

**Engineering Change Request Form**

<b>Change Request No.:</b> 1303-00842	<b>Date:</b> 10/2/2012	<b>WBS:</b>
<b>Control Account Name:</b> 1.3.3.7 - Vehicle Development	<b>Configuration Manager:</b> Wickman, Diana	<b>Control Account Manager:</b> Dever, Ed
<b>SECTION TO BE COMPLETED BY PERSON REQUESTING CHANGE:</b>		
<b>Requestor:</b> Ed Dever	<b>Telephone Number:</b> (541) 737-2749	
<b>Request Name (Include document number and revision level):</b> Open ocean glider minimum salinity for ballasting waiver		
<b>Description of Change (Include all related systems):</b> This ECR requests a waiver of the specification statement and requirement noted below for the CGSN Open Ocean Glider procured from Teledyne Webb Research. The specification statements and applicable requirements are contained in DCN# 3304-00004, Open Ocean Glider Specification and the DOORS L4 glider module (L4-CG-GD).  This waiver request was initiated by verbal communications from Teledyne Webb Research regarding their ability to meet specification OPEN-002.  OPEN-002: Open ocean gliders shall be capable of operating in a water salinity range from 0 to 40 psu (practical salinity units). [L4-CG-GD-RQ-168]  This ECR is a Waiver Request submitted in accordance with the Procedure for Obtaining Waivers which resides in the Systems Engineering Process Library in Alfresco. A waiver is a specific written authorization to accept a product which departs from specified requirements, but nevertheless is considered suitable for use "as is" or after modification by an approved method. A waiver states that a requirement does not need to be satisfied in order to pass a test of the related product. Waivers are associated with particular products and do not modify the requirement(s) in question. The procurement Source Selection and Evaluation Boards (SSEB) are authorized to procure products which deviate from the approved requirements in order to achieve the best value for the program. This scope of this ECR is whether the item is acceptable and the Waiver should be granted; it does not include the SSEB process.  The specific requirement being waived for the CGSN Open Ocean Glider procured from Teledyne Webb Research is as follows: L4-CG-GD-RQ-168.		
<b>Reason for Change:</b> The precise ballasting range for the open ocean glider was not known at the time of the Critical Design Review (CDR). Based on the information on hand (CAD models), Teledyne Webb Research believed that they could meet this specification.  When the test article was produced, Teledyne Webb Research determined that the minimum salinity for which the glider could be ballasted was 4 psu rather than 0 psu. This does not affect the performance of the glider in the open ocean environment. At all of the global sites (Station Papa, Irminger Sea, Argentine Basin and Global South (55 S)), the surface salinity is substantially higher than 4 psu. Minimum surface salinities for 2 degree latitude and longitude squares centered on the OOI sites are as follows:  Station Papa: 32.58 Irminger Sea: 34.65 Argentine Basin: 34.48 Global South (55 S): 34.11  Sources for these minimum salinities are the World Ocean Atlas 2005: <a href="http://www.nodc.noaa.gov/OC5/WOA09/pr_woa09.html">http://www.nodc.noaa.gov/OC5/WOA09/pr_woa09.html</a>  The test article glider has also been flown in the Southern California Bight. The glider flew well during requirements testing as evidenced by symmetrical dive and ascent curves.		
<b>Benefit to OOI:</b> This waiver allows the procurement and fielding of open ocean gliders to proceed and allows the use of the OOI test article open ocean glider for operation in the Global array.		
<i>Requestor Assessment of Impact to Control Account:</i>		

**Scope:**  
none

**Schedule:**  
none

**Cost:**  
none

**SECTION TO BE COMPLETED BY IO/SL CCB CHAIRPERSON:**

*Assessment of Impact to IO Project:*

**Master Schedule:**  
No impact. Approving this waiver is needed to get through the Open Ocean glider PRR on schedule.

**Project Cost:**  
No impact.

**Deliverables:**  
No impact.

**Potential Impact to Science and Design / As-built Capability:** No impact, as described above.

**Percent Impact on WBS elements(s) selected:** 0%

**Percent Impact on OOI:** 0%

**Contingency \$0**

**Contingency Schedule (weeks):** 0

**Signature of CG CCB Chairperson:**  
Sheri White (swhite@whoi.edu)

**Date:**  
10/10/2012 1:30:00 PM

**Board Determination:**  
Approved

***CERTIFICATION OF TECHNICAL DATA PACKAGE AND CONTROL SYSTEM UPDATE***

**Signature of Configuration Manager:**  
Diana Wickman (dwickman@whoi.edu)

**Date:**  
2/20/2013 3:34:14 PM

**Systems and Documentation Updated:**  
Confirmed Complete

**Attach supporting technical documentation and or additional comments as needed.**

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**ECR Comments**

#	Reviewer	Date Added	General Comment	Requestor Response	CCB Decision	Lien
1	Sheri White	10/4/2012	Recommend approval.			
2	KENNETH T ANGEL	10/5/2012	No comment.			
3	Benjamin Furriel	10/5/2012	recommend approval			
4	Al Plueddemann	10/8/2012	Recommend approval.			
5	Steve Holford	10/8/2012	No comments.			
6	Steve Parks	10/9/2012	Recommend approval. Note that the AUV processed a similar request that was approved.			
7	Diana Wickman	10/9/2012	No comments.			

**Change Request No.:** 1303-00842**Request Name:** Open ocean glider minimum salinity for ballasting waiver**ECR Vote (Highest Level Board: CG)**

Title	Member Name	Delegate Name	Vote	Comment
SIO Engineer	KENNETH T ANGEL		Approve	
Field Operations Coordinator	Liz Caporelli		(Did Not Vote)	
CGSN Manufacturing	James Danielson		Approve	
Systems Engineer (PNW)	Ed Dever		Approve	
Lead Electrical/SW Engineer	Steve Holford		Approve	
Program Manager and Chief Engineer	Paul Matthias		Approve	
Integrated Product Team Lead	Steve Parks		Approve	
Integrated Product Team Lead	Rick Sisson		Approve	
Co-Principal Investigator	John Trowbridge		Approve	
Program Director/PI	Bob Weller		(Did Not Vote)	
Lead System Engineer	Sheri White		Approve	
CGSN Configuration Manager	Diana Wickman		Approve	

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<b>ECR Liens/Action Items</b>			
<b>Lien</b>	<b>Due Date</b>	<b>Complete</b>	<b>Completion Date</b>

<b>Action Item</b>	<b>Due Date</b>	<b>Complete</b>	<b>Cancel</b>	<b>Completion Date</b>
Mark the Verification Status for the L4 requirements as "Waived" in DOORS. (S. White, K. Carr)	10/29/2012	Yes	No	2/20/2013
Update "Approved Waiver-CM" attribute for affected L4 requirement (s) in DOORS with the ECR number of the approved Waiver and a description of the affected product. (D. Wickman)	10/29/2012	Yes	No	2/20/2013

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**ECR Meeting Results and Notes**

Board Level	Meeting Date	Meeting Name	Meeting Result	Meeting Notes
CG	10/10/2012	CG CCB 20121010	Approved	