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**Safety recommendation: AIC 15-R07/15-1001**

**Addressed to: Gas Turbine Overhaul Pty Ltd**

**Date issued: 30 July 2015**

**Investigation link: AIC 15-1001**

**Action status: Issued**

### **Safety deficiency/advisory description**

On 15 February 2015, the pilot of a Bell 206 Long Ranger helicopter was conducting sling load operations involving moving fuel drums and an electric generator a distance of 150 metres. During a sling load release under the direction of a ground-based load master, the helicopter's engine failed. The investigation found that a small ball of non-ferrous material used in pressure blasting for cleaning/polishing during engine overhaul had become lodged in the orifice of the Pc diffuser union, effectively blocking the Pc air line.

The investigation was unable to determine when or how the ball had entered the Pc line. It is likely that the non-ferrous ball entered the Pc diffuser union during the last engine overhaul.

The blocked Pc fuel line starved the engine of fuel at a critical time of the flight.

The date of the last maintenance carried out by the operator's approved maintenance organisation was listed in the log book as 2 February 2015. The log book entry was not signed in accordance with *Civil Aviation Rule 43.105, Certifying release-to-service after maintenance*. The log book entries for the maintenance carried out on 2 January 2015 and 28 December 2014 also were not signed.

### **Recommendation AIC 15-R07/15-1001 to Gas Turbine Overhaul Pty Ltd**

The Accident Investigation Commission recommends that Gas Turbine Overhaul Pty Ltd review its maintenance practices to ensure that pressure bead blasting during cleaning and polishing cannot cause foreign objects ingestion/damage during engine overhaul.

### **Action requested**

Before the AIC can close the above recommendation as fully satisfactorily addressing the safety deficiency, the AIC requests that Gas Turbine Overhaul Pty Ltd provide a response to the AIC recommendation within 60 days of the issue date, and explain (including with evidence) how the Gas Turbine Overhaul Pty Ltd has addressed the safety deficiencies noted in the report AIC 15-1001 and recommendation AIC 15-R07/15-1001.

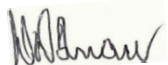
**David Inau**  
Chief Executive Officer

## Gas Turbine Overhaul Pty Ltd (GTO) response

Despite reminders being sent to the GTO, the AIC has not received a response from GTO addressing the identified safety deficiency.

PNG Accident Investigation Commission (AIC) assessment of Gas Turbine Overhaul Pty Ltd (GTO) lack of response

As a result of the AIC not receiving a response from GTO addressing the identified safety deficiency with respect to AIC 15-R07/15-1001 addressed to GTO, the AIC assigned this nil response an **unsatisfactory** rating, and records the **Status of the AIC Recommendation: Active**



**David Inau, ML**

*Chief Executive Officer*

**13 October 2015**

On 3 May 2017, the PNG Accident Investigation Commission (AIC) contacted Gas Turbine Overhaul Pty Ltd (GTO) in Melbourne, Australia, and in written and verbal communication discussed the recommendation, and requested a safety action statement, including evidence of action taken by GTO to address the safety deficiency.

## Gas Turbine Overhaul Pty Ltd (GTO) response

On 9 May 2017, the General Manager of Gas Turbine Overhaul Pty Ltd (GTO) wrote to the PNG Accident Investigation Commission (AIC) and advised that prior to the 3 May 2017 communication with the AIC he had not been aware of the recommendation.

In addressing the safety deficiency he stated:

I would like it noted that the foreign debris identified in the report, 15-1001 is of a type and size not used at Gas Turbine Overhaul Pty Ltd (GTO) but it may be with some of our subcontractors, no further investigation or inquiries have been conducted.

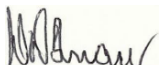
In response to the subject recommendation, I can advise that GTO now conducts an internal, videoscope inspection on all compressor Scrolls that have the Sermetel W, sacrificial corrosion protective coating applied. This inspection is in addition to the standard visual and acceptance inspections normally carried out when receiving repaired or overhauled piece parts back from subcontractors. Please refer to Figures 1, 2 & 3 to see our videoscope (TR10151) in use.

It is believed that this additional inspection will prevent future occurrences of this type of failure.

## PNG Accident Investigation Commission (AIC) assessment of the Gas Turbine Overhaul Pty Ltd (GTO) response.

The AIC has assessed the safety action taken by Gas Turbine Overhaul Pty Ltd (GTO), and notes the supporting evidence. The AIC finds that the safety action taken satisfactorily addresses the identified safety deficiency.

With respect to AIC 15-R07/15-1001 addressed to **Gas Turbine Overhaul Pty Ltd (GTO)**, the **Status of the AIC Recommendation: Closed response accepted**



**David Inau, ML**

*Chief Executive Officer*

**10 May 2017**