U. S. NAVY SEABORNE TARGETS

New Directions in a Time of Change

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47th Annual NDIA
Targets, UAV’s & Range Operations
Symposium and Exhibition

Unclassified
New Challenges = New Capabilities
Seaborne Targets Structure

OPNAV N433

CAPT William Jensen

PEO SHIPS PMS325i

Mr. Rick Wolff

NAWCWD Pt Mugu CA Engineering Logistics CM/DM

Mr. Jeffrey Blume

Operating Activities

Major Claimants
Surface Targets Team

Mission

- Navy life-cycle lead for Seaborne Targets and augmentation systems
- Tri-Service Lead for Seaborne Targets
- Seaborne target services to the Fleet, DoD, and Foreign Military Customers in support of weapon system T&E and Fleet Training
Surface Targets Team
Who we support

• SEABORNE TARGET DEVELOPMENT AND PRODUCTION
  • OSD
  • Chief of Naval Operations
  • PEO Ships
  • Army and Air Force

• OPERATIONS
  • Navy Weapon System T & E
  • Naval Fleet Training
  • USAF Test and Evaluation
  • Foreign Military Customers
Changes

• Powered targets
• Towed targets
• Control System
• Augmentation
• New roles
Seaborne Target Resources

Powered Targets

QST-35
56 Feet
20 Knots

High-speed terrorist threat

SDST
56 Feet
20 Knots

Ship deployable for at-sea training.

HSMST
27 Feet
40 Knots

NAWCWD T&E Asset
Self-propelled ship simulator

FACT
50 feet
50 Knots

Fast-Attack Craft Target

MST
260 Feet
14 Knots

Generic threat. Also tow tractor
Powered Targets

- QST-35A to QST-35B
  - Tow tractor and manned harassment
- Sinkable HSMST
  - Increased use of HE
- Production FACT
  - Missile-capable FIAC threat
Fast-Attack Craft Target
FACT

50 foot length
50 knots sustained SS2
Fast Inshore Attack Simulator
Towed Targets

• Low-Cost Modular Target (LCMT)
  – Single platform with mission kits for HARM, Gunnery, Hellfire, and Harpoon
  – Lower cost, increased survivability, and reduced inventory
  – Some current targets will phase out
Seaborne Target Resources
Towed Targets

ISTT (with Hellfire Kit)
Multi-purpose tow used with QST-35

Williams Sled
Ship gunnery target

LCMT
LCMT will Replace ISTT, Williams Sled, HARM Barge

LCTT
Low cost tow for use with HSMST & SDST

HARM Barge
HARM target
<table>
<thead>
<tr>
<th>Mission</th>
<th>Hellfire</th>
<th>Gunnery</th>
<th>HARM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MODULAR TARGET</strong></td>
<td><img src="image1" alt="Modular Target" /></td>
<td><img src="image2" alt="Modular Target" /></td>
<td><img src="image3" alt="Modular Target" /></td>
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<tr>
<td>HULL TYPE</td>
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<tr>
<td>HULL MATERIAL</td>
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<tr>
<td>L X W</td>
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<tr>
<td>WEIGHT, Lbs</td>
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<td>PAYLOAD, Lbs</td>
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<tr>
<td>TOW SPEED UP TO, Kts</td>
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<tr>
<td>TOW VESSEL</td>
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<tr>
<td>ISTT</td>
<td><img src="image4" alt="ISTT" /></td>
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</tr>
<tr>
<td>Williams Sled</td>
<td><img src="image5" alt="Williams Sled" /></td>
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</tr>
<tr>
<td>HARM Barge</td>
<td><img src="image6" alt="HARM Barge" /></td>
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</tbody>
</table>

| **EXISTING TARGET** | | |
| MONO PONTOONS | PONTOONS | PONTOONS |
| GLASS | STEEL | STEEL |
| L X W | 28' X 8' | 30' X 14' | 45' X 20' |
| WEIGHT, Lbs | 2,500 | 4,200 | 37,000 |
| PAYLOAD, Lbs | 400 | 300 | 3,000 |
| TOW SPEED UP TO, Kts | 25 | 6-8 | 6-8 |
| TOW VESSEL | QST-35 preferred - HSMST marginal | Tug | Tug |
Control Systems

• SeaCAN (Seaborne Controller Area Network)
  – A singular solution
    • Common architecture and hardware for **ALL** Seaborne powered targets
    • Operates with **ALL** Navy command links

• PCCU upgrades
  – Added PCCU data logging capability, user select PC time or GPS time to be recorded.
  – Updated drivers for Windows XP and Vista
  – Updated software for PCCU used as Tracker.
PCCU Block Diagram

- Laptop & Joystick
- GPS & RF Modem
- Laptop computer
- GPS/Ant
- Amplifier
- AMP
- GPS & RF Modem
Augmentation

• Focus on realistic and repeatable IR and RF signatures
  – Developing compendium of signature data for all POR targets

• Humannequin
  – Mannequin with realistic human features including IR signature characteristics
  – Instrumented to assess vulnerability
Humannequin

- Threat surface craft can be disabled by rendering either propulsion systems or the craft operator inoperative. Currently there is no real-time means to assess whether operator has been incapacitated.

- Commercially-available mannequins will be outfitted with heat sources and sensors to provide realistic human signatures and vulnerability measurements.
New Roles

• Seaborne targets as USV surrogates
  – Targets can be configured to execute other USV missions either operationally or as developmental prototypes

• Seaborne targets as UAV surrogate test beds
  – Good payload test beds
  – Impervious to traditional flight risks
  – Long endurance
Planned Procurements

• Focus on Program-of-Record Targets
  – HSMST, SDST, FACT, LCMT, and LCTT

• Adjust quantities annually based on requirements and budget.
## Operating Sites and Resources

### U. S. Navy Seaborne Targets

<table>
<thead>
<tr>
<th>Operating Activity</th>
<th>Powered</th>
<th>Towed / Static</th>
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</thead>
<tbody>
<tr>
<td>MST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>QST-35</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FACT</td>
<td>X</td>
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<tr>
<td>HSMST</td>
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<tr>
<td>SDST</td>
<td>X</td>
<td>X</td>
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<tr>
<td>ATLS</td>
<td>X</td>
<td>X</td>
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<tr>
<td>HARM (Barge)</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Williams Sled</td>
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<td>X</td>
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<tr>
<td>ISTT</td>
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<tr>
<td>LCTT</td>
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<tr>
<td>LCMT</td>
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</tbody>
</table>

- **Powered** requires a power source for operation.
- **Towed / Static** does not require a power source for operation.

<table>
<thead>
<tr>
<th>Site</th>
<th>Powered</th>
<th>Towed / Static</th>
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</thead>
<tbody>
<tr>
<td>NAWCWD, Point Mugu, CA</td>
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<tr>
<td>NAWCAD, Pax River, MD</td>
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<td>NAWCAD Det, Norfolk, VA</td>
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<tr>
<td>CFAO, Okinawa</td>
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<td>PMRF, Kauai, HI</td>
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<tr>
<td>SCORE, San Diego, CA</td>
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<tr>
<td>MCAS, Cherry Point, NC</td>
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<td>ATGL, Norfolk, VA</td>
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<tr>
<td>ATGM, Mayport, FL</td>
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</tbody>
</table>
Questions?
Seabornetargets.org