Submarine

Survivability

Escape

Rescue

Sea-Air-Space Exposition 2019
CAPT Robert Wolf, USN
Submarine Escape and Rescue (PMS391)

Survivability

Escape

Rescue

Global
CHILEMAR Rescue Exercise
ARA SAN JUAN INCIDENT
ARA SAN JUAN Overview

- **17 Nov 2017**: US informed ARA SAN JUAN missing (SUBMISS)
  - ARA SAN JUAN last known position was on 15 Nov 2017
  - Reported issues with battery compartment flooding and fire
  - Initial search support mobilized (P-3’s, P-8’s)
- **17 Nov – 01 Dec (Search and Rescue)**
  - Deployed Miramar to Comodoro Rivadavia
    - SRDRS + SRCFS + ROV + SILOS + UUVs
    - (5) x C-17 + (3) x C-5 (365T of equipment)
    - 1st aircraft arrived NTM+43 hrs
    - Final aircraft arrived NTM+120 hrs
- **01 Dec – 28 Dec (Search and Salvage)**
  - Negative results from 732 nm$^2$ focused search (100,000 nm$^2$ total area)
- **16 Nov 2018 - ARA SAN JUAN located**

Search Area ~ 300 NM off Argentine Coast
Mobilization

Challenging environmental conditions

Limited VOO Availability

“Apollo-13” like problem solving

DISTRIBUTION STATEMENT A. Approved for public release. Distribution is unlimited.
ARA SAN JUAN Lessons Learned

• Logistics of Submarine Rescue are Hard
• Need to improve Airlift process
• Address regional gaps in MOSHIP availability
• Improvements needed in DISSUB Search (UUVs?)
  – Depth, Mobilization, Search Processing
• Improvements in DISSUB Capabilities
  – Alertment (Covert/Autonomous)
  – Communications (Under Water Telephone, Pinger, etc.)
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EXERCISE GRAY LADY
DEPLOYEX / LOADEX

• SAN JUAN lessons learned validated by generation/submission/validation of load plans and airlift requests
  – Airlift unsupported due to TRANSCOM priorities
  – MILAIR LOADEX planned for FY 2019

• Anacortes, WA validated as an additional PACNORWEST rescue port
  – Operational planning completed for Port Angeles and Everett
  – Coordination with unionized civilian port services

• Transit from Anacortes to Ketchikan provided additional lessons
  – First extended at-sea transit with SRDRS installed
  – Transit time utilized to verify TUP procedures

• First timed mobilization of TUP configuration
  – 38 hours to complete
  – Crane capacity potential limiting factor
Extensive planning and execution coordination
  - CSP, CSS-11, CSS-1, URC, USS TEXAS, SEAFAC, NAVSEA
  - 9 PRM dives/10 personnel transported

Challenging environment
  - Wet/cold topside
  - Multiple layers and cross-currents in constrained operating area
  - Acoustic tracking systems/beacon only detected at short ranges
  - Limitations of PRM sonar resolution

USS TEXAS mating surface issues
  - DISSUB impact not properly assessed
  - Potential impact ability to successfully mate
  - Other issues discovered fleet-wide
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Transfer Under Pressure
SRS Manned Testing

• Final testing for one of the largest decompression systems in the world

• First pressurization and transfer of personnel within SDS equipment
  – Seven Dive Profiles over six days
    • Maximum PRM depth of 110fsw
    • Maximum transfer depth in to SDS of 85fsw
  – Validated equipment and procedures

• Completing paperwork to certify and deliver system by Sept 2019.
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FUTURE TECHNOLOGY OBJECTIVES
Things We Are Looking For

- Develop/implement shallow water pressurized rescue capability
- Improve ability/lengthen time for DISSUB personnel to survive while awaiting rescue
- Develop/improve mobilization technologies and processes to ensure mobilization for a DISSUB event in 96 hours or less
- Develop/improve capability to successfully rescue in heightened environmental conditions
- Improve ability to timely and successfully search and identify location of DISSUB
- Develop/improve means to accurately and quickly determine risks associated with rescue of a DISSUB
- Develop/improve and implement biomedical capabilities to maximize successful medical treatment of DISSUB survivors
Questions?