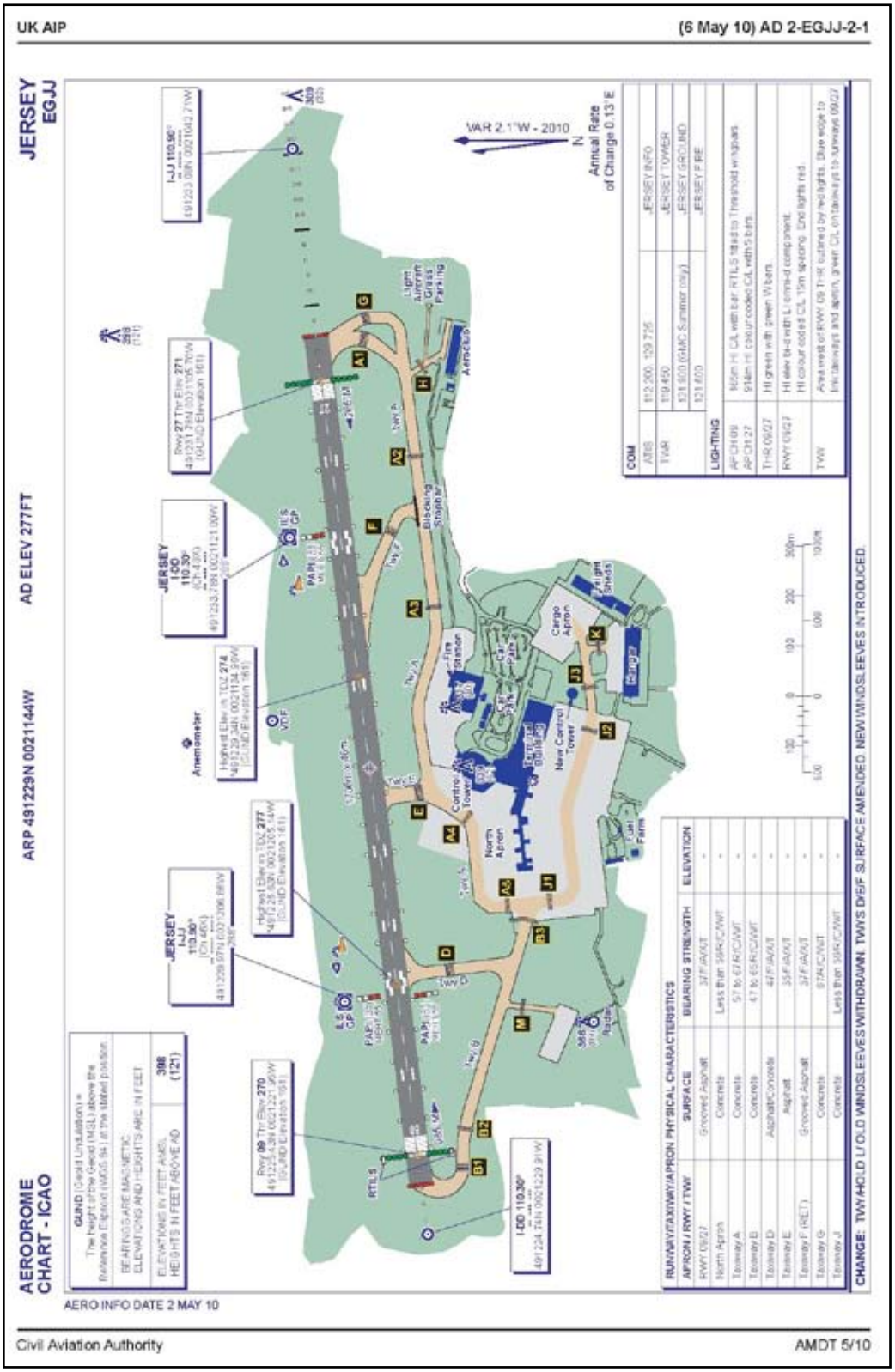

Figure 1

Jersey Airport layout

at A1 but had not yet checked in on frequency. Once the handover was complete the replacement controller called Rescue 6, to confirm his location. There was no reply, so he asked the GMC to call Rescue 6 to check whether the vehicle was still on the ground frequency. The GMC called Rescue 6, received a reply and reminded the driver that he needed to contact Tower, on 119.45 MHz, to enter the runway. The response from Rescue 6 was hesitant and led the GMC to ask for confirmation that the vehicle was still at A1. The driver replied "NEGATIVE, UM I'M LEAVING THE RUNWAY AT B". A further exchange then took place during which it became apparent that Rescue 6 had been on the runway, unbeknown to ATC, and that he had now vacated at the western end onto Taxiway B. The TC, aware of this exchange, was about to instruct an aircraft on short finals to go-around but, before he was able to do so, the aircraft, callsign 'FAF 6797', registration F-TEZZ, reported that he was "GOING AROUND".

There was no further contact between ATC and Rescue 6 despite several attempts to call the vehicle. ATC took action to safeguard the runway and manoeuvring areas until it had been confirmed that the vehicle had returned to the fire station, after which operations were resumed. The driver of Rescue 6 later reported that, when he had vacated the runway, he had noticed that the portable radio was no longer functioning.

Aerodrome information

Jersey Airport is located on an island and bird activity, particularly sea birds, is commonly experienced. Bird control is presently the responsibility of the AFRS. During the summer the airfield's published opening time is 0600 hrs, before which a routine bird dispersal patrol is carried out. After that, patrols are conducted on an as required basis when bird activity is observed.

An AFRS general purpose vehicle, callsign 'Rescue 6', is used for bird control. This vehicle has an installed radio and, typically, the driver will also carry a separate portable radio. The portable radio is intended to be used as a back up, in the case of radio failure, or for occasions when the driver is operating outside the vehicle. However, it appeared that a general practice had developed amongst some drivers whereby the portable radios were used for communications when a second frequency was in operation. A survey of ARFS personnel carried out after the incident showed that a significant number of them were unclear about the correct procedures.

A GMC frequency is available at Jersey Airport and is notified by ATIS when in use. On most occasions ground movement is controlled by the TC on the Tower frequency, 119.45 MHz. However, on the morning of the incident the GMC frequency, 121.9 MHz, was in use, principally for the purpose of Controller training.

Jersey Airport is equipped with a Category 1 ILS, therefore, all aircraft movements are restricted to at least Category 1 minima. There are three levels of LVPs defined at Jersey Airport: Level 1 is in force when visibility is at or below 1,500 m, Level 2 is initiated at or below 800 m and Level 3 occurs at or below 400 m. The AFRS *'Station Orders and Procedures, No L3'*, requires that all mobile vehicles should monitor frequency 119.45 MHz when LVP 3 is in force.

There is a selectable red stop bar located at Holding Point A1. The Aeronautical Ground Lighting log showed that this stop bar had been selected on throughout the period during which the incident occurred and that there were no recorded failures of lighting equipment.

The UK CAA publication CAP (Civil Aviation Publication) 642, entitiled *Airside Safety Management,*

provides guidance and recommends standards to be set by airport authorities and aerodrome operators for drivers and vehicles operating airside. It includes material on driver qualification and testing.

Meteorological information

The airfield weather reports issued around the time of the incident were:

EGJJ METAR 0920	010920Z 26009KT 210V300 0100 R27/0225 -DZ FG OVC000 13/13 Q1015 TEMPO 0800=
EGJJ METAR 0950	010950Z 26011KT 220V330 0300 R27/0800 -DZ FG BKN000 13/13 Q1015 TEMPO 0800=
EGJJ SPECI 0957	EGJJ 010957Z 27011KT 0300 R27/1100 -DZ FG BKN000 13/13 Q1015=
EGJJ SPECI 1000	EGJJ 26010KT 230V310 0800 0500N R27/1100 -RADZ BCFG BKN000 13/13 Q1015 TEMPO 1200=
EGJJ SPECI 1005	EGJJ 26011KT 220V300 0200 R27/0550 -RADZ FG BKN000 13/13 Q1015 TEMPO 0800=

Recorded information

Recorded radio communications for both the GMC and Tower frequencies, together with radar data for aircraft on the approach to Runway 27, were available for the investigation. Closed Circuit Television cameras located around the airport recorded some aircraft movements and some of those of Rescue 6. The time reference for each of these recording media was different but it was possible to co-ordinate events to within a few seconds during the investigation.

A transcript of the recorded communications on 119.45 MHz around the time of the incident is included in the table below.

Time UTC	Frequency	Who	Text
09:57:54	119.45	AIR ATCO	"GENERAL BROADCAST LVP 1"
09:58:03	119.45	?	*Carrier wave*
09:58:19	119.45	AIR ATCO	"BEE933 REPORT VACATED"
09:58:22	119.45	?	*Garbled, not able to transcript*
09:58:34	119.45	BEE933	"933 IS VACATED"

Driver's report

This was the driver's second bird dispersal patrol of the day. He reported that he had been aware that LVPs were in force and that two ATC frequencies were in use. He believed that it was necessary to monitor both frequencies, so he tuned the installed radio to the GMC frequency, 121.9 MHz, and the portable radio to the Tower frequency, 119.45 MHz. When he was given the bird dispersal task, he drove along the perimeter track and stopped at the stop bar by Holding Point H. He contacted GMC and was cleared to proceed to Holding Point A1 and to contact Tower. He recollected contacting the Tower at A1, using the portable radio, and receiving a clearance to enter the runway and to report vacated.

He entered the runway and drove to the northern side where the bird activity had been reported. There were a lot of gulls sitting in the grass, so he drove in a zig-zag pattern and used the vehicle buzzer to disperse them. The birds dispersed without him having to leave the vehicle, so he continued slowly along the runway. After passing abeam exit E, he was called by the GMC and was asked to contact the Tower on 119.45 MHz for permission to enter. He did not understand why this instruction had been given but, after an exchange, he was advised by the GMC that he did not have permission to be on the runway. By now he had reached the end of the runway and turned off onto the taxiway.

Analysis

The weather conditions at Jersey Airport were generally poor during the morning with frequent changes. This is evidenced by the three SPECI reports that were issued in the space of ten minutes, between 0950 hrs and 1005 hours, in addition to the regular METARs, every 30 minutes. LVPs were in force throughout the morning, the level of LVPs varying, depending on the prevailing conditions.

The GMC frequency was in use at the airport, which was a relatively unusual circumstance, and the AFRS procedures required that all mobile vehicles should monitor frequency 119.45 MHz when LVP level 3 was in force. This may have led to the perception that drivers should be monitoring two frequencies, those for the GMC and the TC, rather that just the appropriate ATC frequency. The simultaneous monitoring of two frequencies can lead to calls either being missed or misunderstood.

The perceived need to monitor both frequencies led to the driver of Rescue 6 using the portable radio for communication with the Tower. He recalled that he had asked for and received a clearance to enter the runway from the TC. There is some evidence to support this as, around the time it is calculated that he entered the runway, there were a couple of brief carrier wave transmissions. The portable radio he was using had probably been switched on for some length of time and the battery would have been depleted. Therefore, it is likely that there was insufficient battery power for it to transmit, although for a while it would have continued to receive.

The timing of the transmssions obtained from the transcript suggests that the driver may have heard the end of the instruction given, by the Tower, to 'BEE 933' to, "REPORT VACATED", and misinterpreted it as a clearance for him to enter the runway. The driver's attempted reply was either not transmitted or produced only a carrier wave. The driver therefore, believing that he had obtained a clearance, entered the runway and proceeded to carry out his bird dispersal activities. To enter the runway, he must have crossed the red Stop Bar, which was recorded as having been ON throughout the period of the incident. There was no explanation from the driver as to why this happened. It is possible that he was parked too close to the bar to be able to see it or that he overlooked it because he thought he had a clearance.

The safeguards and procedures that were in place to prevent a conflict on the runway did not work on this occasion. The vehicle occupied the runway for a period of about three minutes but, by chance, there were no aircraft movements during this period. Neither the aircraft that had landed before the incursion nor the aircraft that went around from final approach were aware of the presence of the vehicle and it did not affect their operation.

Safety action

Jersey Airport carried out a comprehensive internal investigation into the incident and made a number of safety recommendations, including one to review driving procedures across the airport. Instructions were issued, by means of safety notices, for aeronautical radios installed in vehicles to be tuned to the active frequency or the frequency instructed by ATC, and for portable radios to be used for emergency backup and when drivers are out of the vehicle on the manoeuvring area (marshalling etc).