



Littoral ASW Future Naval Capability

**Presentation to
Capturing Uncertainty DRI Kick-Off Meeting**

Nancy Harned

ONR 321W

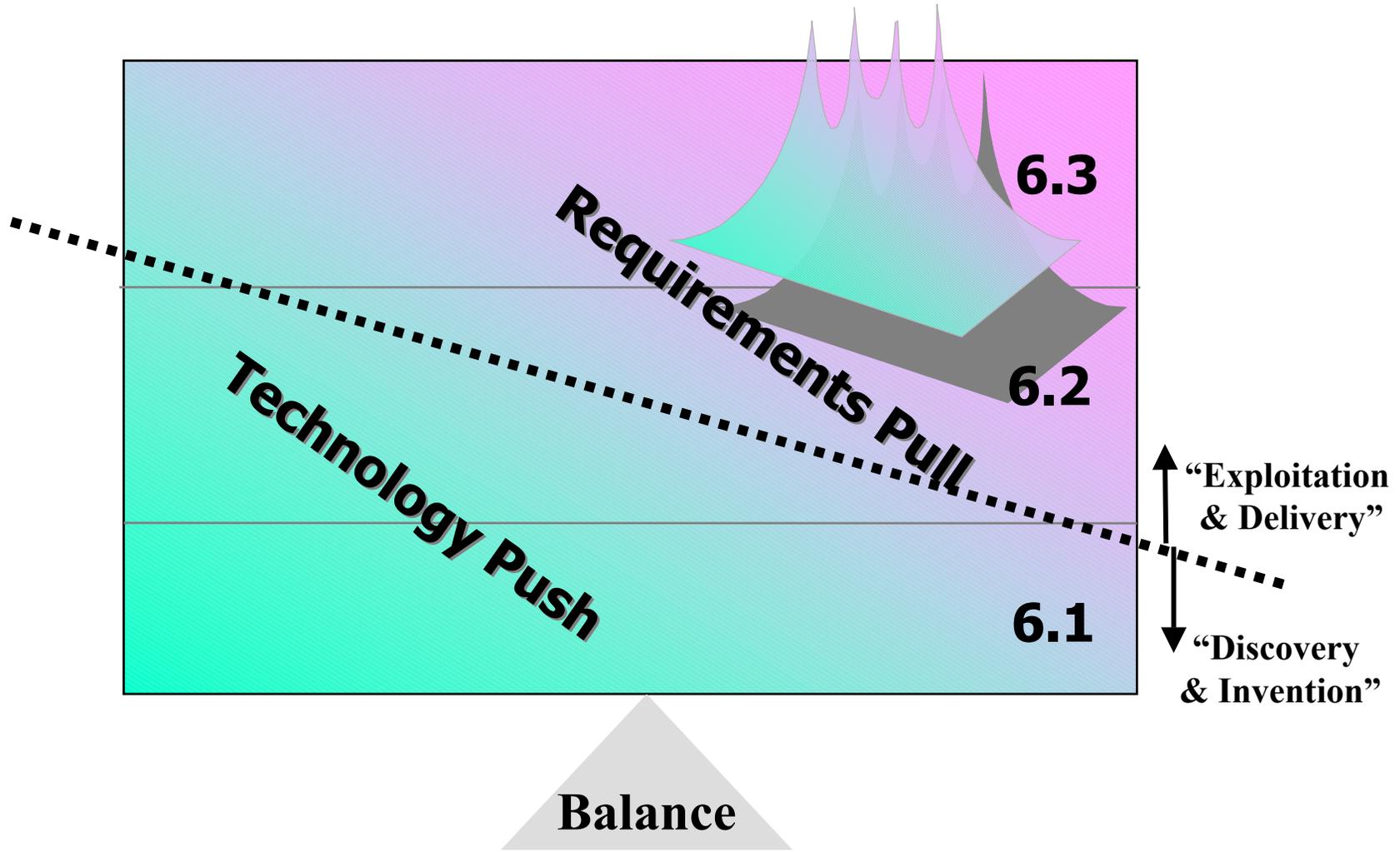
(703) 696-4758

harnedn@onr.navy.mil

27 June 2001



S&T Program Balance

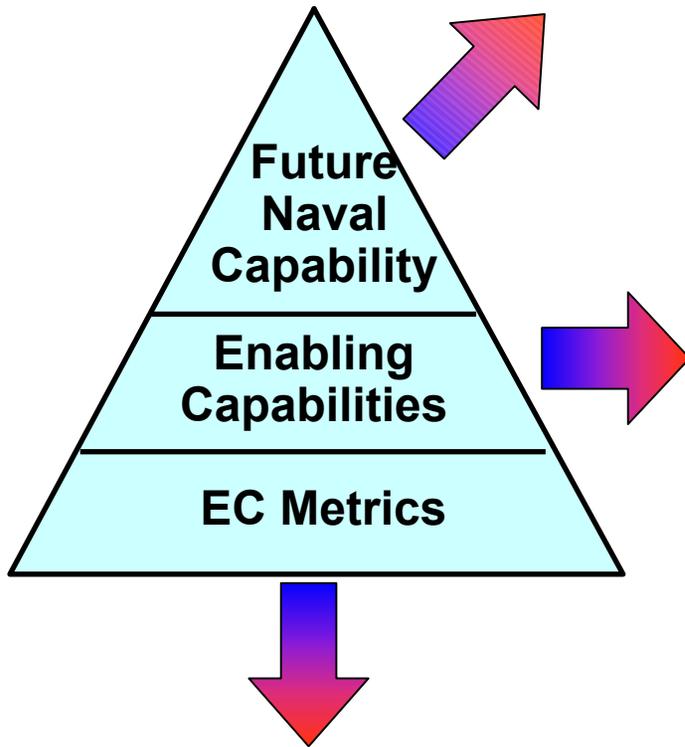




Approved Future Naval Capabilities (June 1999)

- Littoral ASW
- Organic Mine Countermeasures
- Platform Protection
- Time-Critical Strike
- Missile Defense
- Expeditionary Logistics
- Capable Manpower
- Decision Support Systems
- Information Distribution
- Autonomous Operations
- Warfighter Protection
- Total Ownership Costs

Littoral ASW IPT



- Detect, classify, localize and track to support engagement of targets outside of threat weapons release range
- Characterize the battle-space to provide content for a Common Tactical / Environmental Picture
- Rapidly and/or covertly deploy and sustain surveillance systems for wide area search, detection and cueing
- Engage/neutralize bottomed, surfaced or low Doppler targets beyond threat weapon release range
- Proficiency technology to enhance performance
- C4 for Common tactical/environmental picture

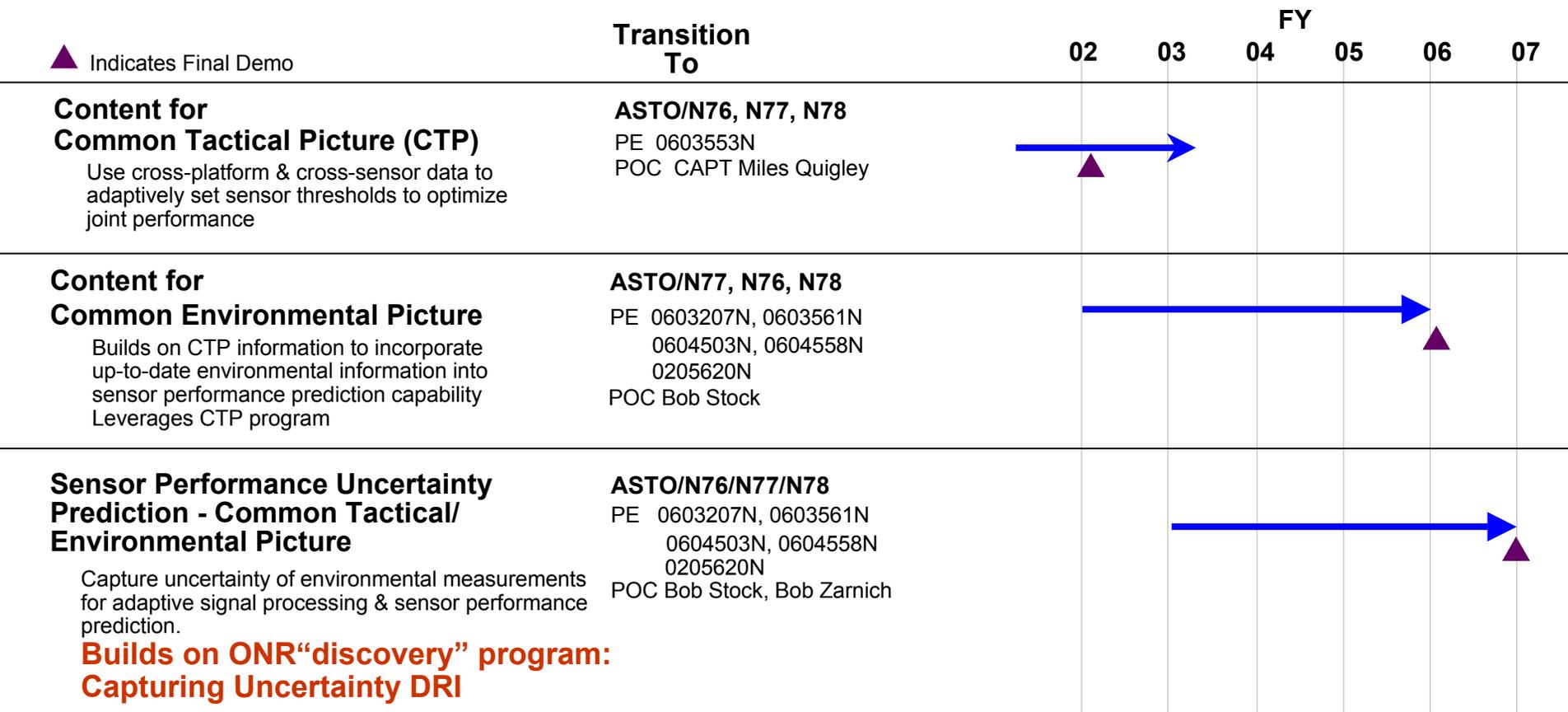
- Non-Acoustic Search Rate xx nmi² per hour
- Active Sonar xx dB Clutter/False Contact Rejection
- Passive Sonar xx dB Improvement
- Real time automated generation of a common operational/environmental picture
- Develop a family of low-cost, rapidly deployable, autonomous systems
- Improve Pk to at least xx for heavyweight & lightweight torpedoes



Characterize the Battlespace Enabling Capability #2

Littoral ASW

- Goal:**
- Leveraged “Through the Sensor” *In-Situ* Measurements
 - Improved Common Models *In-Situ* Measurements and Environmental Databases Enables Tactically Useful Planning and Performance Assessments.



Undersea Warfare - ASW Focus Area

Primary Context for D&I (“Navy-after-Next”) programs

- **Long-range D/C/L of targets will become even more difficult**
 - Passive acoustics will have limited tactical utility for initial detection
 - Active acoustics is necessary, and non-acoustics may be important
 - ASW will be more reactive in nature
 - Increased weapons capability will not answer the whole problem - must have improved D/C/L of submarine threats
- **Submarines will remain covert**
 - Requires off-board multistatics and sensors
- **Active testing at sea during peacetime will be very difficult**
 - Good modeling is important. Testing in simulated environments will have an increased emphasis.
 - Sufficient testing to verify models is required.
 - Marine mammal mitigation procedures are driving up the costs of at-sea testing

Undersea Warfare - ASW Focus Area

Primary Context for D&I (“Navy-after-Next”) programs

- Increased automation & environmental adaptability are critical. Manpower & training will be reduced in the Navy after Next, while operations in harsh environments will be required.
- Future threats will include more than submarines: mini-sub, midgets, UUVs

**LASW FNC will address technology
for near-term problems...**

current platforms & CONOPS

***D&I should push out detection ranges with new
systems concepts***