

U. S. NAVY SEABORNE TARGETS

Moving Forward
Responding to the Fast Attack Threat

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Pt. Mugu, California



48th Annual NDIA
Targets, UAV's & Range Operations
Symposium and Exhibition



Unclassified



New Challenges = New Capabilities

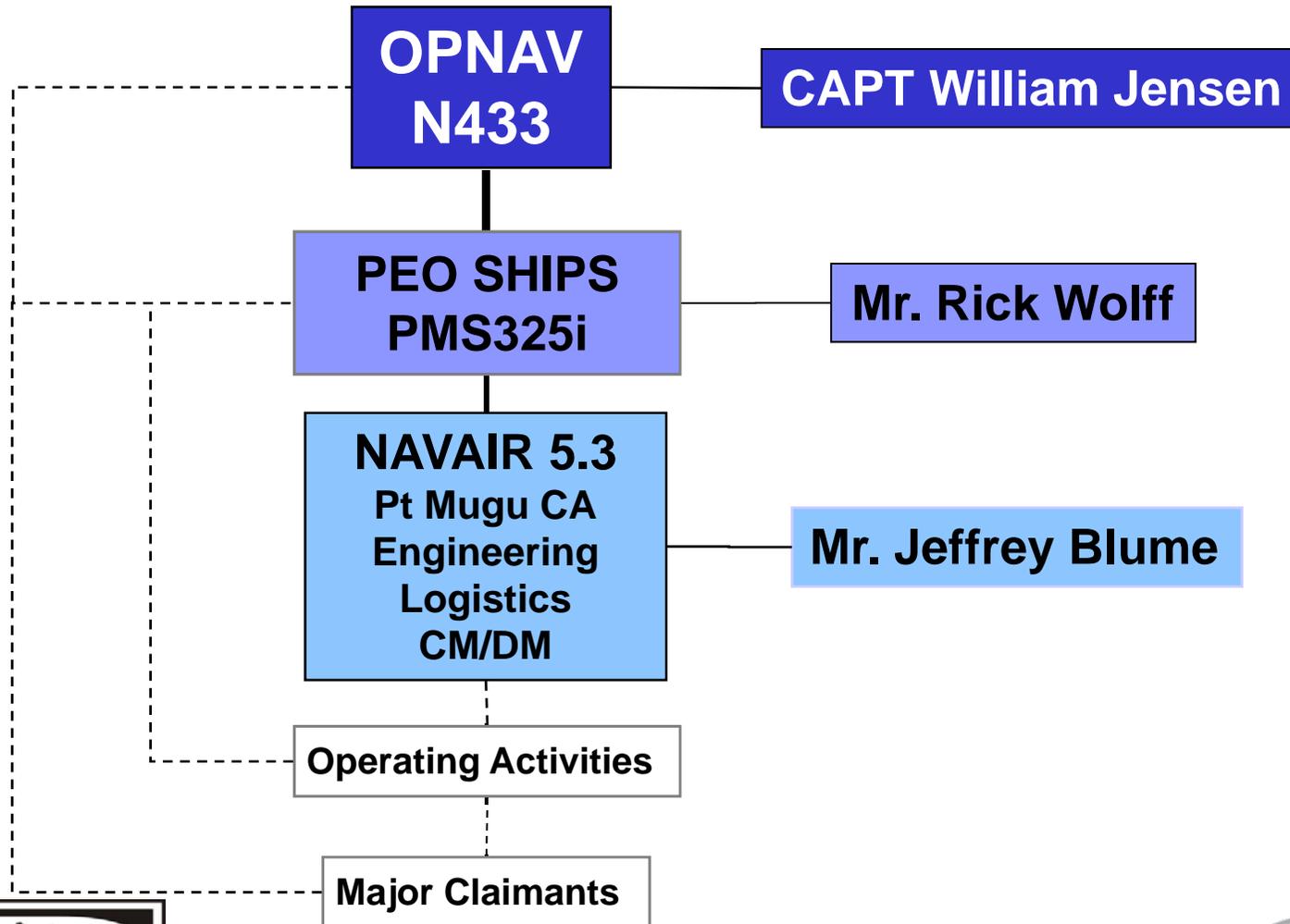


Overview

- Organization / mission
- Current targets
- Fast Inshore Attack Craft – HSMST evolution
- Fast Attack Craft - FACT evolution
- Control Systems
- Enhanced realism
- Expanded role



Seaborne Targets Structure



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



Seaborne Target Resources

Powered Targets



FACT

**50 feet
50 Knots**

Fast-Attack Craft Target



HSMST

**27 Feet
46 Knots**

High-speed threat



SDST

**12Feet
20 Knots SS2**

Ship deployable for at-sea training.



QST-35

**56 Feet
20 Knots**

Generic threat. Also tow tractor



MST

**260Feet
14 Knots**

NAWCWD T&E Asset

Self-propelled ship simulator

Seaborne Target Resources

Towed Targets



Low-Cost Modular Target



Small low-cost tow for use with HSMST & SDST



Multi-purpose tow used with QST-35 or HSMST

Fast Inshore Attack Craft Evolution

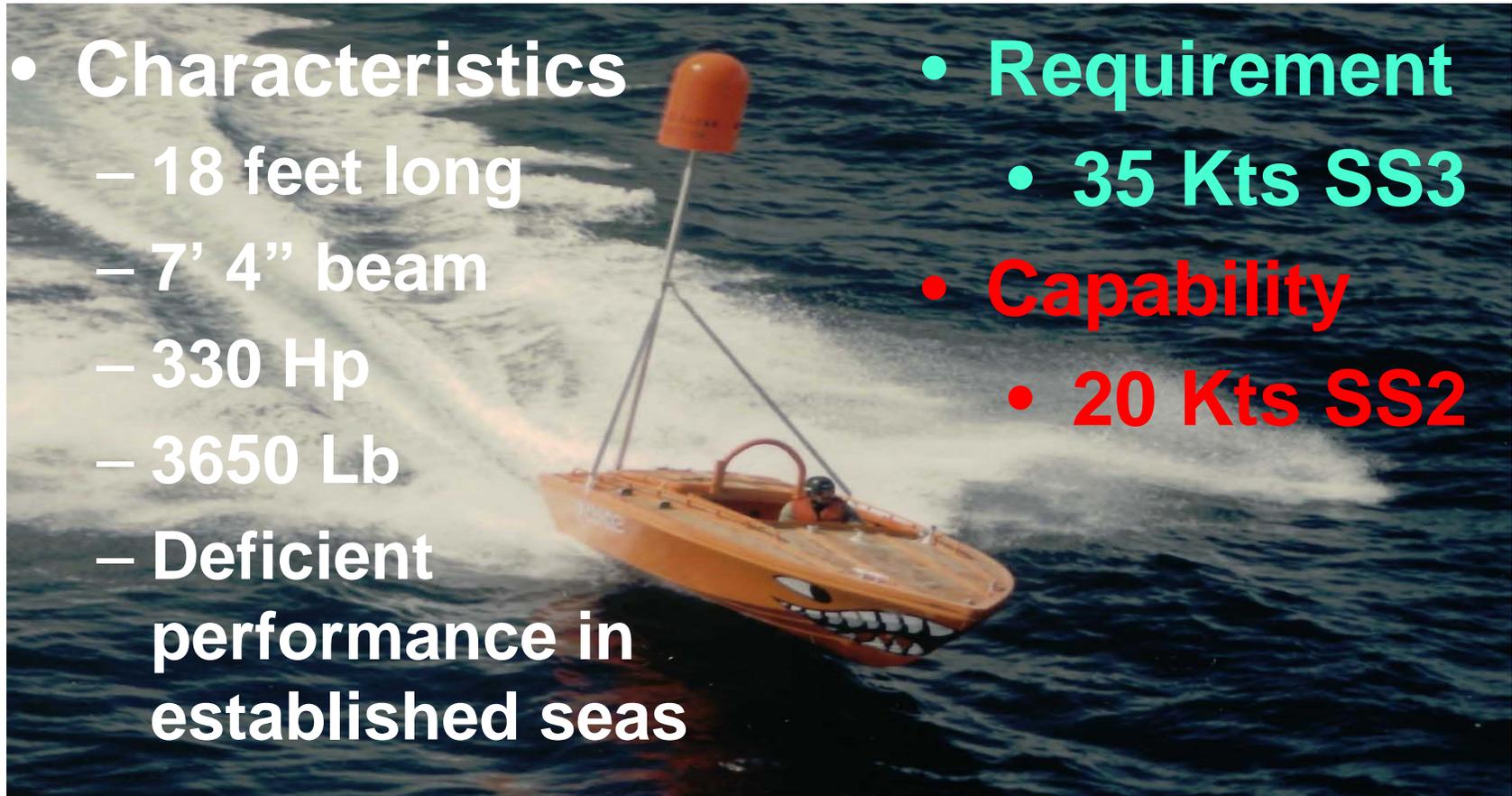
- Requirement
 - 5” gun - High Speed Maneuvering Surface Target test requirements
 - Multiple maneuvering targets capable of 35 knots in Sea State 3



Fast Inshore Attack Craft Target QST-33

- **Characteristics**
 - 18 feet long
 - 7' 4" beam
 - 330 Hp
 - 3650 Lb
 - Deficient performance in established seas

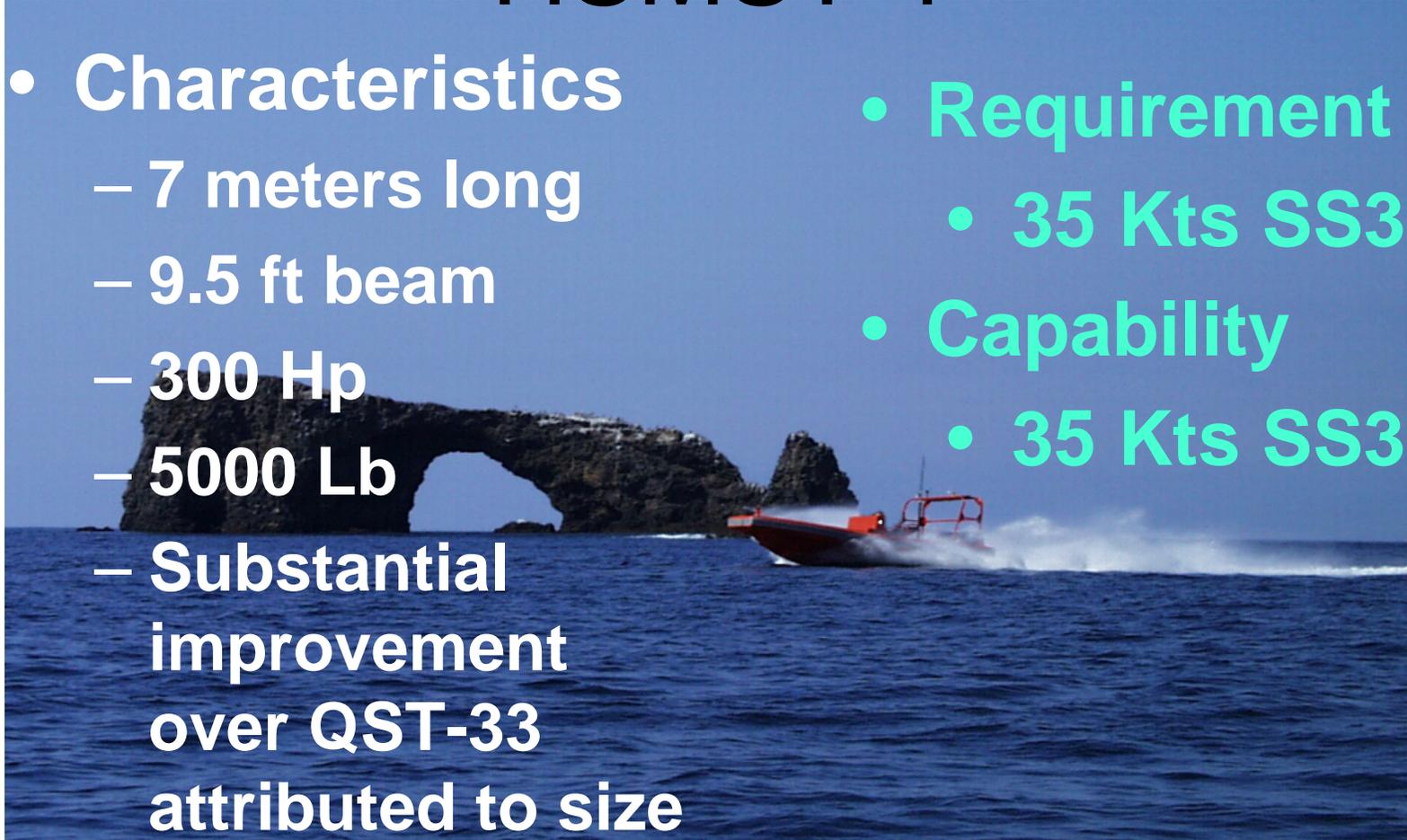
- **Requirement**
 - 35 Kts SS3
- **Capability**
 - 20 Kts SS2



Fast Inshore Attack Craft Target HSMST-1

- **Characteristics**
 - 7 meters long
 - 9.5 ft beam
 - 300 Hp
 - 5000 Lb
 - Substantial improvement over QST-33 attributed to size

- **Requirement**
 - 35 Kts SS3
- **Capability**
 - 35 Kts SS3



Fast Inshore Attack Craft Target HSMST

- **Characteristics**

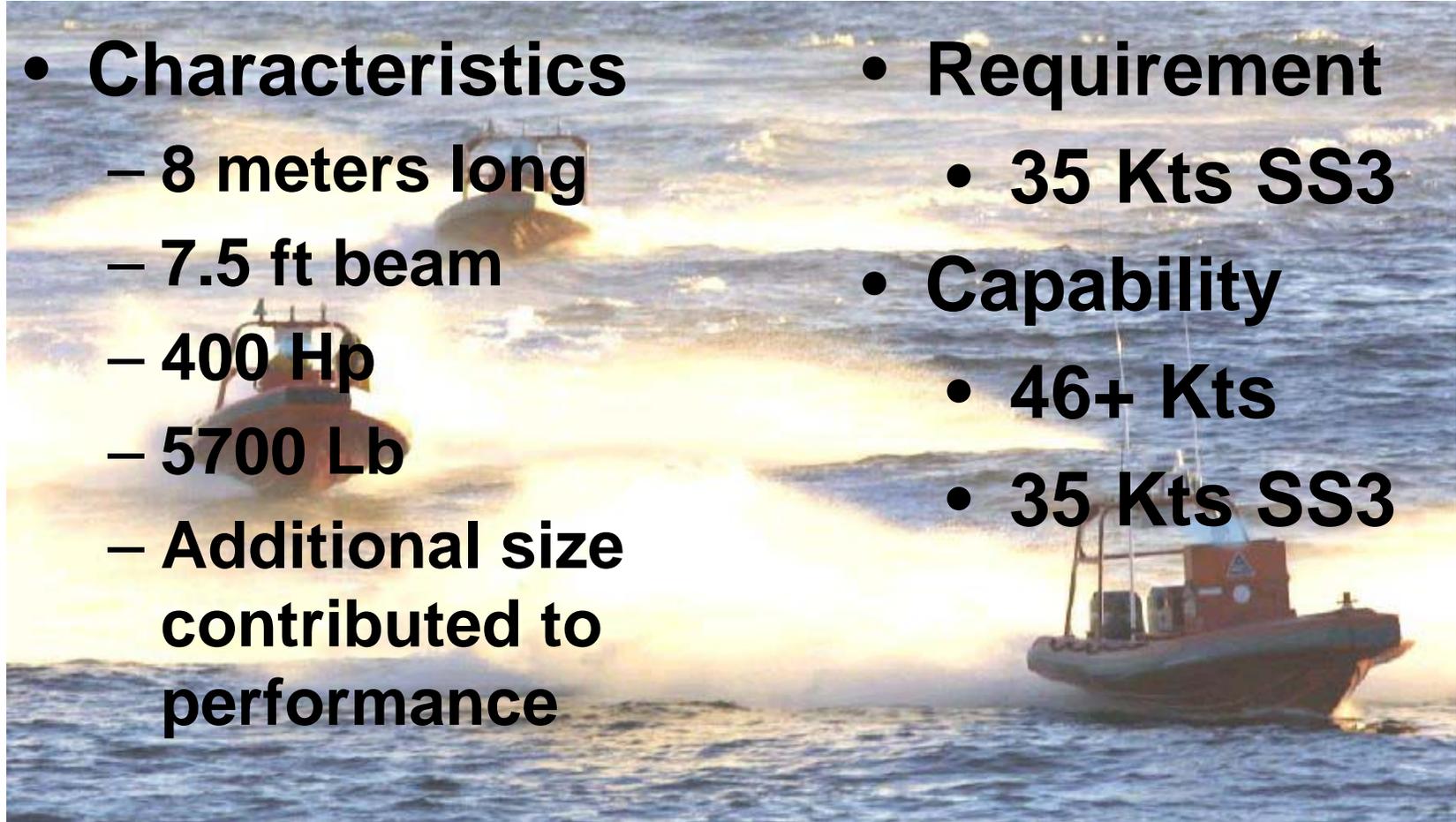
- 8 meters long
- 7.5 ft beam
- 400 Hp
- 5700 Lb
- Additional size contributed to performance

- **Requirement**

- 35 Kts SS3

- **Capability**

- 46+ Kts
- 35 Kts SS3



Fast Attack Craft Target

FACT Requirements

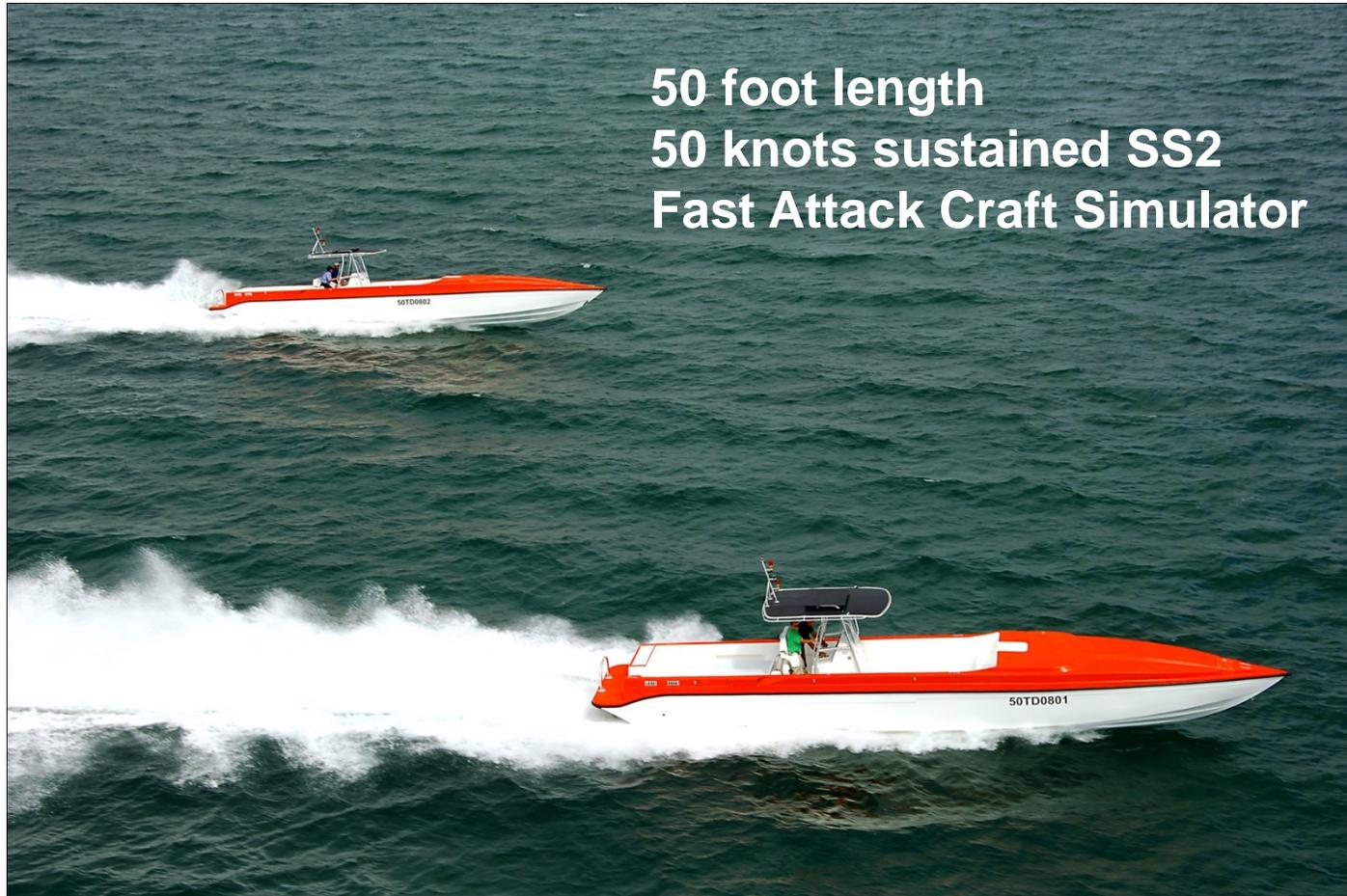
- 50+ feet
- 50+ Knots SS2
- Survivability
- High-speed towing
- Realistic signatures

• QST-35 Deficiencies

- Marginal IR and RF signature representation
- Inadequate speed in developed seaway
 - 15 knot capability
 - 50 knots required
- Survivability
 - High amortized cost/impact



Fast-Attack Craft Target FACT

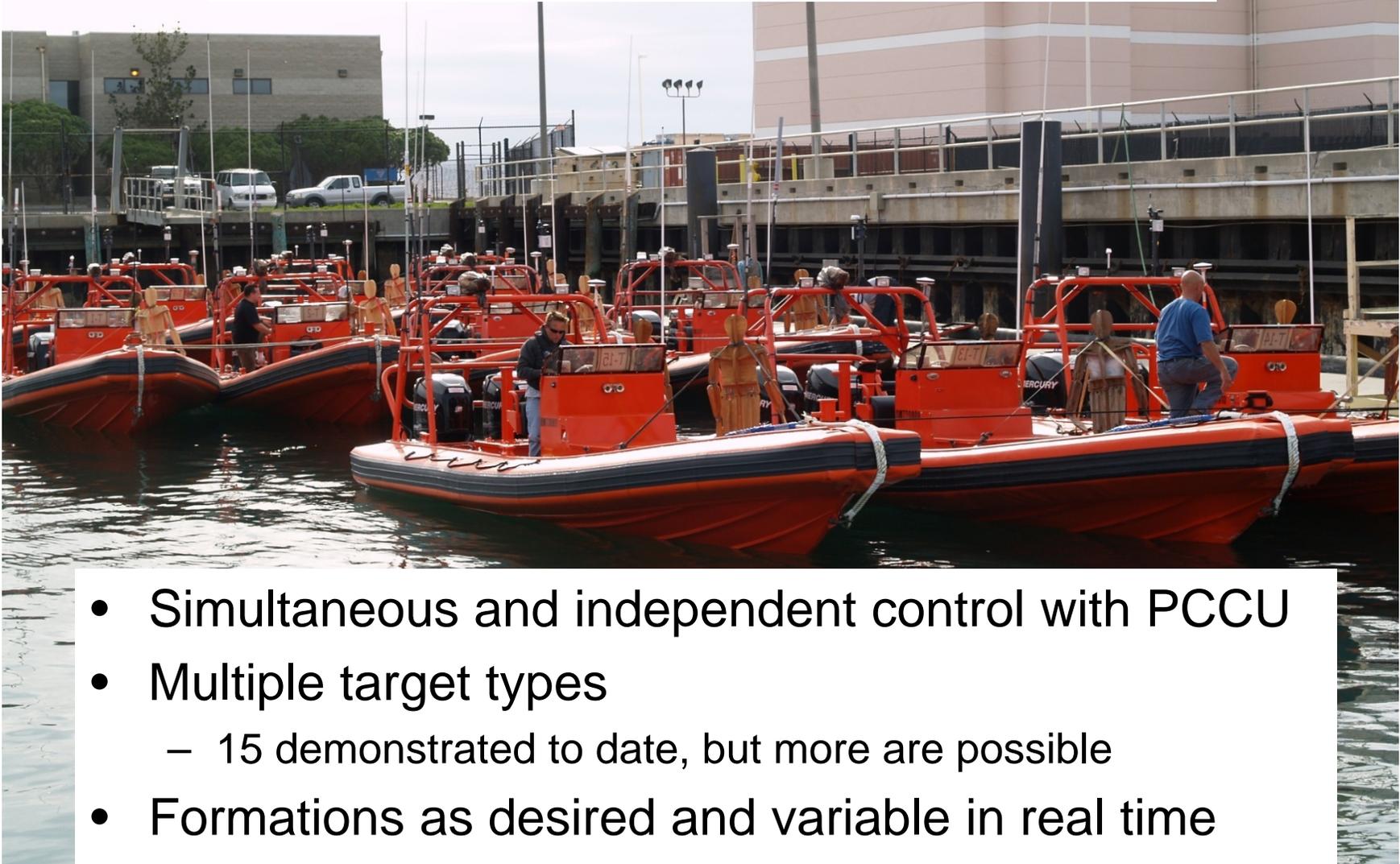


Control Systems

- Seaborne Controller Area Network (SeaCAN)
 - A singular solution
 - Common architecture and hardware for **ALL** Seaborne powered targets
 - Operates with **ALL** Navy command links
 - Portable Command Control Unit (PCCU) is primary command link



Multi-Target Control



- Simultaneous and independent control with PCCU
- Multiple target types
 - 15 demonstrated to date, but more are possible
- Formations as desired and variable in real time

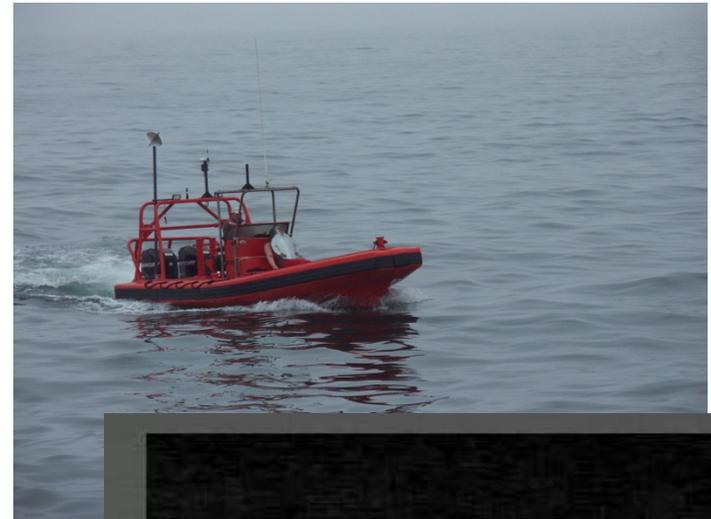
Augmentation

- Focus on realistic and repeatable IR and RF signatures
 - Developing compendium of signature data for all Program-of-Record targets
- Signature management
 - Users may assess signatures and request modifications



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.
- Commercial mannequins will be outfitted with heat sources and sensors to provide realistic human signatures and vulnerability measurements.



New Roles

- Seaborne targets as USV
 - 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

Operating Sites and Resources

U. S. Navy Seaborne Targets									
Operating Activity	Powered						Towed Targets		
	MST	QST-35	FACT	HSMST	SDST	ATLS	ISTT	LCTT	LCMT
NAWCWD, Point Mugu, CA	X	X	X	X	X	X	X	X	X
NAWCAD, Pax River, MD		X		X	X		X	X	
NAWCAD Det, Norfolk, VA		X		X	X		X	X	X
CFAO, Okinawa				X	X		X	X	X
PMRF, Kauai, HI		X		X	X		X	X	X
SCORE, San Diego, CA				X	X		X	X	X
MCAS, Cherry Point, NC		X		X				X	
ATGL, Norfolk. VA					X			X	
ATGM, Mayport, FL					X			X	



Summary

- US Navy has a robust inventory of threat-representative targets including Fast Attack Craft simulators available at many locations worldwide.
- These targets are deployable.



Questions?

NAV  AIR


THREAT/TARGET SYSTEMS DEPARTMENT

