



Fuel event – Perth, WA

7 August 2007

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Australian Transport Safety Bureau
PO Box 967, Civic Square ACT 2608
Australia
1800 621 372
www.atsb.gov.au

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ABSTRACT

On 7 August 2007, a British Aerospace (BAe) 146 aircraft, registered VH-NJT, was holding at the Instrument Flight Reporting point, ROTAP, 95 NM (176 km) north-east of Perth, WA. At 0950 Western Standard Time¹, the left side inner 'Feed Tank Low Level' warning light illuminated, followed almost immediately by the right side inner 'Feed Tank Low Level' warning light.

A PAN PAN radio broadcast² was made to Air Traffic Services (ATS) and the aircraft landed at Perth 26 minutes later without further incident. The crew reported that, after landing, a total of 1,920 kgs of fuel remained on board.

Maintenance inspections carried out by the operator found no faults with the aircraft fuel system. The operator advised that 2 days later, a fault was reported in the left side inner boost fuel pump. The pump was replaced and no further faults have been reported with the aircraft fuel system.

FACTUAL INFORMATION

On 7 August 2007, a British Aerospace (BAe) 146 aircraft, registered VH-NJT, was holding at the Instrument Flight Reporting point, ROTAP, 95 NM (176 km) north-east of Perth, WA. At 0950 Western Standard Time, the left side inner 'Feed

Tank Low Level' warning light illuminated, followed almost immediately by the right side inner 'Feed Tank Low Level' warning light. The total fuel on board the aircraft when the lights illuminated was reported to be 2,300 kgs. In addition, the flight crew reported that both inner feed tank contents fluctuated between 200-270 kgs with multiple activations of the Master Warning System. The crew reported that actions in accordance with the aircraft manufacturer's *Abnormal and Emergency Checklist* did not rectify the problem. A PAN PAN radio broadcast was made to Air Traffic Services (ATS) and the aircraft landed at Perth 26 minutes later without further incident. The crew reported that, after landing, a total of 1,920 kgs of fuel remained on board. The operator stipulated a fuel reserve of 900 kgs.

Meteorological and operational information

The Bureau of Meteorology Terminal Area Forecast predicted weather conditions at Perth including light winds, light rain showers and cloud at 1,000 ft above ground level (AGL). Those conditions required the carriage of 30 minutes holding fuel. At the time of the occurrence, an *ATS Notice to Airmen* (NOTAM) was in force, which required aircraft to carry an additional 15 minutes of holding fuel. The aircraft had been holding at ROTAP for 25 minutes, which was within the specified holding period.

Fuel system information

Fuel is carried on BAe 146 aircraft in three integral tanks (one in each wing and one in the centre section of the aircraft) and two pannier auxiliary fuel tanks. The capacity of each wing fuel tank is 3,683 kgs and the centre tank is 1,996

- 1 The 24-hour clock is used in this report to describe the local time of day Western Standard Time (WST), as particular events occurred. Western Standard Time was Universal Coordinated Time (UTC) + 8 hours.
- 2 A PAN PAN radio broadcast is an international radio urgency call indicating a threat to the safety of an aircraft or its passengers.

kgs. The auxiliary fuel tanks can each hold 468 kgs. Each wing tank contains two feed tanks, which supply fuel to the engines. According to the aircraft manufacturer's documentation, the 'Feed Tank Low Level' annunciators illuminate when fuel tank contents fall below 544 kg per wing.

Maintenance actions

Maintenance inspections carried out by the operator found no faults with the aircraft fuel system. The operator advised that an intermittent technical fault in a component common to both wing fuel tanks was suspected. Two days later, a fault was reported in the left side inner boost fuel pump. The pump was replaced and no further faults have been reported with the aircraft fuel system.