



# WFP Deployment Instructions

<b>Document Number</b>	<b>Based on</b>	<b>Version</b>	<b>Author</b>
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<b>Common Term for Platform</b>	<b>Date of Template</b>	<b>Approver of Checklist Tasks</b>	
State (Oregon or Washington) WFP	2014-03-28	Edward P. Dever	

Fill information out in checklist section, if digital.

<b>Reference Designator &amp;</b>	<b>Cruise Distinction</b>	<b>Conductor</b>
<AA##XXXX> <i>CE0905PM</i>	<i>Moored Season, WA</i>	F. Last, F2. Last2
<b>Deployment #</b>	<b>Deployment Date</b>	
<#####>	<i>Washington-dtd-10</i>	

<b>Scope &amp; Description</b>	<b>Required Tools &amp; Equipment</b>
These instructions are for the deployment of a wire following profiler mooring from an intermediate class UNOLS vessel (Oceanus)	<ul style="list-style-type: none"> <li>• Load rated quick release – MCD provided by manufacturer</li> <li>• Ship's crane – MCD provided by OSU Ship Operations and crane manufacturer</li> <li>• Ship's A-frame – MCD supplied by OSU Ship Operations</li> <li>• Heavy lift winch – MCD provided by winch manufacturer</li> <li>• Tension Member – 0.5 in Amsteel blue rope, average brea strength 34,000 lbs</li> <li>• Mooring Block – EA/OOI supplied, appropriately load rated, (MCD supplied by manufacturer)</li> <li>• Heavy load strong back release - EA/OOI supplied, appropriately load rated (proof tested to 25,000 lbs)</li> <li>• Note: All marine hardware (shackles, sling links, lifting straps, etc.) will be appropriately load rated.</li> </ul>
<b>Reference Documents</b>	
3605-40001, Endurance Washington Offshore Coastal Profiling Mooring Water Depth 542m	
<b>Safety Considerations</b>	
All operations will require safe sea states (generally less than 5-6) for operation, and will be approved and monitored by the ship's captain.	
<b>Required PPE</b>	
Hard hats, close-toed shoes, work vests, and work gloves.	

<b>Start Date:</b> <i>2014-03-28</i>	<b>Cruise Date:</b> <i>Month/Season, yyyy</i>			
<b>Step</b>	<b>Instructions</b>	<b>Initials</b>	<b>Date / Time</b>	<b>Results/Notes</b>

1	Operations briefing on bridge. Determine a starting position downwind of the anchor site based on a total deployment time of approximately 3 hours		<i>PDT</i>	
2	BUOY - Remove Magnet Insert Dummy plug in Shore AUX power Inspect end cap (all dummy plugs / cable in place) XEOS Start KILO	<i>EPL</i>	<i>0842</i>	
3	SPHERE - Start KILO and Flasher	<i>EPL</i>	<i>0843</i>	
4	MMP - Remove CTD plugs, PAR cover, BB2F Cover	<i>EPL</i>	<i>0845</i>	<i>Trouble w/ Heavy lift winch</i>
5	Make final mechanical connections and preparations on deck. Ensure that all flanges are torqued to specifications. Put surface buoy on starboard rail, connected to ship's crane via load-rated quick release. Stretch hose should be connected outboard of A-frame to syntactic sphere. Syntactic sphere should be placed under A-frame, connected to heavy lift winch with load-rated quick release. Mace anchor should be secured next to sphere under A-frame, where it is able to be picked up. Syntactic sphere should be connected to EM chain, which is connected to the wire, pre-wound onto TSE winch.	<i>LF</i>	<i>12:03 ready 12:12 Ball in water</i>	<i>used + trawl/winch buoy @ side @ (in water) 11:58</i>
6	As wire is loaded on TSE winch, mark where upper and lower bumpers will be attached, a foot at each end.			<i>NA</i>
7	Reeve 5/16" mooring wire through travelling mooring block on A-frame, make hardware connections to 3-meter EM chain below syntactic buoy. Attach McLane Moored Profiler (MMP) top bumper.	<i>LF</i>	<i>attached @ 12:45</i>	<i>wire done into block examining before 12:30 yale grip on wire</i>
8	Conduct a walk-through of the deployment operation on deck, including all personnel involved.			<i>NA early at 08:00</i>
9	Remove syringe and tubing from profiler CTD.	<i>FD/CW</i>	<i>12:30</i>	

<AA##XXXX><#####>		Start Date: yyyy-mm-dd	Cruise Date: Month/Season, yyyy	
Step	Instructions	Initials	Date / Time	Results/Notes
10	Remove protective caps and clean profiler optical instrument surfaces	ED/CW	12:30	
11	When ready, lower the lifelines at the fantail, remove securing straps on surface buoy.			
12	Deploy profiler buoy over starboard side using ship's crane and load-rated quick release. Control load using slip lines.			
13	Stretch hose should be allowed to follow buoy into the water, then syntactic sphere is lifted with heavy lift winch and A-frame, and quick released into the water. Control load with slip lines.			
14	Slowly payout 5/16" mooring wire on TSE winch through travelling block. After mooring components are well aft of ship, stop wire, attach Yale grip to wire and hold load.			
15	Lay out large service loop of wire onto deck, and attach MMP to mooring cable. Make sure profiler is attached right side up!	LF	attached 12:45	
16	Rig slip line to top of profiler from bottom of mooring block to allow a controlled descent as load is taken on TSE winch and transferred from Yale grip.	LF	12:47 rigged	
17	Use winch to pull slack out of wire, lift MMP while controlling with slip line, and remove Yale grip once load has been transferred.	LF	12:55 grip off	
18	Boom A-frame out, lower MMP gently into the water using slip line.	LF	12:57 13:00	in the water time cleared
19	Continue paying out wire	LF	13:00	
20	When mark indicating lower bumper position exits the wide-mouth block, stop off wire rope using Yale grip and attach lower MMP bumper.	LF	13:12 13:28	Yale grip on Bumper on
21	Once end of wire has been reached, and shackle has passed outboard of travelling block, stop off upper shackle using stopper chain fixed to A-frame. Bring A-frame inboard to assist.	LF	13:39	Float in H <sub>2</sub> O
22	Use TSE winch and stopper line to adjust the position of the first Backup Recovery Buoy (BRB) module and allow attachment to upper shackle. Connect lower shackle to bottom of BRB.	LF		
23	Use TSE winch and stopper line with in-line quick release, raise package, boom the a-frame out keeping the load level. Add chaff guard between wire and transom.	LF	13:46	float released
24	Lower package over the stern, and quick release BRB	LF	13:43	
25	Repeat steps 23 and 24 until in-line mooring components (BRB, acoustic release, BRB, and line pack acoustic release) are deployed.	LF	~13:50 14:15	float & line pack made up float in H <sub>2</sub> O & line pack
	Transfer load from TSE winch to heavy lift winch. May use capstan to pull load towards heavy lift winch.	LF	14:19	rigger pick wire pack
	Make hardware connections to anchor. Note anchor still secured to deck and load is secured to anchor.	LF	14:24	strongback on anchor
	Attach strongback to mooring anchor using sacrificial link, take tension on heavy lift winch. Unsecure the anchor from the deck and overboard. Control load with slip lines as mooring anchor is overboarded.	LF	14:27 14:28	released float & line pack off quick release ANCHOR IN THE WATER
26	At approximately 30 minutes from the drop site (consult with captain), raise the anchor off deck, boom a-frame out, lower anchor through water column until it is ~10m off bottom. (At 20m/min lowering rate, we need 30 minutes to pay out 542m - be sure and allow enough lowering time to drop site).	LF		

<AA##XXXX><####>		Start Date:	yyyy-mm-dd	Cruise Date:	Month/Season, yyyy
Step	Instructions	Initials	Date / Time	Results/Notes	
27	Once over drop position, send acoustic command to release anchor.	LF	1456	Touchdown	
28	Once the anchor has been released, recover strongback release.	LF	1512	strongback on board.	
29	Operation is complete.	LF	1512		
30					
		Personnel:	F. Last, F2. Last2		

14:55 PPT ~~release~~ anchor touchdown  
 Lat 46° 51.1241' N  
 Lon 124° 57.9602' W  
 release @ 1456