OCEANEERING®

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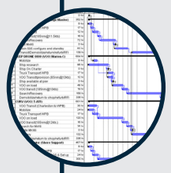
Submarine Rescue

Rapid solutions backed by hands-on, global at-sea experience

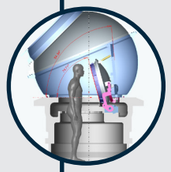
Oceaneering's team of engineers and technicians successfully integrated and tested the SRS hyperbaric complex.

Oceaneering understands the complexity of submarine rescue because of our long involvement in U.S. Navy submarine rescue initiatives. Our team of engineers, designers, operators, and divers with hyperbaric chamber experience use our technologies including remotely operated vehicles (ROVs), manned submersibles, and launch and recovery systems to ensure successful submarine rescue.

RESCUE PREPARATION



Plans and CONOPS Development for Major Subsea Systems



Rescue system interface definition
- STANAG 1297
- ATP 57

Innovative ROV fleet maintenance program

Developed portable escape training equipment

Development and training support on the portable rescue vehicle simulator

Pre-planning
- Operational planning
- Adequate training
- Regular exercises

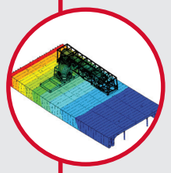
Oceaneering's extensive field operations knowledge is used to develop necessary pre-plans.

SUBSUNK EVENT

MOBILIZATION

Equipment packaging for rapid mobilization
- JATEU
- MIL-HDBK-1791
- ISO

Established VOO database



- Vessel analyses
- Ship alteration design packages to meet SRS requirements
- Deck interface design packages to support SRS installation

Designer and provider of the SRS Ship Interface Structure (SITS)

Average 100+ vessel mobs per year

Operation of international DSV fleet

Rapid mobilization saves lives.
- World-wide multi-mode transport
- VOO capability/availability/operations
- Rapid vessel installation

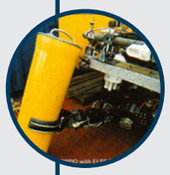
An understanding of the criticality of providing assistance in a timely manner.

INTERVENTION

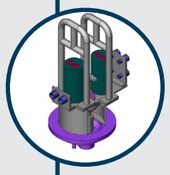
Global deep ocean search capability

Operator of world's largest ROV fleet (>300)

ADS owner/operator with more than 40 years' experience and safe operation



Complete design and analysis of ELSS pods



Developer of specialty subsea tooling to support sub rescue

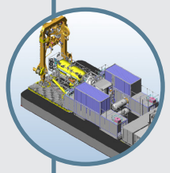
Rapid intervention to locate, stabilize, and prepare the DISSUB for rescue.
- Localization and survey
- DISSUB stabilization
- Debris clearance

Providing world-class subsea intervention and tooling services.

ESCAPE / RESCUE

SEIE suit ship alteration installation

RESCUEX participant (Black Carillon, Sorbet Royal, Bold Monarch)



USN's primary Submarine Rescue Systems engineering and integration agent

Design and supply of the USN's SRS LARS load spreading bases

Designed the current USN SRS air transport plans, air transport pallet loading configurations, and ground shipping plans

Rescue of the DISSUB crew.
- Escape support systems
- Rescue vehicle deployment and operation
- Critical interface definition
- End-to-end operation approach

Oceaneering has been involved in the escape and rescue of DISSUB crews for over 20 years.

TRANSFER UNDER PRESSURE

Developer of deck reception chambers

Designed and built both fly-away gas rack assemblies for the USN SRS

Developer of Hyperbaric TUP Systems for USN and commercial customers

Designed the USN's SRS Pressurized Flexible Manways (PFMs) to meet portable TUP requirements

World-wide diving support including chamber operators/ medtechs

Member of the Accelerated Decompression Tables Working Group

Transfer under pressure solutions provide decompression of the DISSUB crew using advanced dive tables.
- Hyperbaric chambers
- Life support systems
- Decompression treatment techniques

Oceaneering's experience spans the range of hyperbaric technologies.

DEMOB

Test

Repair

Replace

Refurbish

Maintain

Oceaneering provides continuing ILS management for the USN's SRS.

01.10.2019

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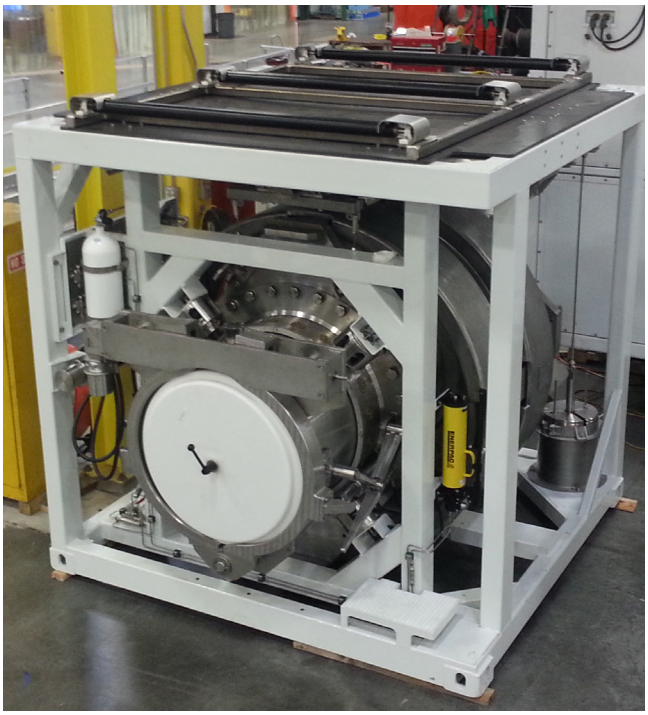
Our experience designing, building, operating, and maintaining commercial subsea vehicles and diving systems was a critical consideration for the U.S. Navy when they selected Oceaneering to develop their Submarine Rescue System (SRS) in 1992. As the U.S. Navy's Submarine Rescue Diving and Recompression System (SRDRS) requirements evolved, Oceaneering responded by transitioning from a fly-away saturation diving rescue system to a remotely-operated rescue vehicle and deck decompression chambers integrated with innovative transfer under pressure (TUP) technologies.



Oceaneering engineers led the design and fabrication of the innovative flexible manway that allows TUP between the rescue vehicle and decompression complex.

Understanding Submarine Rescue

Oceaneering's experience and support of U.S. Navy programs resulted in our team's unparalleled understanding of the full spectrum of submarine rescue requirements.
This includes:

- Vessel of opportunity operations, analyses, and selection criteria
- SRS mobilization improvements, system integration and verification testing, and ongoing Integrated Logistics Support (ILS) management
- Search, tracking, and navigation/positioning systems
- Vessel mooring and dynamic positioning systems
- Intervention solutions including ROVs and Atmospheric Diving System (ADS)
- Participation in operational exercises

Experience

- U.S. Navy Submarine Rescue System – TUP Systems Engineer and Integrator
- Surface ship modifications to support submarine rescue
- U. S. Navy SEIE Suit Ship Alteration Installation Contractor
- World-wide Search and ROV Network
- U.S. Navy SUBSAFE Certification (One of only three U.S. companies)

Oceaneering's experience in Submarine Rescue provides rapid solutions backed by hands-on, global at-sea experience.

- For more information visit us at **oceaneering.com/OTECH**