SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

CAPT Keith Lehnhardt

Program Executive Office

MARITIME

MARITIME

AGENDA

- **Surface Objectives**
  - NSW Surface Craft Roadmap
  - Program Efforts and Technology Areas of Interest
- **PMS 340 Objectives**
  - SDV to SWCS
  - Program Efforts and Technology Areas of Interest
- **PMS 399 Objectives**
  - DDS Modernization
- **Undersea Objectives**
  - DCS Acquisition Program Overview
  - Technology Demonstrators
  - Program Efforts and Technology Areas of Interest
- **Open Forum Questions**

SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

CDR Tristan Rizzi

Program Manager
Surface Systems

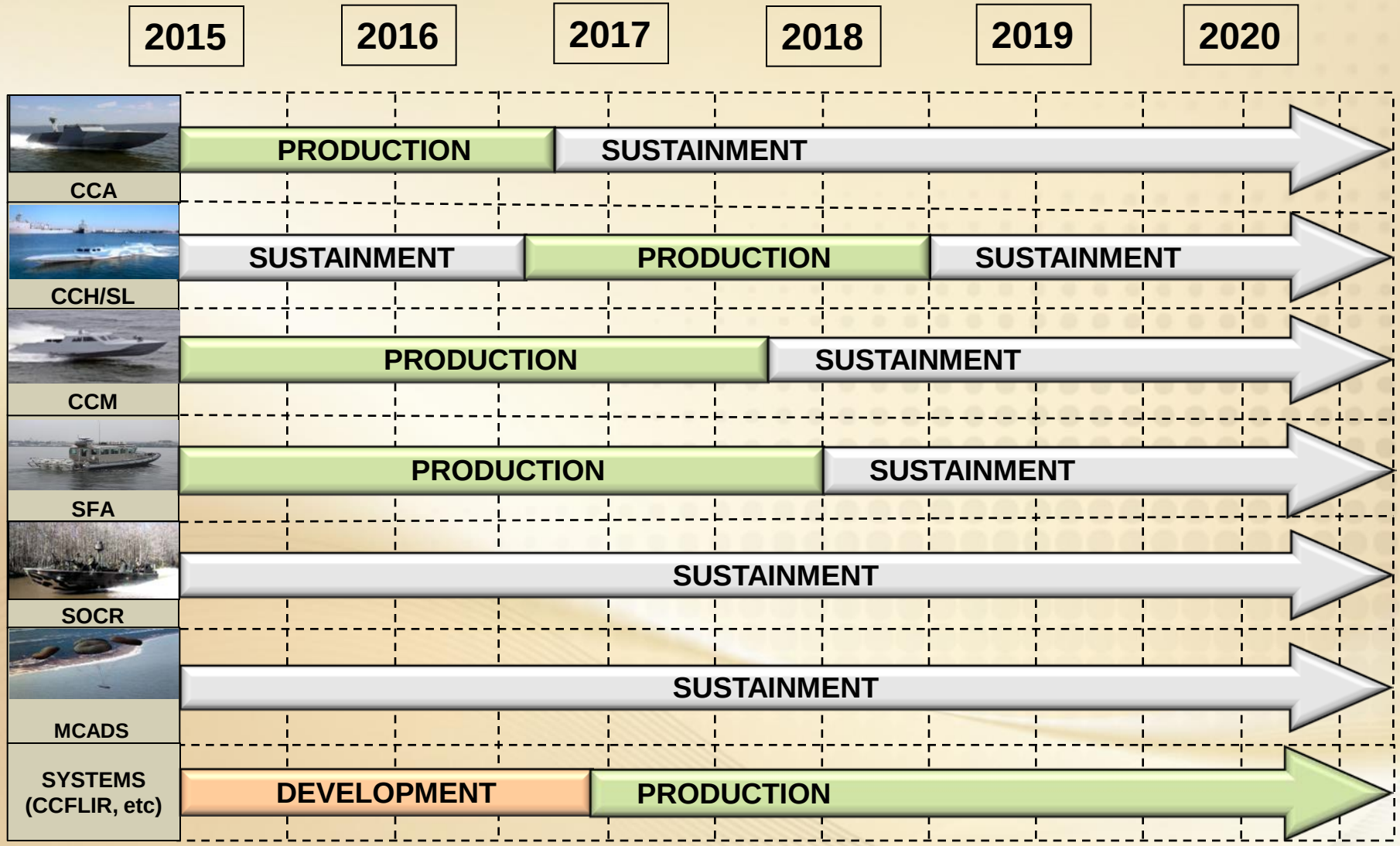
MARITIME

MARITIME

AGENDA

- ***Surface Objectives***
  - *NSW Surface Craft Roadmap*
  - *Program Efforts and Technology Areas of Interest*
- **PMS 340 Objectives**
  - SDV to SWCS
  - Program Efforts and Technology Areas of Interest
- **PMS 399 Objectives**
  - DDS Modernization
- **Undersea Objectives**
  - DCS Acquisition Program Overview
  - Technology Demonstrators
  - Program Efforts and Technology Areas of Interest
- **Open Forum Questions**

NSW SURFACE CRAFT ROADMAP



COMBATANT CRAFT ASSAULT (CCA)

- **Medium range, maritime assault, interdiction, insertion and extraction platform**
- **Provides expanded range, speed, and payload capacity over existing Naval Special Warfare Combatant craft of similar size**

ACQUISITION STRATEGY

- Post-production and contractor logistical support

PERIOD OF PERFORMANCE

- FY13 through FY19

MILESTONES

- First delivery: Dec 2013
- IOC: 1QFY15
- FOC: 1QFY17

POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO)
  (813) 826-9482

FUNDING

- PROC: FY12 through FY18
- O&M: FY13 through FY19

CURRENT CONTRACT/OEM

- US Marine Inc. (USMI), Gulfport, MS

CCH - SEALION

- **SEALION provides long range insertion capabilities for SOF personnel. Supports limited coastal patrol and interdiction.**
- **CLS Contract awarded Dec 2013-Jun 2015. Follow on CLS will be awarded though SOFSA May 2015**

ACQUISITION STRATEGY

- Two craft transferred from Navy

PERIOD OF PERFORMANCE

- CLS contract awarded Dec 2013 – Jun 2015
- Follow on CLS will be awarded through SOSFA May 2015

MILESTONES

- IOC (2): FY14
- FOC (3): FY18

POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO)

(813) 826-9482

FUNDING

- RDT&E: FY12 through FY19
- PROC: FY16 through FY17
- O&M: FY14 through FY19

CURRENT CONTRACT/OEM

- Oregon Iron Works (OIW), Clackamas, OR (OEM)
- SOFSA/Lockheed Martin (CLS)

COMBATANT CRAFT MEDIUM (CCM) MK 1

- **Multi-role surface combatant craft with the primary mission of inserting and extracting SOF in medium threat environments. CCM is a partial replacement for the Mk V SOC and NSW RIB**
- **Envisioned as an essential step in providing a modern, agile, adaptive, and operationally capable maritime craft as a force multiplier within the SOF structure**

ACQUISITION STRATEGY

- Contract awarded
- Requirement for 30 Craft; 16 resourced

PERIOD OF PERFORMANCE

- 10 year period of performance for production, engineering, and contractor logistics support

MILESTONES

- Milestone B/C: 1QFY14
- IOC: 4QFY15
- FOC: 1QFY17

POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO)
  (813) 826-9482

FUNDING

- RDT&E: FY13 through FY18
- PROC: FY13 through FY17
- O&M: FY13 through FY20

CURRENT CONTRACT/OEM

- Oregon Iron Works (OIW), Clackamas, OR

SFA FAMILY OF CRAFT

- **Commercial-off-the-shelf (COTS) combatant craft used to train with partner nations in coastal line patrol and interdiction operations.**
- **PROC via GSA; currently in life cycle replacement phase**

* Exploring replacement options ATT

ACQUISITION STRATEGY

- Commercial-Off-The-Shelf (GSA)
- Phase replacement of SFA small starting FY-15

PERIOD OF PERFORMANCE

- Contract in work for procurement of five phase replacement small craft

MILESTONES

- IOC (Small): FY11
- FOC (Small) FY12
- IOC/FOC (Large): FY13

POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO)
  (813) 826-9482

FUNDING

- PROC: FY15 through FY18

CURRENT CONTRACT/OEM

- N/A

SPECIAL OPERATIONS CRAFT RIVERINE (SOCR)

- **Short range insertion and extraction of SOF and waterborne special reconnaissance in a riverine and / or nearshore littoral environment.**

ACQUISITION STRATEGY

- Completed

PERIOD OF PERFORMANCE

- In sustainment ATT

MILESTONES

- IOC: FY 03
- FOC FY 08

POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO)
  (813) 826-9482

FUNDING

- PROC
- O&M

CURRENT CONTRACT/OEM

- SOFSA/Lockheed Martin (CLS)
- USMI

MARITIME CRAFT AERIAL DELIVERY SYSTEM – (MCADS)

- **Provides NSW RIB With A Rapid Global Deployment Capability**
- **Certified For Air Drop From C-130, C-17, And C-5**
- **Consists Of A Platform, Mechanical And Pyrotechnic Releases, Parachutes and NSW RIB MOD Kit**

ACQUISITION STRATEGY

- Completed

PERIOD OF PERFORMANCE

- In sustainment ATT

MILESTONES

- IOC: FY00
- FOC FY00

POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO)
  (813) 826-9482

FUNDING

- O&M

CURRENT CONTRACT/OEM

- Airborne Systems
- Carleton Life Support

CCFLIR LEGACY

- **Light weight, stabilized, internally cooled visual augmentation system; day color, low light, and infrared cameras with integrated laser range finder / pointer ruggedized for maritime use**

ACQUISITION STRATEGY

- **Requirement for 93**

PERIOD OF PERFORMANCE

MILESTONES

- **IOC: 4QFY05**
- **FOC: 4QFY07**

POINT OF CONTACT

- **USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO)**
  (813) 826-9482

FUNDING

- **O&M through FY20**

CURRENT CONTRACT/OEM

- **BOA Crane Indiana**
- **N/A**

COMBATANT CRAFT FORWARD LOOKING INFRARED (CCFLIR2) NEXT GENERATION

- **Increased performance, stabilized, internally cooled visual augmentation system with high definition; day color, low light, and infrared cameras with integrated laser range finder / pointer ruggedized for maritime use**

ACQUISITION STRATEGY

- Requirement for 45 systems

PERIOD OF PERFORMANCE

- 5 Year period of performance
- Follow-on 5 Year option

MILESTONES

- Milestone B: 2QFY15
- IOC: 2QFY17
- FOC: 2QFY20

POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO)
  (813) 826-9482

FUNDING

- FY15 through FY20

CURRENT CONTRACT/OEM

- TBD

NEXT GENERATION SURFACE

The Next Generation Surface Systems (NGSRF) sub-project provides a rapid response capability to support SOF combatant craft systems and subsystems. The NGSRF explores solutions to support emerging requirements in support of maritime SOF missions. Specifically it marinizes existing TRL 6+ technologies (technology refresh) to correct system deficiencies, improve asset life, and enhance mission capability.

* Exploring replacement options ATT

ACQUISITION STRATEGY	PERIOD OF PERFORMANCE	MILESTONES
• N/A	• TBD	• N/A

POINT OF CONTACT	FUNDING	CURRENT CONTRACT/OEM
• USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482	• RDT&E FY16-21	• TBD

TECHNOLOGY GAPS FOR SURFACE CRAFT

- SATCOM On The Move
- Communications (wireless, LPI/LPD)
- Improved Antenna Technology
- Enhanced Radar systems
- Common Operations Tactical Picture
- Active Ride Control
- Shock & Vibration Mitigation
- Survivability enhancement
- Remote Weapons Station Integration
- Precision Guided Munition Integration & Certification
- Advanced Weapons
- Extended Range Operations
- Improved Navigations Systems & Electronic Charts
- Enhanced Armor (lightweight)
- Threat Awareness / Warning

SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

CAPT Chuck Herbert

Program Manager – PMS 340
Naval Special Warfare

MARITIME

MARITIME

AGENDA

- **Surface Objectives**
  - NSW Surface Craft Roadmap
  - Program Efforts and Technology Areas of Interest
- ***PMS 340 Objectives***
  - *SDV to SWCS*
  - *Program Efforts and Technology Areas of Interest*
- **PMS 399 Objectives**
  - DDS Modernization
- **Undersea Objectives**
  - DCS Acquisition Program Overview
  - Technology Demonstrators
  - Program Efforts and Technology Areas of Interest
- **Open Forum Questions**

SEAL DELIVERY VEHICLE (SDV)

- **SDV is the current wet manned submersible that transports Special Operations Forces (SOF) personnel and their combat equipment in hostile waters for a variety of missions**
- **SDV Mk 8, Mod 1 vehicle is in sustainment and experiencing challenges with technology obsolescence**

ACQUISITION STRATEGY

- In Sustainment

PERIOD OF PERFORMANCE

- SDV MK8 Mod 1 service life extension program: 1992-2020

MILESTONES

- Conducting 2d obsolescence study with Naval Surface Warfare Center – Corona Division, Corona, CA in 2014

POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO)

(813) 826-9482

FUNDING

- O&M through FY20

CURRENT CONTRACT/OEM

- Naval Surface Warfare Center – Panama City Division, Panama City, FL

SHALLOW WATER COMBAT SUBMERSIBLE (SWCS)

- **SWCS is the next generation free-flooding wet combat manned submersible that transports Special Operations Forces (SOF) personnel and their combat equipment in hostile waters for a variety of missions**
- **SWCS replaces the current SDV Mk 8, Mod 1 vehicle**

ACQUISITION STRATEGY

- Full and open competition
- Contract awarded in 2011

PERIOD OF PERFORMANCE

- June 2011 – September 2019

MILESTONES

- Delivery of development model in late 2015
- Initial Operational Capability in 2017

POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO)

(813) 826-9482

FUNDING

- RDT&E: FY10 to FY16
- Procurement: FY14 to FY19

CURRENT CONTRACT/OEM

- Teledyne Brown Engineering, Huntsville, AL

SDV TO SWCS

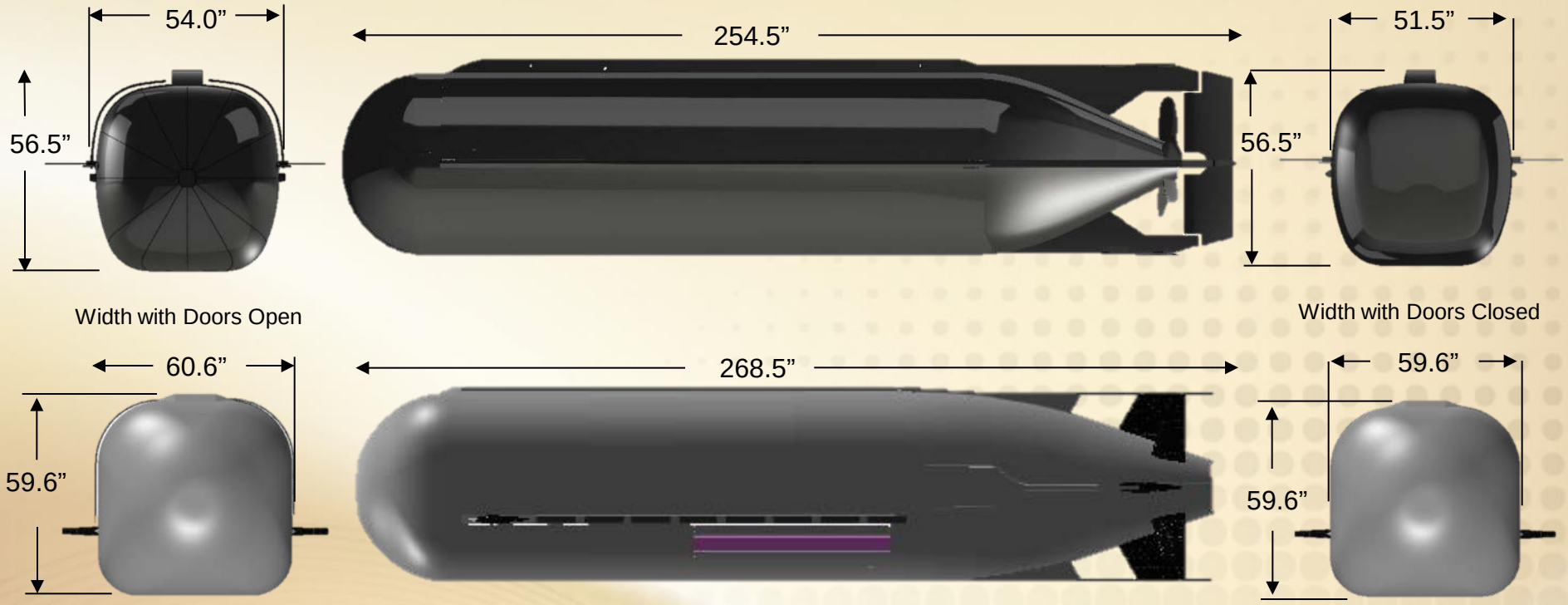
SWCS EDM Outfitted w/ Skins

SDV and Dry Dock Shelter (DDS)

SWCS Control Surfaces

SWCS Test Certification Center

SDV AND SWCS VEHICLE DESIGN COMPARISON



SDV characteristics	SWCS characteristics
Weight (Dry): 6,000 lbs.	Weight (Dry): 10,000 lbs.
Passengers and Crew: 6	Passengers and Crew: 6

TECHNOLOGY AREAS OF INTEREST

- **High energy power solution to replace existing Mk 89 silver-zinc battery cells**
- **Organic sensor capabilities**
- **Non-organic diver thermal systems**

SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

CAPT Michael Stevens

Program Manager – PMS399

Undersea SOF Mobility

MARITIME

MARITIME

AGENDA

- **Surface Objectives**
  - NSW Surface Craft Roadmap
  - Program Efforts and Technology Areas of Interest
- **PMS 340 Objectives**
  - SDV to SWCS
  - Program Efforts and Technology Areas of Interest
- ***PMS 399 Objectives***
  - *DDS Modernization*
- **Undersea Objectives**
  - DCS Acquisition Program Overview
  - Technology Demonstrators
  - Program Efforts and Technology Areas of Interest
- **Open Forum Questions**

DRY DECK SHELTER (DDS)

- **The DDS is a certified diving system that attaches to modified Host Submarines. The program provides material safety certification, maintenance, modernization (Field Changes) and minor modifications for the DDS**
- **Maintenance and modernization contract includes:**
  - Restricted Availabilities (RAVs) – Interim Maintenance and Modernization periods, conducted every 18 – 24 months
  - Regular Overhauls (ROHs) – Full Maintenance and Modernization periods, conducted Every 120 months
  - Field Change Engineering, Fabrication, Assembly, Test and Installation

ACQUISITION STRATEGY

- **DDS Maintenance Contract (open competition)**
- **Contract awarded in 2013**

PERIOD OF PERFORMANCE

- **July 2013 – July 2018**

MILESTONES

- **6 DDS retire from 2042 through 2051**

POINT OF CONTACT

- **NAVSEA PMS399**
- **Tommy Beals, 202-781-0518**

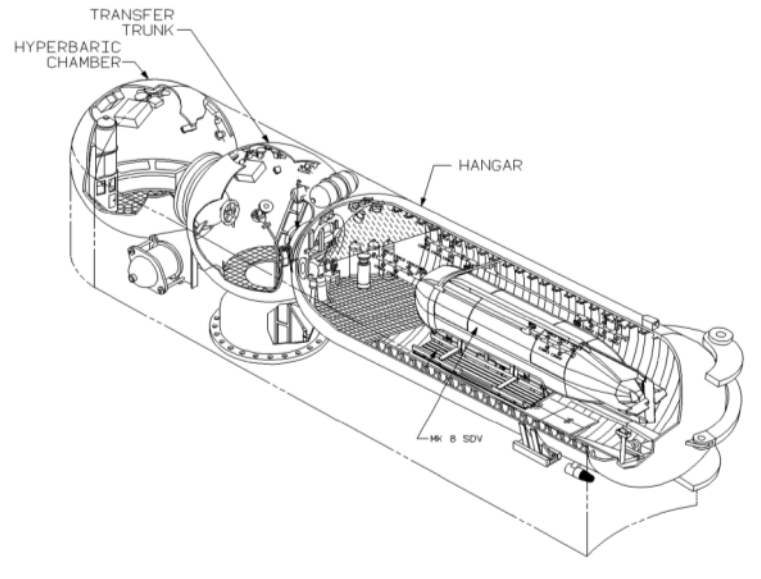
FUNDING

- **O&M, RDT&E and PROC**

CURRENT CONTRACT/OEM

- **Oceaneering International Inc. – Marine Services Division (OII-MSD)**

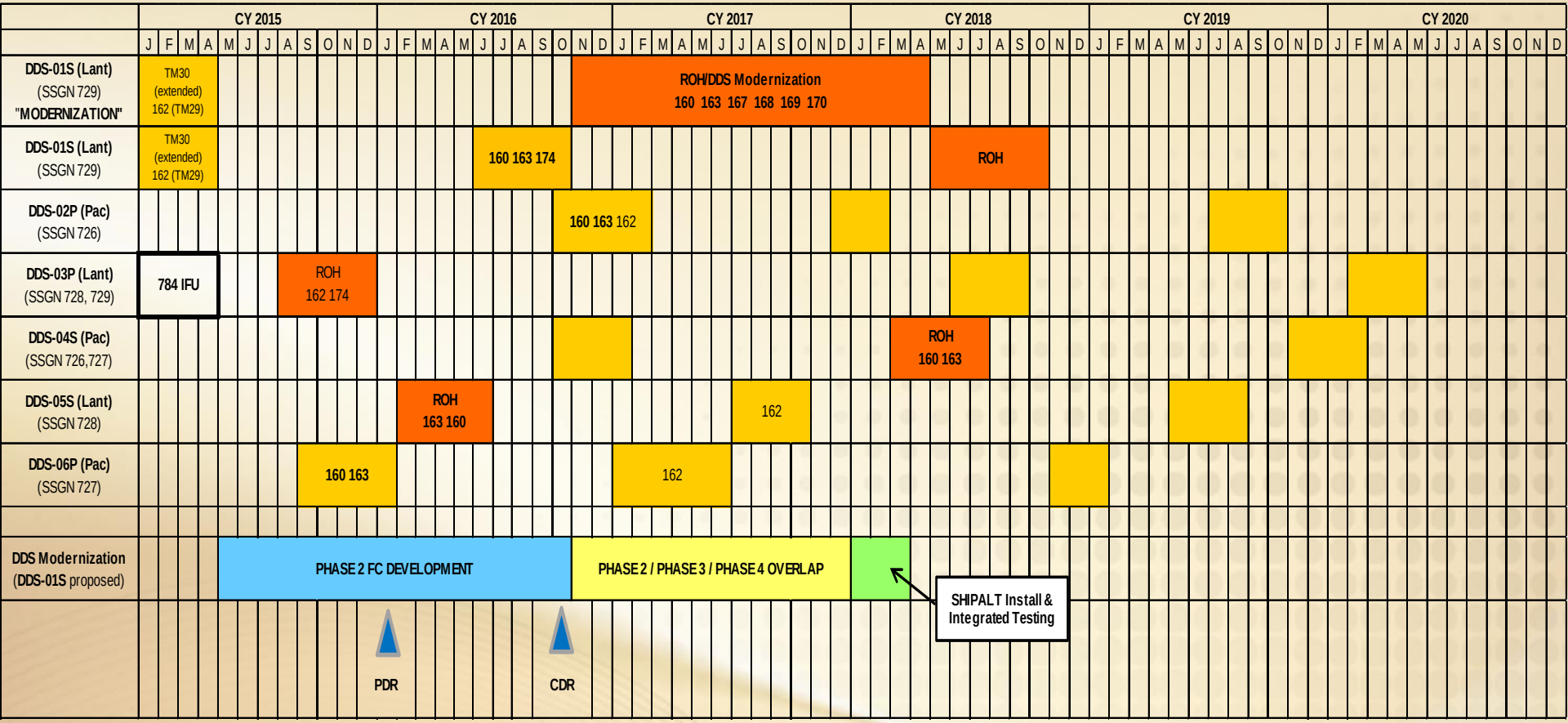
DRY DECK SHELTER (DDS)



Mock- Up

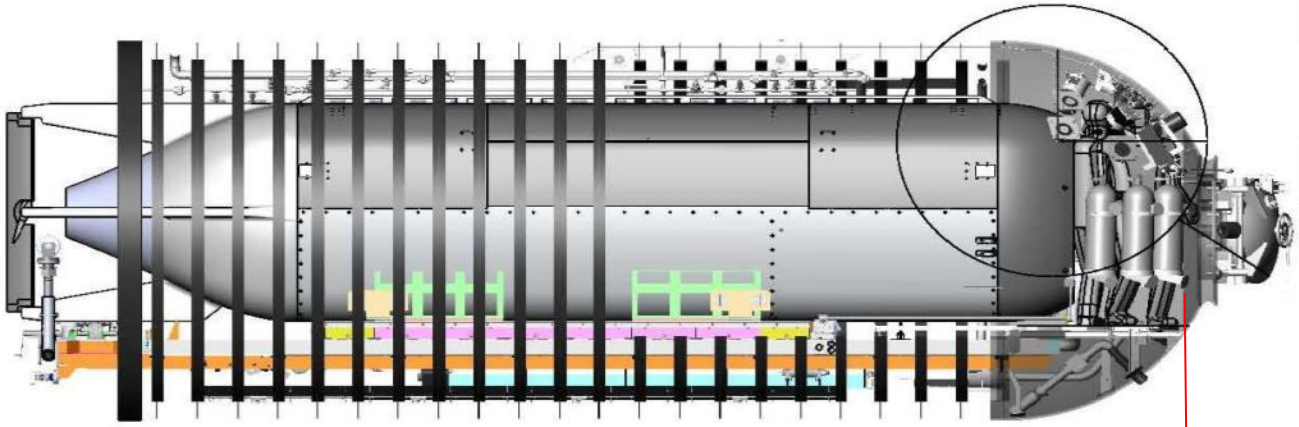
- **Supports SEAL Delivery Vehicle (SDV), Shallow Water Combat Submersible (SWCS), Combat Rubber Raiding Craft (CRRC) and equipment for rapid mass swimmer lock-out**
- **Employed by VIRGINIA Class and OHIO Class SSGN submarines**
- **Transportable by sea, air, and land**
- **6 DDS in service with Service Life ranging from 2042 through 2051**

DDS MAINTENANCE PLAN



- **ROH – Regular overhauls**
- **RAV – Restricted availability**
- **FC – Field change**
- **IFU – Initial Fit Up**

DRY DECK SHELTER FIELD CHANGE - 160

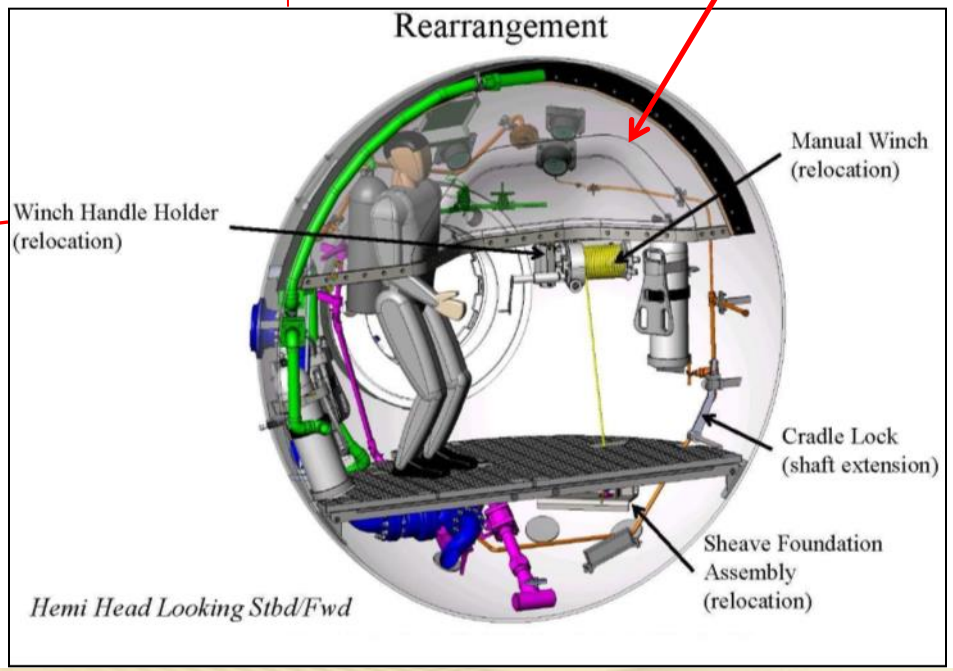


Redesigned Bubble Station Window

Increased vehicle size (SWCS vs. SDV):

- 6” increase in height
- 6” increase in width
- 12” increase in length

Hangar Interface Unit relocated to below deck grates



SSGN & SSN SOF STATUS

PACIFIC

SSGN 726 USS OHIO

	DDS	LOC	DOTS
PORT	02P		May-15
STBD	04S		

SSN 776 USS HAWAII

DDS	LOT	DOTS
04S		

SSGN 727 USS MICHIGAN

	DDS	LOC	DOTS
PORT	06P		
STBD	04S		

SSN 782 USS MISSISSIPPI

DDS	LOT	DOTS
04S		

SSN 777 USS NORTH CAROLINA

*Alternate

DDS	LOT	DOTS
01S		

DDS HOSUB ONLY

DDS -02P (Pearl City, HI)

Aug-15

DDS -04S (SSGN 727)

DDS -06P (SSGN 727)

ATLANTIC

SSGN 728 USS FLORIDA

	DDS	LOC	DOTS
PORT	03P		FY 16
STBD	05S	FY 16	

SSN 778 USS NEW HAMPSHIRE

DDS	LOT	DOTS
03P	Jul-18	Jul-18

SSGN 729 USS GEORGIA

	DDS	LOC	DOTS
PORT	03P		Sep-15
STBD	01S		Sep-15

SSN 784 USS NORTH DAKOTA

DDS	LOT	DOTS
May-15 (03P)	May-15	May-15

SSN 779 USS NEW MEXICO

*Alternate

DDS	LOT	DOTS
	Dec-15	Dec-15

LOT/DOTS ONLY

DDS -01S (SSGN 729)

DDS -03P * (Groton, CT)

May-15

DDS -05S (SSGN 728)

* FC-160

HOSUB / LOC / LOTS Certification Status

- Fully Certified
- At Sea Test Complete; Final Cert Required
- Dockside Test Complete; Await At-Sea Test
- No Fit-up To Date/Uncertified
- DDS Fit-up but Not Certified

Diver Oxygen Treatment System (DOTS) Status

- Certified
- Installed
- Partial Installation
- Not Installed

Dry Deck Shelter (DDS) Status

- Certified
- Certification Suspended

DDS MODERNIZATION PROJECT

- **Purpose:**
  - Establish a Submarine Large Ocean Interface (SLOI) capable of launching:
    - Larger Special Operation Forces (SOF) payloads currently under design
    - Large Displacement Unmanned Undersea Vehicles (LDUUV)
    - Testing and validating new concepts for automated Launch and Recovery

- **Approach:**
  - Incorporates four separate field changes and one ship alteration:
    - FC-167: Remotely Operated Hangar Outer Door
    - FC-168: Extended (50 inches) Dry Deck Shelter
    - FC-169: Remotely Operated Power Handling System (Track and Cradle)
    - FC-170: Remotely Operated Flood and Drain
    - VA Class Ship Alteration - integrate modernized DDS

ACQUISITION STRATEGY

- **Execute under DDS Maintenance Contract (open competition)**
- **Contract awarded in 2013**

PERIOD OF PERFORMANCE

- **May 2015 – April 2018**

MILESTONES

- **Preliminary Design Start 3QFY15**
- **Critical Design Review 1QFY17**
- **IOC 3QFY18**

POINT OF CONTACT

- **NAVSEA PMS399**
- **Tommy Beals, 202-781-0518**

FUNDING

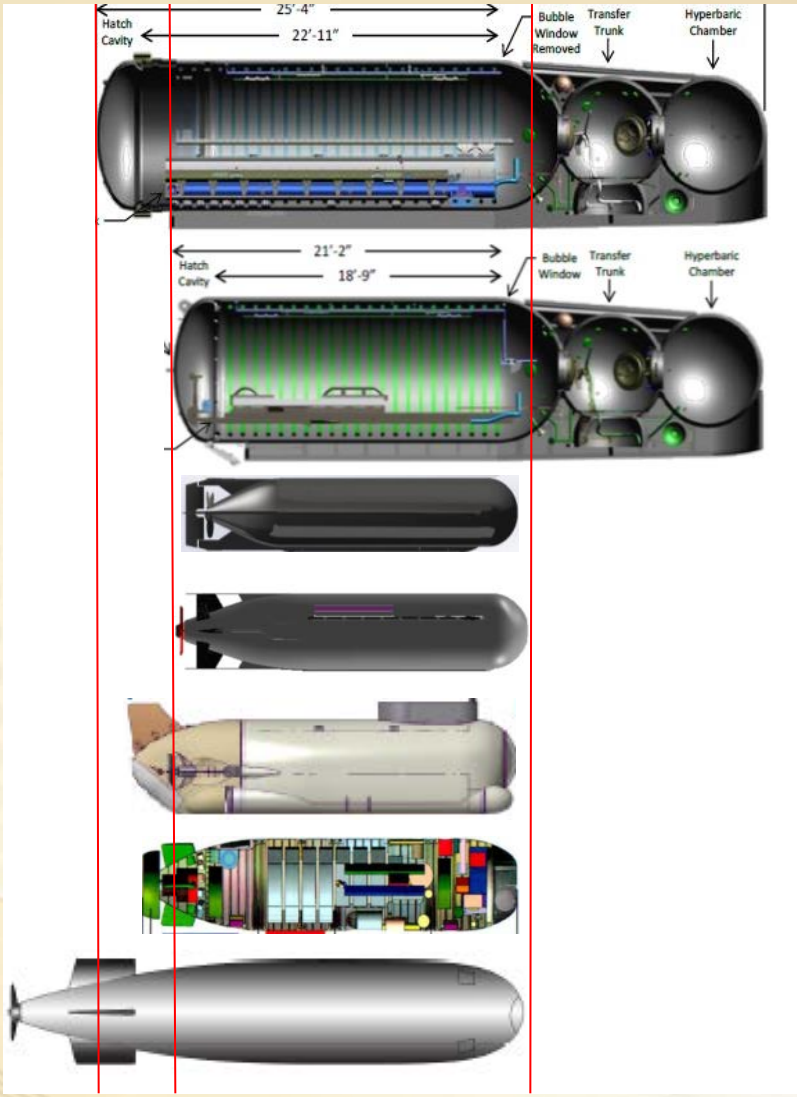
- **RDT&E (Joint Navy and USSOCOM)**

CURRENT CONTRACT/OEM

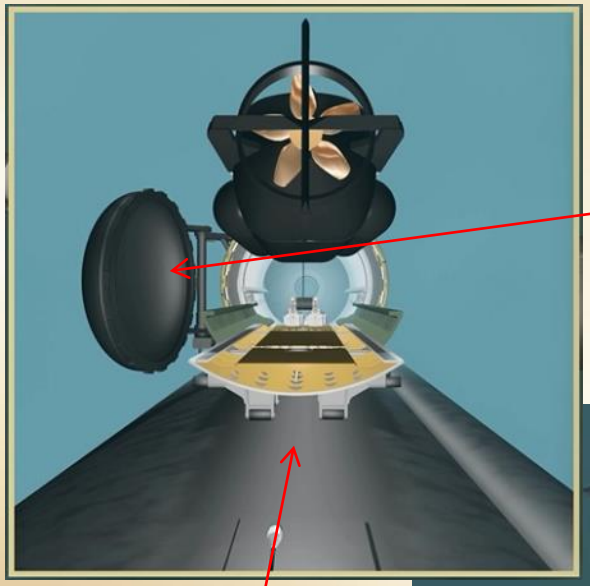
- **Oceaneering International Inc. – Marine Services Division (OII-MSD)**

CURRENT AND FUTURE DDS PAYLOADS

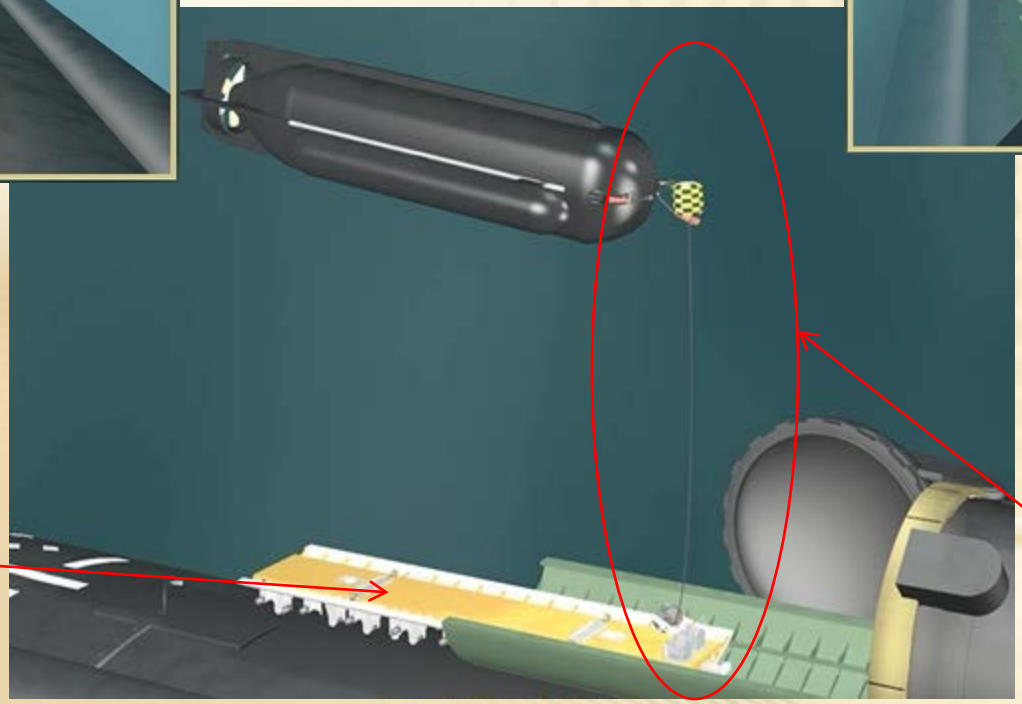
System	Length	Width	Height	Dry-lbs
DDS 50" Extension	25', 4"	77.5"	77.5"	30,000
DDS Legacy	22', 5"	65"	68"	10,000
SDV Mk 8	21', 2"	59"	57"	5,800
SWCS	22', 5"	60"	60"	10,000
S301i	23', 9"	93.7"	73.23"	30,000
LDUUV	23', 0"	60"	60"	30,000
TD	31', 8"	76"	76"	39,022



DDS MODERNIZATION TARGETS



Automated hangar outer door



Automated track & cradle

Future Goal: Automated vehicle launch and recovery

DDS MODERNIZATION PROJECT

Activity	FY14				FY15				FY16				FY17				FY18				FY19				FY20			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DDS-01S Modernization – Technology Demonstrator					Pre-CA				Phase 2 - Design				Phase 3 & 4- Production, Install, & Test															
									PDR				CDR				IOC											

- Demonstrate a Submarine Large Ocean Interface (SLOI) capable of launching and recovering larger SOF payloads currently under development
- Execute via four DDS field changes and one VA Class SHIPALT on one DDS/HOSUB
- Technical feasibility performed by NSWC Carderock with NAVSEA concurrence
- 50” Rib Stiffened Cylinder survey completed
- Contract award in early CY15

SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

CDR Kate Dolloff

Program Manager
Undersea Systems

MARITIME

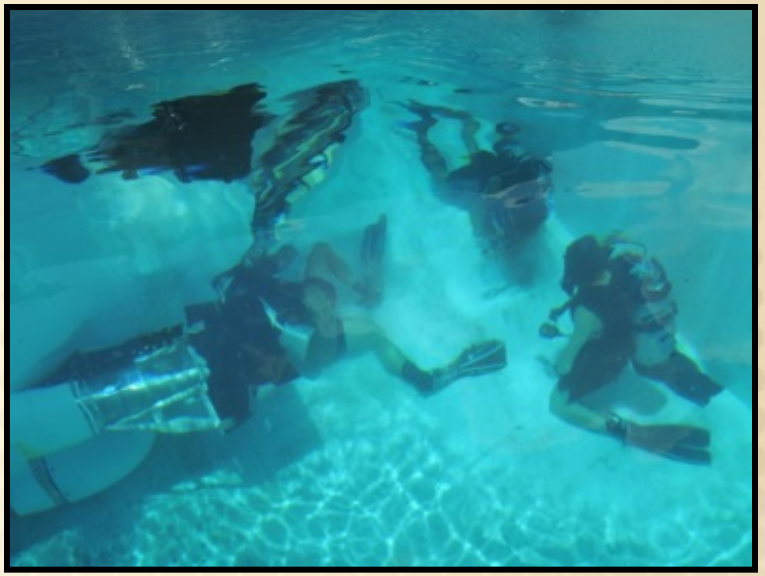
MARITIME

AGENDA

- **Surface Objectives**
  - NSW Surface Craft Roadmap
  - Program Efforts and Technology Areas of Interest
- **PMS 340 Objectives**
  - SDV to SWCS
  - Program Efforts and Technology Areas of Interest
- **PMS 399 Objectives**
  - DDS Modernization
- ***Undersea Objectives***
  - *DCS Acquisition Program Overview*
  - *Technology Demonstrators*
  - *Program Efforts and Technology Areas of Interest*
- **Open Forum Questions**

DRY COMBAT SUBMERSIBLE (DCS)

- **Program Objective**
  - To develop an affordable surface launched DCS capability that satisfies current SOF maritime mobility requirements

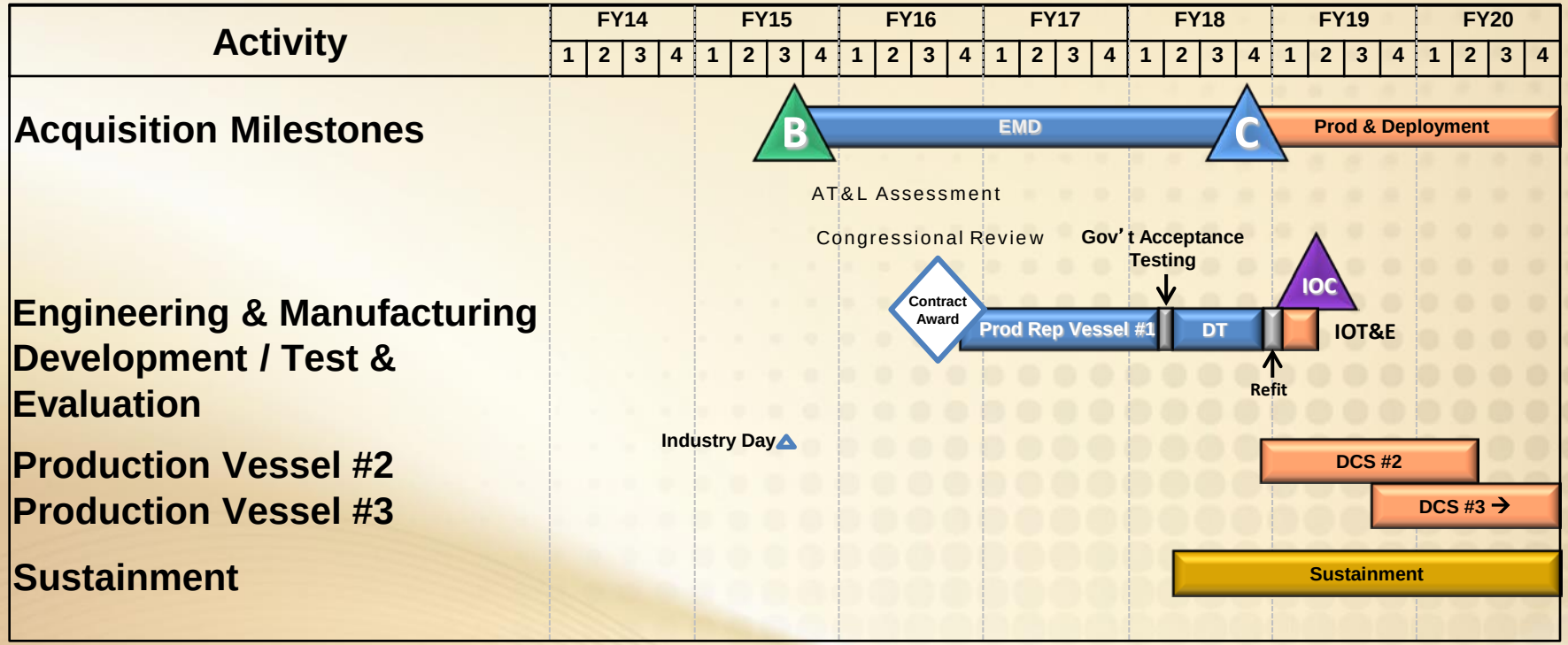


- **Technology Development Strategy**
  - Use of an affordable approach that reduces DCS technical and cost risks by leveraging rapid design, construction, and testing on multiple technology development vessels

DCS PROGRAM

- **Program of Record Acquisition Strategy**
  - Leverage lessons learned from previous technology development vessels
  - Leverage DOD better buying power 3.0 acquisition initiatives
  - Comply with mandates of the National Defense Authorization Act (NDAA) FY12 (Pub. L. No. 112-81 § 144)/NDAA FY15 (Pub. L. No. 113-291 § 151)
- **Planned Program Schedule**
  - Attain a Milestone B decision early 4 QTR FY15
  - Issue draft RFP 3rd Qtr. FY15
  - Conduct industry day 3RD Qtr. FY15
  - RFP release 4th Qtr. FY15
  - Full & Open competition procurement strategy for a production representative vessel contract award in 3rd QTR FY16
  - Initial Operational Capability in FY19/Full Operational Capability in FY21

DCS PROGRAM NOTIONAL SCHEDULE



TECHNOLOGY DEMONSTRATORS

- **Provide USSOCOM with valuable data to validate design, construction, and commercial classing methods in terms of cost, schedule and performance for a future DCS program of record**
- **Firm Fixed Price type contracts were used for the delivery of commercially classed and tested submersible systems**
  - S351
    - Awarded 11 Jun 2012 to Submergence Group LLC, Chester, CT with Major Sub-Contractor/Builder – MSUBS Ltd., Plymouth, UK
    - Safety Classification Certificate issued by Germanischer Lloyd (GL)
  - Button 5.60
    - Awarded 7 Dec 2012 to General Dynamics Electric Boat (GD-EB), Groton, Ct. with Major sub-contractor/builder – Giunio Santi Engineering (GSE), Italy
    - Safety Classification Certificate issued by Registro Italiano Navale (RINA)

S351

ACQUISITION

ACQUISITION

Crew: 2 SOF Pilots
Cargo: 8 SOF PAX

ACQUISITION STRATEGY

- USSOCOM BAA used to award system design and construction competitive contracts
- Leverage existing technology, practices and standards used by the international commercial submersible industry

PERIOD OF PERFORMANCE

- June 2012 – June 2015

MILESTONES

- Completed first untethered surface navigation as fully assembled submersible on 11 Feb 15

POINT OF CONTACT

- USSOCOM SOF AT&L, Undersea Systems Program Management Office
- 813.826.9482 (TILO)

FUNDING

- Budgeted RDT&E
- FY14 – FY16

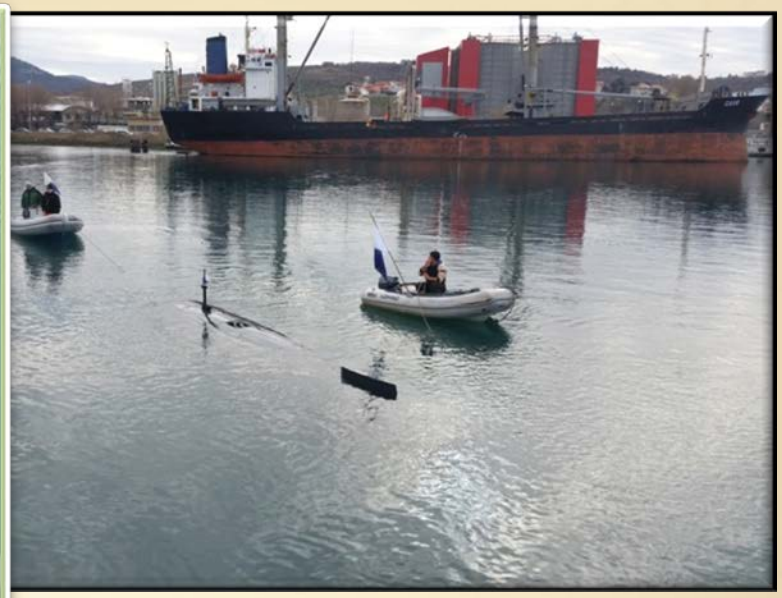
CURRENT CONTRACT/OEM

- Submergence Group, LLC (Prime) Chester, CT
- MSUBS (Builder) Plymouth, UK

BUTTON 5.60

ACQUISITION

ACQUISITION



Crew: 2 SOF Pilots
Cargo: 4 SOF PAX

ACQUISITION STRATEGY

- USSOCOM BAA used to award system design and construction competitive contracts
- Leverage existing technology, practices and standards used by the international commercial submersible industry

PERIOD OF PERFORMANCE

- Dec 2012 – May 2015

MILESTONES

- RINA Interim Classing 2nd Qtr FY15
- At Sea Acceptance Testing 2nd Qtr FY15
- Prototype Delivery 3rd Qtr FY15
- Developmental Testing 1st Qtr FY16

POINT OF CONTACT

- USSOCOM SOF AT&L, Undersea Systems Program Management Office
- 813.826.9482 (TILO)

FUNDING

- Budgeted RDT&E
- FY14 – FY16

CURRENT CONTRACT/OEM

- General Dynamics/Electric Boat (Prime) - Groton, CT
- GSE (Builder) - Zingonia, Italy

RISK REDUCTION INITIATIVE (S301i)

- **Operational diver lock-out dry commercially classed submersible leased from Lockheed Martin Corporation**
- **It enabled the Program Office to validate technology readiness, safety certification and test & evaluation processes for a future DCS capability**
- **Increases the fidelity of the DCS development process while simultaneously reducing DCS program risk**

ACQUISITION STRATEGY

- Lease enables the rapid access to a commercially classed dry submersible
- "Sunshine Clause" Within the lease contract w/LM allows USSOCOM to review the IACS classing process

PERIOD OF PERFORMANCE

- November 2013 – May 2015

MILESTONES

USG personnel completed the following with the prime contractor:

- Test procedure validations
- 30 Lock outs in the test pool and open water
- Two phases of pilot familiarization training
- Enhanced TRLs for EO/IR and battery systems

POINT OF CONTACT

- USSOCOM SOF AT&L, Undersea Systems Program Management Office
- 813.826.9482 (TILO)

FUNDING

- Congressional Plus Up RDT&E
- FY14 – FY16

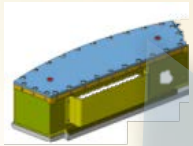
CURRENT CONTRACT/OEM

- Lockheed Martin, Riviera Beach FL (Lease Prime)
- Submergence Group LLC , Chester CT (Operator)
- MSUBS Ltd. Plymouth, UK (Builder)

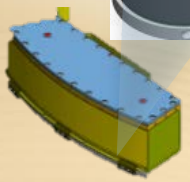
TECHNOLOGY AREAS OF INTEREST

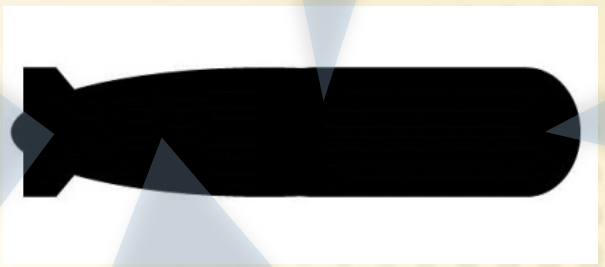
EO/IR Sensor

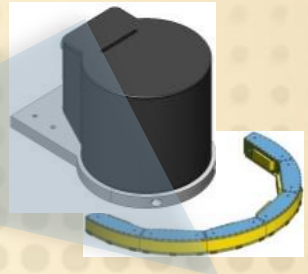
Obstacle Avoidance Sonar Forward Section

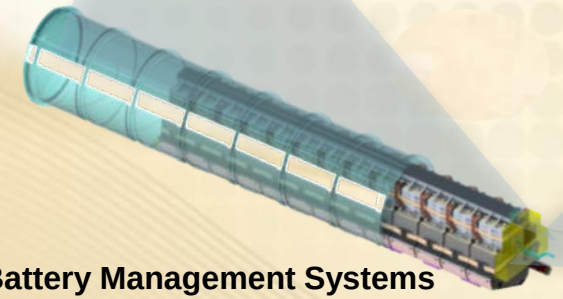


Obstacle Avoidance Sonar Aft Section

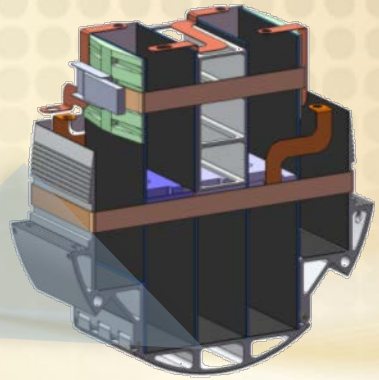








High Energy Battery Management Systems



Battery Cells Module

QUESTIONS ?


UNITED STATES
SPECIAL OPERATIONS COMMAND


SOF UNDERSEA MOBILITY
PMS 399


UNDERSEA
SYSTEMS


US SPECIAL OPERATIONS COMMAND
NAVIS EX MARE
PEO MARITIME


NAVAL SPECIAL WARFARE
PMS NSW