

INCIDENT

Aircraft Type and Registration:	MD11, PP VPJ	
No & Type of Engines:	3 CF6-80 C2D1F turbofan engines	
Year of Manufacture:	1991	
Date & Time (UTC):	10 December 1995 at 1730 hrs	
Location:	Block 98 holding area for Runway 09R at London Heathrow Airport	
Type of Flight:	Public Transport	
Persons on Board:	Crew - 16	Passengers - 240
Injuries:	Crew - None	Passengers - None
Nature of Damage:	None	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	46 years	
Commander's Flying Experience:	13,000 hours (of which 1,200 were on type) Last 90 days - 120 hours Last 28 days - 50 hours	
Information Source:	AAIB Field Investigation	

At the time of the incident Heathrow Airport were operating under Low Visibility Procedures (LVPs). The ATIS information, timed at 1615 hrs, gave a surface wind of 250°/03 kt, visibility 50 metres in fog, sky obscured, temperature 2°C dewpoint 2°C, QNH 1036 mb, landing Runway 09L, departing Runway 09R and Category III holding point in use.

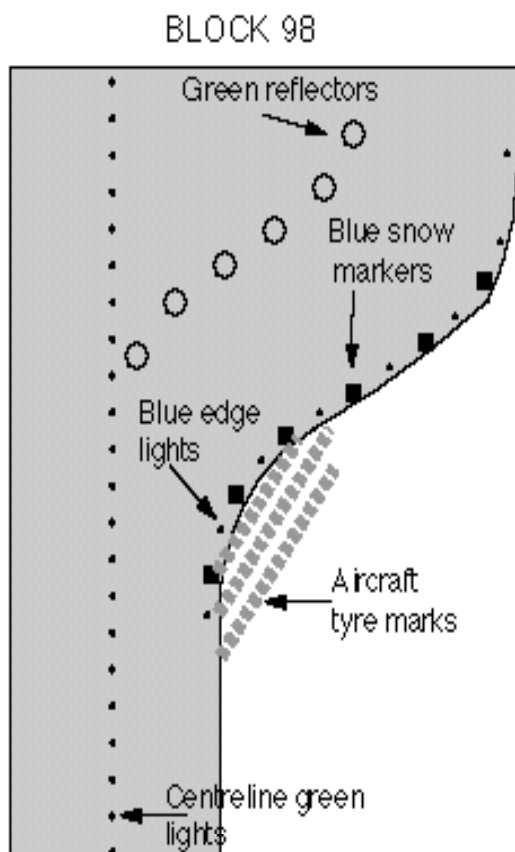
The MD11 ('VPJ') was instructed by ATC to taxi for departure from Runway 09R "following the green (centreline) lights". As the aircraft approached Block 98 the commander was instructed to "proceed right to the holding area". The aircraft following 'VPJ', callsign BA952M, was then instructed to pass 'VPJ' and continue to the stop bar. As 'VPJ' turned to the right to enter the holding area the aircraft left the paved surface and was brought to rest with all but the outboard tyres of the left main landing gear on the grass. The area of grass, which has a solid foundation beneath, was able to

support the aircraft's weight (182,222 kg) with the mainwheels sinking into the surface by only 150 to 225 mm. The commander, however, was not able to continue to taxi his aircraft back onto the taxiway and decided to shut down and wait for assistance. The passengers were deplaned into airport coaches via mobile steps, some time later. The measured Runway Visual Ranges (RVRs) at the time were: touchdown 750 metres, midpoint 300 metres and stop end 300 metres.

Subsequent examination of the ground marks left by the aircraft's tyres showed that the aircraft had left the paved surface at an angle approximately equivalent to that of the apron holding area blue edge lights as they delineated the curved edge of the hard surface.

Airfield lighting

The taxiway leading to the holding area at Block 98 (Blocks 89 and 99) only has centreline green lights with no blue edge lighting. As aircraft approach the wider holding area the centreline green lights continue straight to the CAT III holding red stop bar and blue edge lights, interspersed with blue snow markers, delineate the curved edge of the holding area. The centreline of the off-set holding area is marked only with a yellow painted line and green reflectors.



Diagrammatic only

Licensing of aerodromes

Civil Aviation Publication 168 (CAP 168) entitled 'Licensing of Aerodromes' details the basic licensing requirements for aerodrome lighting. The recommended scale of lighting is tabulated under paragraph 1.1.2 (table 6.1). The type of lighting is specified according to the runway approach procedure and where the recommended scale cannot be provided for an instrument runway there may be a consequential penalty on operational minima. For day or night operations in Cat II and Cat III conditions the scale required is for centreline lights, illuminated signs, stop bars and runway guard lights. Paragraph 6 covers the requirements in more detail. Relevant sections of that paragraph are reproduced below:

- 6.1.1 Taxiway centreline lights are green and provide guidance along a taxiway in conditions of poor visibility and at night. They should be provided on taxiways and aprons intended for use in runway visual range conditions less than 400 metres, unless there is a low volume of traffic and existing taxiway edge lights and centreline marking provide adequate guidance.
- 6.1.2 High intensity centreline lights are usable by day as well as by night and therefore should be installed for Category III operations.
- 6.2.2 Taxiway edge lighting may be used to augment centreline lighting when aircraft are required to negotiate difficult curves.
- 6.4.1 At aerodromes where Category III operations take place or ground movement requirements are complex, a taxiway guidance system should be installed. The system should operate by selective switching of the taxiway centreline lights so that individual sections or routes are illuminated, each terminating at a lighted stop bar.

Follow-up action

As a result of this incident the National Air Traffic Services (NATS) Heathrow issued a Unit Supplementary Instruction amending the procedures to be used when routing traffic through Block 98. This instruction is reproduced below:

UNIT SUPPLEMENTARY INSTRUCTION 3/96

BLOCK 98 - LOW VISIBILITY PROCEDURES

Introduction

We have been advised by Heathrow Airport Limited (HAL), that the Holding Area to the North of Block 98 is only marked with blue edge lights, it does not comply with CAP 168 lighting requirements below 400 metres. The following will therefore apply:

Procedures

When the IRVR is 400 metres or less, traffic routing through Block 98 must remain on the green lit centreline and are not allowed to use Holding Area to the North of the Block.

General

HAL are investigating the cost of providing a second green route through Block 98.