

Special Operations Forces



Industry Conference

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System Certification

The background is a collage of maritime-related images. On the left, a diver in a green wetsuit and mask is working on a large, metallic, spherical object underwater. In the center, a large globe is visible. On the right, a black inflatable boat with several crew members and a mounted machine gun is on the water. The overall scene is set against a backdrop of a globe with a grid overlay.

MARITIME SYSTEMS



Agenda

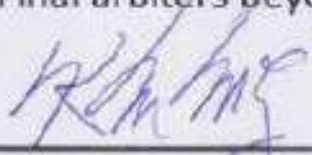
1. US Navy / SOCOM Agreement
2. SOCOM Certification
 - a. Commercial Classification vs. Military Certification
 - b. System Certification Process
 - c. Policy Memo for SOF to Test Submersibles
3. Industry Input



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 via 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


2 Nov 2011
K.M. McCoy, COMNAVSEA


2 MAR 2011
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**

MARITIME



SEVERITY	Catastrophic	Critical	Marginal	Negligible
Frequent	1	3	7	13
Probable	2	5	9	16
Occasional	4	6	11	18
Remote	8	10	14	19
Improbable	12	15	17	20

Cannot Reduce Severity...Only Probability!

Mishap Risk Assessment Value	Mishap Risk Category	Mishap Risk Acceptance Level
1 – 5	High	Component Acquisition Executive
6 – 9	Serious	Program Executive Officer
10 – 17	Medium	Program Manager
18 – 20	Low	As directed



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.



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POLICY MEMORANDUM 12-05

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Process for Providing Limited Authorization for Special Operations Forces Military or Defense Civilian Personnel to Evaluate Commercial Submersibles



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?

