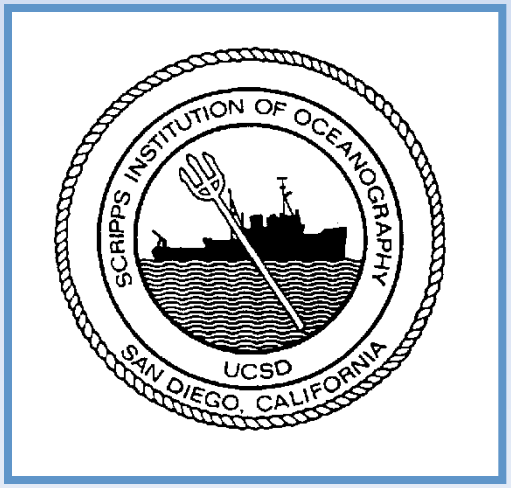
RVOC Annual Meeting
April 2013

NSF West Coast Winch Pool
operated by
Scripps Institution of Oceanography



Winch Pool Mission

- Shared-use facility procures, maintains, upgrades, and provides variety of science requested portable oceanographic winches for broad range of research vessels
- Support scientific needs of users and comply with strict safety standards (CFRs & RVSS Appendix A & B)
- Skilled technical staff for maintenance & answers
- Strive for continuous improvement

Pool Assets (NSF-owned)

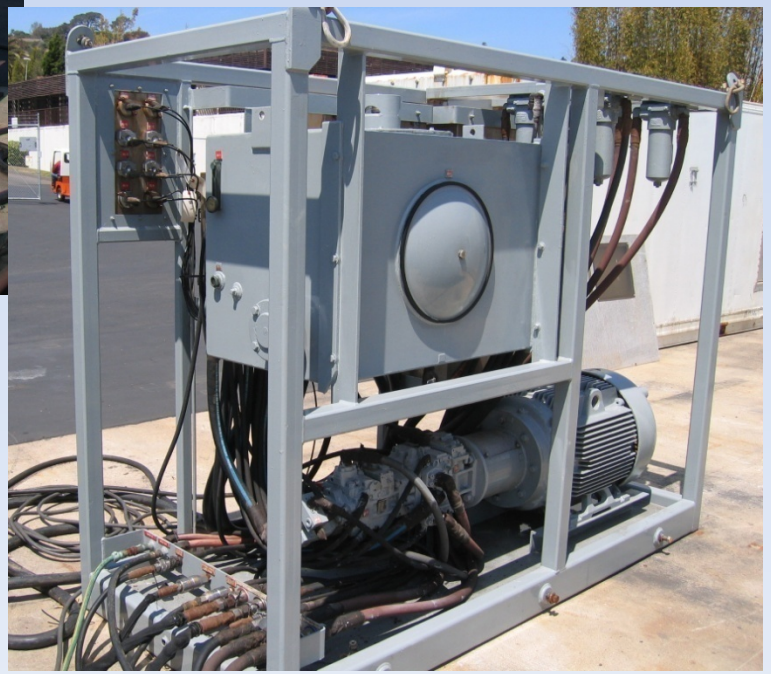
- 1 Dynacon Deep Sea Traction Winch
- 1 Dynacon CTD Winch
- 3* TSE Mooring Spoolers
- 3 sets F/O slip rings

SIO Assets

- Line spoolers & tensioners (1960's vintage)
- Cranes & forklifts

* 1 TSE Mooring Spooler is SIO-owned, but operated as pooled asset

Pool Assets (cont.)



DTW Components

Winch very heavily subscribed in 2012; currently only two deployments in 2013.

DTW generally returns to our facility between deployments for overhaul and service.

Pool Assets (cont.)

Dynacon CTD

Acquired fm UHMC in 2010

On long-term deployment to R/V MARCUS LANGSETH

Pool Assets (cont.)

<u>3 TSE Mooring Spoolers</u>

Spoolers are heavily subscribed in 2013.
One spooler on temporary assignment to ECWP to cover needs on East Coast.

Asset Utilization in 2012

- **Dynacon CTD Winch:** long-term deployment aboard R/V LANGSETH.
- **Dynacon Traction Winch:** 5 deployments, 125 days of usage, operations from Guam to Pacific NW to Bahamas to Azores.
- **TSE Mooring Spoolers:** world-wide deployments aboard four vessels (*Melville, Revelle, New Horizon, Oceanus*)

Spooler	Days	Deployments
NSF1	66	5
NSF4	69	6
SIO	169	9
TOTAL➔	304	20

Projected Asset Utilization in 2013

(Numbers certain to increase as year progresses.)

- **Dynacon CTD Winch:** long-term deployment aboard R/V LANGSETH.

- **Dynacon Traction Winch:** 2 deployments, 59 days of usage, operations in Pacific and Atlantic. Possible third deployment in September (TBD).

- **TSE Mooring Spoolers:** world-wide deployments aboard three vessels.

Spooler	Days	Deployments	Ship
NSF1	66	8	*Oceanus*
NSF4	104	4	*Sharp, Melville*
SIO	37	3	*Revelle*
TOTAL TO DATE➔	207	15	

SIO Assets
Line Spooling & Tensioning

Note: all of this equipment is 1960's vintage; no capability for precise level winding or tensioning.

WP Elements

- Management and Quality Control
  - Pool Manager (part time, 20 %)
  - Winch/Wire Engineer (full time)
- Travel
  - WP tech attends vessels for mob/de-mob of DTW
  - Occasional travel supporting other winches

WP Elements

- Normal Equipment Maintenance & Support
  - Covered by the day rate for each winch
  - Includes tech wages, materials and supplies, cable spooling on pool assets (when spooling is done at SIO Marine Facility)
- Specialized Services
  - Engineering, consulting, MCD development, etc.
  - Base funding amount requested annually; big ticket items called-out separately

WP Elements

- Logistics (Shipping and Crane Service)
  - Expenses estimated annually and funds requested
- Specialized Maintenance, Upgrades & Repair
  - Major overhaul/repair items not part of routine maintenance; called-out separately in proposals
  - Winch mods for RVSS Appendix B compliance
  - F/O slip ring overhaul
  - Marine-grade improvements to TSE spoolers
  - Winch display control panels (MTNW LCI-90i)
- Capital Equipment Purchases

Current Work & Challenges Facing the Pool

- RVSS App A/B compliance for pooled assets and NSF-funded UNOLS operators
- Full-time Winch-Wire Engineer now on board WCWP – initially tasked with:
  - Assessment of WCWP assets and status of Appendix A/B compliance
  - Assessment of R/V NEW HORIZON with regard to Appendix A/B compliance
- Time, effort and expense required to get one intermediate R/V into App A/B compliance
- Increase collaboration between East and West Coast Winch Pools
- Community expectations of what the pool(s) should do/provide
- Scheduling/prioritizing Winch-Wire Engineer's tasks as more operators require Appendix A/B compliance services
- Lead-time and expense associated with some App B mods (i.e. level wind changes on Markey DESH 5/6 winches)

Case Study: R/V New Horizon

What it will take to get one intermediate R/V into Appendix A/B compliance?

- Duration: 1 ½ Year (@ 100% Labor Utilization)
- Labor: 1 ¼ MY
  - Administration 46%
  - Engineering 46%
  - IT 4%
  - Repair/Modification 3%
  - Other 1%

Case Study: R/V New Horizon

Administration (46%):

- New Equipment Logs (1 MW)
- Revised Training Procedures (1 MW)
- Equipment Testing Procedures (1 MM)
- Inspection Procedures (2 MW)
- Assemble MCD Component Booklets (3 MM)
- Assemble OHS Operator's Manuals (2 MM)

Case Study: R/V New Horizon

Engineering (46%):

- Data Collection (1.5 MM)
- Design (1 MM)
- Analysis (5.0 MM)

Other (8%):

- IT Services (2.5 MW)
- Purchasing (0.5 MW)
- Equipment Repair / Replacement (2 MW)

Case Study: R/V New Horizon

Major Modifications / Purchases Required:

- **1 Overboarding block (~ $10k)**
- **1 Winch Levelwind (~ $100k)**