3 - CONCLUSIONS

3.1 Findings

- The crew held the certificates, licenses and ratings required for the flight.
- The airplane was certified and maintained in compliance with regulations.
- The flight was incident-free up until the approach to Tahiti Faa'a.
- Meteorological conditions were night flight conditions with calm wind. The runway was dry.
- The crew sighted the runway from more than 10 nautical miles and kept it in sight for the rest of the approach.
- Radio navigation facilities were working normally.
- The crew made a standard VOR DME approach to runway 22.
- The copilot was at the controls.
- The autothrottle control and at least one flight director were active.
- The vertical navigation mode (VNAV) for a standard VOR approach was engaged.
- The B 747 Flight Crew Training Manual recommends that the crew disconnect the autopilot and the autothrottle, thus flying manually, before passing the final decision height.
- At the « End of Descent » point the automatic flight system went in to the go-around configuration to climb to the altitude displayed on the MCP, as it was designed to do.
- This feature of the automatic flight system was not mentioned in the manufacturer's or the operator's documentation. It was not addressed in crew training. Neither of the F-GITA pilots were familiar with this feature.
- Controlled by the autothrottle, the thrust began to increase, and the FMA display changed from THR to THR REF. The pilot not flying called out this change.
- The pilot flying did not follow the instructions of the flight director and continued the descent.
- N1 engine speed increased from 68 to 96 % in 19 seconds. The speed increased, reaching Vref + 35 kt at 200 feet. At this point, the airplane's path moved above the normal descent path.

- At about 300 feet above ground level, the speed was Vref + 30 kt. The pilot not flying called this out, and the levers were brought back to the idle throttle stop.
- The autothrottle continued to try to pull the levers forward. It did not disconnect nor was it disconnected by the crew.
- Immediately following the radio altimeter call-out « 200 feet », the pilot flying said "OK, disconnect" without further elaboration. The other pilot did not react.
- Touchdown took place at about 900 m past the runway threshold.
- Two seconds before touchdown, thrust lever no. 1 moved forward and the speed of the outside left engine increased to 107% of N1 in seven seconds.
- Because of this, the autobrake function deactivated automatically at touchdown and the spoilers were not extended.The pilot flying moved the three remaining levers into reverse thrust position.
- The pilot not flying did not call out the failure of the engine 1 thrust reverser to engage, the deactivation of the autobrake function or the failure of the spoilers to extend.
- The pilot flying repeatedly requested actions on the thrust reversers.
- Engines 2, 3 and 4 were brought back to idle speed, then shifted into thrust reverse.
- The airplane left the runway at approximately 3,150 meters past threshold 22.
- The airplane came to a stop, partially in the lagoon, by the crossing road at the end of the runway.
- Engines 2, 3 and 4 stopped due to impact with and ingestion of water.
- Engine 1 continued to idle. The crew was unable to shut down this engine due to the loss of power generation.
- The airport firemen readied themselves along the shore of the lagoon immediately after the airplane came to a stop.
- The crew started evacuating passengers approximately ten minutes after the airplane came to a stop after assessing outside conditions.
- Engine 1 was cut by the firemen, who sprayed water into the interior.
- While the passengers were walking back along the runway to the terminal, an ATR 72 was authorized to land on the first part of the same runway on QFU 22.