EXTENDED AREA TEST SYSTEM AT THE PACIFIC MISSILE TEST CENTER

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ABSTRACT

For the past 30 years, the Pacific Missile Test Center (PMTC) has provided test and evaluation for Navy weapon systems in the sea test range, which extends from Point Mugu approximately 60 miles seaward to San Nicolas Island. The requirement for larger missile footprints in T&E and also encroachment from oil exploration, commercial shipping and recreational boating has made it necessary to develop instrumentation to cover an area expanded to 250 miles beyond San Nicolas Island. This instrumentation development effort is known as the Extended Area Test System (EATS).

The primary functions of EATS include participant tracking, telemetry data collection, UHF communications relay and target control relay.

Participant tracking for EATS has been accomplished by development of a transponder called a Relay, Reporter, Responder (R^3) which is installed aboard all participants. This R^3 Unit, which is also installed at numerous surveyed ground stations and carried in airborne stations, permits a continuous multilateration solution in a Master Operations Control Station (MOCS) at Point Mugu, for participant tracking.

Telemetry data collection will be accomplished by an airborne phased array antenna system on a P-3A aircraft with the capability to record onboard or retransmit in real time to the Range Operations Control Center. The P-3A aircraft will also provide a UHF communications relay capability, a target control relay capability, as well as providing another airborne R^3 reference station for multilateration tracking.

The multilateration tracking capability has been operational for over a year. Additional R^3 Units are under procurement to increase the number of participants in an operation.

The installation of the Phased Array Telemetry Antenna System in the EATS P-3A aircraft has recently been completed. It is presently undergoing operational integration into the PMTC Range system. Three additional Phased Array Aircraft are programmed over the next four years.