MARINE CORPS
WARFIGHTING
LABORATORY

TRANSPORTABLE TRANSPONDER LANDING SYSTEM

fact sheet

The purpose of **Transportable Transponder Landing System (TTLS)** is to provide a rapidly deployable (HMMWV mounted or smaller), all weather, precision, non-emitting, terminal air traffic control capability—to be employed under instrument flight rules (IFR) conditions.

Background: During April 2001, the Marine Air Board identified a requirement for a non-emitting precision approach landing capability. Such a system would be used to provide an initial tactical precision approach capability with reduced footprint and electronic signature.

Description: The TTLS can be packed into a single C-130 aircraft, driven off and rapidly employed to provide Category I guidance to both military and civilian aircraft. In addition to the ILS-emulation capability, the TTLS also presents a Precision Approach Radar (PAR) display to the operator enabling Ground Controlled Approaches (GCA). With a single system, pilots can be guided to safe landings whether they are ILS-capable or not. A spring 2004 limited technical assessment (LTA) will be conducted at the MAWTS-1 WTI class in Yuma, AZ as a proof of concept.

Last year, $2 million of fiscal year 2002 funding was being used by NAVAIR (PMA213) and Advanced Navigation and Positioning Corporation (ANPC) to develop and test the Link 4A data-link guidance output and multiple aircraft tracking improvements to TTLS. The fiscal year 2003 funding, $2.25 million, will be used to augment this effort and to provide the Marine Corps unique capabilities in support of Expeditionary Maneuver Warfare (EMW). The effort will be executed by modifying existing contract(s) leveraging current efforts through experimentation of promising follow-on technologies suited to austere environments. These include mutiple aircraft tracking and guidance, reciprocal approaches, and 360-degree tracking and control.

High Mobility Vehicle with Shelter

Trailer and Generator

Localizer Sensor

Cal/BIT

Specifications:
º Provide MEU Commander with all weather, precision approach Air Traffic Control system for shore-based aviation—in one HMMWV and trailer.
º Precision aircraft tracking system
º ILS emulated guidance
º Cat I precision approach at austere fields
º No new equipment required onboard aircraft
º Rapid deployment

Deliverable Product: The prototype ANPC system, Rhino II, will be delivered December 2003 for demonstration as a proof of concept.

info: **Public Affairs Office:** (703) 784–5170
DTD: July 30, 2003

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