

300083 - DMO Support - LRAUV

Week 28

1. Brian Kieft
 - a. Supporting Ahi/Triton/Pontus deployments

Week 25

1. Quinn Shemet
 - a. Triton on-call

Week 24

1. Brian Kieft
 - a. Lots of support for the Makai deployment. 3 other LRAUVs also out.
 - b. Need to fix a handful of things on Makai
2. Thom Maughan
 - a. BPC2 battery packs are ready to go in Galene, awaiting ASO closeout
3. Quinn Shemet
 - a. Piscivore oncall

Week 22

1. Thom Maughan
 - a. Galene's battery firmware is updated, tested, awaiting housing closure. I did not test the SMBbus over temperature with an actual battery that was over temperature - it was tested by forcing the condition with test code.

Week 21

1. Brian Kieft
 - a. Lots of operations this past week. Ahi, Daphne, Triton, Pontus

Week 19

1. Thom Maughan
 - a. Battery rebuild for Ahi and Brizo
 - b. Adding SMBus alarm flag management to BPC2. Modifying the trickle charge behavior to add user intervention to force trickle charge on. Temporary hold on closing Galene until I've got the alarm flags managed (safety).

Week 18

1. Brian Kieft
 - a. Supported Makai deployment last week/weekend. Had some issues with a broken pole that I repaired offshore and also some rudder issues due to rubbing on the fairing. The deployment was able to continue and was successful.
2. Thom Maughan
 - a. Evaluation of Ahi battery pack
 - b. Rebuild of Ahi battery pack using BPC1 / Oceanserver with help from BPC2, delivered to DMO ASO
 - c. Rebuild of Brizo battery pack using BPC1 / Oceanserver with help from BPC2, delivered to DMO ASO
 - d.

Week 17

1. Thom Maughan
 - a. Battery testing on Ahi. 25% of the batteries are not reporting due to SMBus hang on two banks of 8. 25% of the batteries that are reporting are bad. Bad being defined as not charging to at least 80% of capacity.
 - b. Various meetings to determine a plan for Ahi. Conservative plan is to use BPC1 battery packs from Galene. Charge, Discharge, connector cycle on a couple sticks. All 62 sticks are reporting and charging as expected, delivered to LRAUV lab. Ahi rebuild is planned this week.

Week 16

1. Brian Kieft
 - a. Supported CFE deployment over the weekend
 - b. Supporting Makai deployment
2. Thom Maughan
 - a. Ahi has two of the banks of 8 sticks not reporting. Ahi finished the science mission but ran out of battery on the transit home from the CFE deployment. Running battery diagnostics show 25% are bad of the sticks that are reporting.
 - b. Discussed plans with DMO and LRAUV team and then consensus is to fly Ahi next week for MBTS and then immediately afterwards swap in two BPC1 packs. Working on the BPC1 packs removed from Galene to make sure they are tested and ready for swap into Ahi.
3. Quinn Shemet
 - a. Lots of on-call for CFE lab deployment

Week 15

1. Brian Kieft

- a. CFE lab deployment. Supporting Ahi/Triton
- 2. Thom Maughan
 - a. Wiring upgrade on Galene is nearly complete. Tested the optimum camera / lights port and the drop is now 1v at 6v instead of 2v.
 - b. Battery discharge, charge cycle with no issues. It's ready for closeout in prep for tank test.
 - c. Ahi+Planktivore has 28 out of 62 sticks not reporting. It's a contender for battery upgrade after we qualify Galene with at sea testing.

Week 14

- 1. Brian Kieft
 - a. Supported Ahi deployment this week
- 2. Thom Maughan
 - a. Jim M upgraded the wires, retired. There was some confusion on what was done in the schematic, errors were found, corrected. Varsha is making sure the schematics are correct. Battery testing will resume and we plan to be in the test tank in 2 weeks.

Week 13

- 1. Brian Kieft
 - a. Supporting Triton deployment this week. On call, did checkout, deployed.
- 2. Thom Maughan
 - a. Working with Jim M on wiring modifications for Galene.

Week 12

- 1. Brian Kieft
 - a. On call for MBTS deployments this week (Ahi/Daphne)
- 2. Thom Maughan
 - a. Helping coordinate Galene wiring upgrade.
- 3. Quinn Shemet
 - a. Help with MBTS prep and deployment while ASO is shortstaffed

Week 11

- 1. Brian Kieft
 - a. Supporting LRAUV deployments this week
- 2. Thom Maughan
 - a. Battery testing is in progress, charge / discharge. No bugs or odd behavior. Calibrating capacity as measured by the electronic load vs what is reported by the sticks.
 - b. Galene is intended for high current (5 to 6amp) payloads and testing at 6amps has a 2v drop in the wiring harness. Varsha is out so I'm working

to get Galene to the EE-Techs for wiring upgrade pending finding the right schematic.

3. Quinn Shemet
 - a. Ahi deployment support

Week 7

1. Brian Kieft
 - a. On call for MBTS this week
2. Thom Maughan
 - a. Batman integration testing on Galene. Finding and fixing issues ranging from cable harness to firmware bugs.
 - b. Released v0.9.14 and started discharge test
3. Quinn Shemet
 - a. Fixed(?) Ahi Planktivore clock sync issue

Week 6

1. Thom Maughan
 - a. Gemini AI code review of batman firmware. Implemented the suggestion to use fixed point instead of floating point on Cortex-M0.
 - b. BPC2 BatMan integration test, specifically the discharge test surfaced a couple problems. LRAUV power cable modified for Galene, moving forward, we will make the change on BPC2 connector. Firmware bug affecting 'S', aka stick status command. Found and fixed. New firmware uploaded and test re-started with charge until end of day, then discharge until 'reserve' voltage behaviour is observed.

Week 5

1. Thom Maughan
 - a. BatMan BPC2 packs integrated on Galene. One of the packs had a serial noise char. Root cause due to cable cross talk and tri-state RS232 transceiver. Worked through options and decided to enable RS232 transceivers since we are not need RS232 multidrop. Recommendations are for better cables (ground twisted with rx, ground twisted with tx), lower value pull down resistor (10K) when transceivers are tristate.
 - b. Started multiday discharge test

Week 4

1. Thom Maughan
 - a. BPC2 Batteries packs are installed in Galene. There are resistors in series with the RS232 ground and we are seeing an occasional garbage character, likely a termination problem with the multidrop transceiver.