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.)

3 TSE Mooring Spoolers

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*).

<table>
<thead>
<tr>
<th>Spooler</th>
<th>Days</th>
<th>Deployments</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSF1</td>
<td>66</td>
<td>5</td>
</tr>
<tr>
<td>NSF4</td>
<td>69</td>
<td>6</td>
</tr>
<tr>
<td>SIO</td>
<td>169</td>
<td>9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>304</strong></td>
<td><strong>20</strong></td>
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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.

<table>
<thead>
<tr>
<th>Spooler</th>
<th>Days</th>
<th>Deployments</th>
<th>Ship</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSF1</td>
<td>66</td>
<td>8</td>
<td><em>Oceanus</em></td>
</tr>
<tr>
<td>NSF4</td>
<td>104</td>
<td>4</td>
<td><em>Sharp, Melville</em></td>
</tr>
<tr>
<td>SIO</td>
<td>37</td>
<td>3</td>
<td><em>Revelle</em></td>
</tr>
</tbody>
</table>

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)