NAVAIR 5.3
Threat and Target Systems Department
Engineering & Operations Now and into the Future

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OUR MISSION IS TO EMULATE THREATS FOR WEAPONS AND EW SYSTEMS, TEST AND EVALUATION AND TO SUPPORT EXPERIMENTATION AND FLEET TRAINING

KINEMATICS:
- SPEED
- ALTITUDE
- MANEUVERABILITY

SIGNATURES:
- INFRARED
- RADAR
- VISUAL

COUNTERMEASURES:
- ELECTRONIC
- INFRARED
- RF EMISSIONS

UNDERSTANDING THE CRITICAL MASS
- Generic/Surrogate/Validated/Replica/Actual
- (Cost Effective Fidelity for T&E)
TTSD Operating Sites

- UTTR
- China Lake
- Point Mugu
- SCORE
- Yuma
- PMRF
- WSMR/Holloman
- Key West
- Pax River
- Wallops
- Norfolk/Dam Neck
- Eglin/Tyndall

🌟 Department Operating Activities
● Sites TTSD Deploys To Regularly
5.3
Threat & Target Systems Department

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Associate for Business Operations

Ben Rasnick
Associate for Projects

531 Target Systems Engineering
Dae Hong
Bob Williams

532 Pacific Target and Marine Operations

533 Atlantic Target and Marine Operations
Robert Graham

534 Airborne Threat Simulation
Emery Kujiraoka

535 Combat Environment Simulation
Eddy Witzel

539 Threat/Target Systems TEAM

Aerial Targets Team

Surface Targets Team

Airborne Threat Simulation Team

Combat Environment Simulation Team

Advanced Technology Test Team

Workforce
~190 Civilians
~270 O&M Contractor Wyrs
~50 Engineering Services Contractor Wyrs

Robert Graham

Emery Kujiraoka

Eddy Witzel

Jeff Blume

Thomas Williams

Garon Harris

Roger Fulton

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Associate for Projects

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Functions

Target Systems Engineering
Target systems technology development, acquisition support, systems integration, operations engineering, EIs, LECs

Atlantic/Pacific Target & Marine Operations
World wide surface and airborne target and marine operational services including unique mods and augmentation

Threat/Target Systems Management
Provides entry point for Sponsors to form integrated project offices, and externally directed project offices

Airborne Threat Simulation
Design development and operational support of electronic attack and radar airborne threat emitter systems

Combat Environment Threat Simulation
Development and technical support of EO/IR/MW/UV/Laser/C4I threat simulator systems
5.3 Operates all Aerial Target Types and Variants

Supersonic
- AQM-37C
- MA-31
- GQM-163A

Subsonic
- BQM-34S
- BQM-74E

Decoys
- TALD
- ITALD

Developmental
- MSST
- BQM-74F
- BQM-167XX
- ATALD
5.3 Operates all Seaborne Target Types and Variants

Generic Threat. Also Tow Tractor

**QST-35**

56 Feet
20 Knots

**HSMST**

28 Feet
40 Knots

High-speed terrorist threat

**FACT**

50 Feet
50 Knots

Fast-Attack Craft Target

**SDST**

10 Feet
30 Knots

Ship-deployable for at-sea training

**MST**

260 Feet
14 Knots

NAWCWD T&E Asset

Self-propelled ship simulator
5.3 Designs & Operates Several Land-Based Targets

- **Target Mold Prototype & Manufacture**
  - 3D, 2D, cold air inflatable
  - Copper cladded
  - Trailer mounted
  - Active Emitters Integrated

- **Deliver & Train or Provide Field Operations**

- **Diverse Customers**
  - Primarily Training Purposes
  - Training Ranges
  - JNTC, Army, Navy, Air National Guard
Target Operations

• East Coast:
  – 562 surface events (2,700+ mission hours)

• West Coast
  – 151 aerial target launches
  – 945 surface events
VC-6 to NAVAIR 5.3 Transition

• In 2006 CNAF determined to disestablish VC-6; In April 07 USFFC chose NAVAIR 5.3.3 to transition East Coast Fleet Training Target Operations to
  – First Seaborne detachment stood up Oct 1
  – Two more Seaborne dets and two Aerial dets will phase in by March 08; NAVAIR will be fully responsible by June 08

• VC-6 FY07 Op Tempo
  – 57 BQM-74E target launches
  – 936 surface sorties/5,200+ mission hours
5.3 Engineering Highlights
Seaborne Target Efforts

Navy/Reliance Lead for Seaborne Target Development

• **Fast Attack Craft Target**
  – 50 ft length - 50 knots in SS2
  – Missile-capable FIAC threat
  – Development complete
  – Transitioning to production

• **Modular Tow Target**
  – Light weight
  – Replaces Williams Sled & HARM barge
    • Lower cost
    • HSMST towable
  – Work in progress
BQM-34S(H) Target

BQM-34S Harpoon Target Requirement: Integration of a real world (Harpoon) Anti-Ship Cruise Missile (ASCM) seeker into a BQM-34S target to test Electronic Counter-Measures & decoy systems. The BQM-34S is the only available vehicle that can meet speed and altitude requirements while flying against a manned ship. BQM-34S(H) is a controllable and re-useable Harpoon surrogate that can encrypt, transmit, and record its seeker's video data.
AN/AST-9(V) Simulator

- AN/AST-9(V) is an advanced supersonic airborne radar simulator pod developed for Fleet training and weapon system Test & Evaluation.

- The configurable AST-9 simulates airborne radar and missile systems using high power traveling wave tube and magnetron transmitters, operating in H-J bands.

- First flights began in FY07 in support of 3rd Fleet training exercises.
- 7 pods have been delivered so far with 6 more scheduled for CY07. 30 total pods.
Combat Environment Simulation Division Products

- Threat simulators-RF, IR, UV for T&E Ranges such as ECR at China Lake.
  - Development
  - Acquisition
  - T&E
  - Validation documentation

- Electronic Warfare systems for the major DON aircrew Tactical Training Ranges.
  - Development
  - Acquisition
  - Integration
  - Upgrades

- Navy Threat / Simulator Validation Program Coordination
  - Independent of Devel Offices/Joint Val Member
  - Develop and maintain validation procedures
  - Review validation Reports
  - Maintain database and schedules
Examples of Current/Future Focus Areas

- New Subscale DT (BQM-74E replacement)
- Future testing of Hi Diver variant of SSST
- Seaborne target swarm capability for Fleet training
- VBSS support to Navy, Coast Guard, Home Land Security
- Advanced Ground Target Threat System/Land Target Development
- Intrepid Tiger Phase II Communications Jammer
- Future testing of MSST
Threat/Target Systems Department
Summary

• T/TSD has tremendous operations and engineering capability
• We operate wherever the customer needs us
• We are committed to constant improvement
• The Military Value of our products and services is recognized by our Navy, DOD and FMS Customers
• We see many opportunities
  – Target Operations World Wide
  – New Target Developments
  – Homeland Security exercise scenario support