

Santa Cruz Air Base receives ANPC Transponder Landing System

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United States manufacturer Advanced Navigation & Position Corporation (ANPC) has reported the successful installation of its Transponder Landing System (TLS) at the Santa Cruz Air Base in Rio de Janeiro State, Brazil.

The Brazilian Air Force (Força Aérea Brasileira) selected the TLS following a competitive fly-off between conventional radar precision approach systems and ANPC's transponder-based system.

The non-visual approach aid provides Category I guidance in terrain that is unsuited to conventional Instrument Landing Systems (ILS), and provides full precision approach radar guidance for aircraft not equipped with ILS receivers. The installation was carried out by the Brazilian Airport Authority (CISCEA) and was flight-checked by Brazilian Flight Standards (GEIV).

The TLS complies with ICAO Annex 10 standards for a Category I ILS, and uses the same receivers, horizontal situation indicator and course deviation indicator as conventional ILS. The ground-based TLS determines the location of the aircraft by interrogating the aircraft transponder and measuring the reply to calculate time of arrival, azimuth and elevation angle. From the calculated location of the aircraft, a course correction is computed and transmitted back to the aircraft where it is displayed as localised and glide slope course guidance in the cockpit. ILS frequency assignment principles also apply to the TLS.

ANPC said the Brazilian installation provides a clear demonstration of the company's TLS capabilities, with the opportunity of further installations in Brazil. The company has also received expressions of interest from other South American countries.

The TLS gained FAA-type acceptance in 2001 and is installed at the Asian hub of Federal Express at Subic Bay National Airport in the Philippines since the late 1990s. The equipment is also in operation at an ANPC test and demonstration site at Dalles Airport, Washington.

Based on the success of the TLS, ANPC began development of a Transportable Transponder Landing System (TTLS) in the late 1990s. The company offers a tactical unit that can be trailer-mounted, or transported by air and can be fully deployed in less than six hours by three military personnel. Customers include the US Marine Corps, the Royal Australian Air Force and most recently the Spanish Air Force, which took delivery of a NATO-sheltered TTLS in November 2006 for deployment at Herat Air Base in Afghanistan.

ANPC continues to fund internally the development of TLS technology and is currently under a research, development, test and engineering contract with US Air Force Flight Standard Agency. A development system was delivered to Tinker Air Force Base in Oklahoma in July 2007 for evaluation.

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