

- Mode: Aviation
- Investigation Number: 2011-005
- Abstract: On 16 September 2011 an Air New Zealand Boeing 747-419, registered ZK-NBT (the aeroplane), was on approach to land at San Francisco when the crew was alerted by the crew of another aircraft that flames were coming from the number 4 engine. There was no indication on the flight deck of the condition. After an uneventful landing and shutdown, the local engineer inspected the engine in accordance with the published procedure. After some additional checking and engine running, he released the aeroplane back to service. The aeroplane completed a further 2 sectors without incident. On the next sector, while on approach to land at Auckland, the number 4 engine surged and it was shut down by the crew. The aeroplane landed safely on 3 engines.

The cause of the surge at Auckland was not identified and it could not be determined whether the San Francisco occurrence contributed to the more severe occurrence at Auckland. The actions of the San Francisco engineer in following the prescribed maintenance procedures, and completing some additional checks before releasing the aeroplane back to service, were considered appropriate.

Engine compressor stalls and surges can be dramatic, especially for passengers. However, a review by Rolls-Royce of reported RB211 engine surge events showed that while a stall could result in damage or having to shut down the engine, the safe operation of the aeroplane should not be affected. In both incidents the crews acted correctly in dealing with the surges.

The Transport Accident Investigation Commission (Commission) became aware of another 2 recent engine failure/shutdown occurrences in Air New Zealand's (the operator's) fleet of aeroplanes. Although these incidents had involved different aeroplane types, each type, like the Boeing 747, had been scheduled for replacement in the short to medium future.

The inquiry found no link between the 3 engine occurrences and nothing to suggest that the operator was accepting lower engineering or safety standards as the 3 aeroplane types neared replacement.

- A Link to the Report: [2011-005](#)