Agenda

1. US Navy / SOCOM Agreement
2. SOCOM Certification
   a. Commercial Classification vs. Military Certification
   b. System Certification Process
   c. Policy Memo for SOF to Test Submersibles
3. Industry Input
Navy – SOCOM MOA

☐ SOCOM is Responsible for defining the System’s Top Level Requirements
☐ PEO-M is Responsible for Development and Execution of a Safety Program
☐ SOCOM Vehicles Operated from Submarines (DDS):
  – PM (except for SWCS) is under SOCOM PEO-M
  – System Certification Authority (SCA) is NAVSEA 07
  – Certification is iaw a system-specific tailored Certification Program Plan
  – Technical Authority is NAVSEA 05
  – PM presents system design, construction, and test to SCA for certification
☐ SOCOM – Unique Systems Not Interfacing with Submarines → SOCOM
☐ Arbitration of Disputes
  – Flag Oversight Panel (COMSPECWAR, SOCOM Acq. Exec., PEO SUBS, SEA 05, & SEA 07)
  – Final arbiters beyond Flag Oversight Panel are COMNAVSEA and COMSOCOM

K.M. McCoy, COMNAVSEA
E.T. Olson, COMSOCOM
System Certification Process

Certification – Verify a submersible provides acceptable levels of occupant safety throughout the specified operating range of the system when approved operating and maintenance procedures are followed.

Certification is classification with the following additions:

1. Knowing all the risks and making the decision at the correct level to proceed
2. Unrestricted operations
System Certification Process

• Starts with a specified list of acceptable materials (within the contract and SOCOM regulation)
• Specified list conforms to all known IACS rules
• Vendor classes to IACS and delivers to government (contractual requirement)
• In parallel PEO Maritime staff review a list of critical systems and oversee critical tests as well as review all objective quality evidence
System Certification Process

The right combination of rules which will provide a common baseline for all class society rules and a mix of best practice information from:

- ASME PVHO-1 and PVHO-2
- Class society’s Submersible Rules
- Codes of Practice
- Lesson’s learned
- US Coast Guard Publication NVIC 5-93
- A mix of appropriate MILSTD and ASTM
- Joint Fleet Maintenance Manual
System Certification Process

- Perform Hazard Analysis (HA) and Failure Mode Effects Analysis (FMEA) at multiple points through development
- Supply leadership with the probability and severity of the risk of failure as well as what happens

Let leadership Decide to Accept Risk or not at Appropriate Level
Hazard Definition

Existing condition or possible (under current conditions) situation that has the potential to generate a catastrophe

1. Design out during production
2. Mitigate residual hazards
3. Accept residual post mitigated risk
### Severity Probability Table

<table>
<thead>
<tr>
<th>SEVERITY</th>
<th>Catastrophic</th>
<th>Critical</th>
<th>Marginal</th>
<th>Negligible</th>
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<tbody>
<tr>
<td>Probability</td>
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<tr>
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<td></td>
<td>Improbable</td>
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<td>17</td>
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</tbody>
</table>

**Cannot Reduce Severity...Only Probability!**

### Mishap Risk Assessment Table

<table>
<thead>
<tr>
<th>Mishap Risk Assessment Value</th>
<th>Mishap Risk Category</th>
<th>Mishap Risk Acceptance Level</th>
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</thead>
<tbody>
<tr>
<td>1 – 5</td>
<td>High</td>
<td>Component Acquisition Executive</td>
</tr>
<tr>
<td>6 – 9</td>
<td>Serious</td>
<td>Program Executive Officer</td>
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<tr>
<td>10 – 17</td>
<td>Medium</td>
<td>Program Manager</td>
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<tr>
<td>18 – 20</td>
<td>Low</td>
<td>As directed</td>
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</table>
SOCOM Certification

- Requires a formal brief to certification authority (PEO Maritime) by all parties (PM, CHENG, WARCOM and builder) and accept risk at correct level.
Policy to Evaluate Submersibles

- No ability previously existed in any service or SOF
- Memo allows PEO M to perform a HA and set limits for SOF personnel to evaluate an existing (classed) submersible.
Industry Input

• We intend to send regulation out to those contractors who were selected in DCS BAA. (Gain builder insight)

• If you already have an IACS classed submersible (diver lock out) ...notify SOCOM through TILO
Questions?