



UNOLS RVTEC MEETING

Next Up

Regional Class Research Vessel – Daryl Swensen



RCRV Update RVTEC 2022



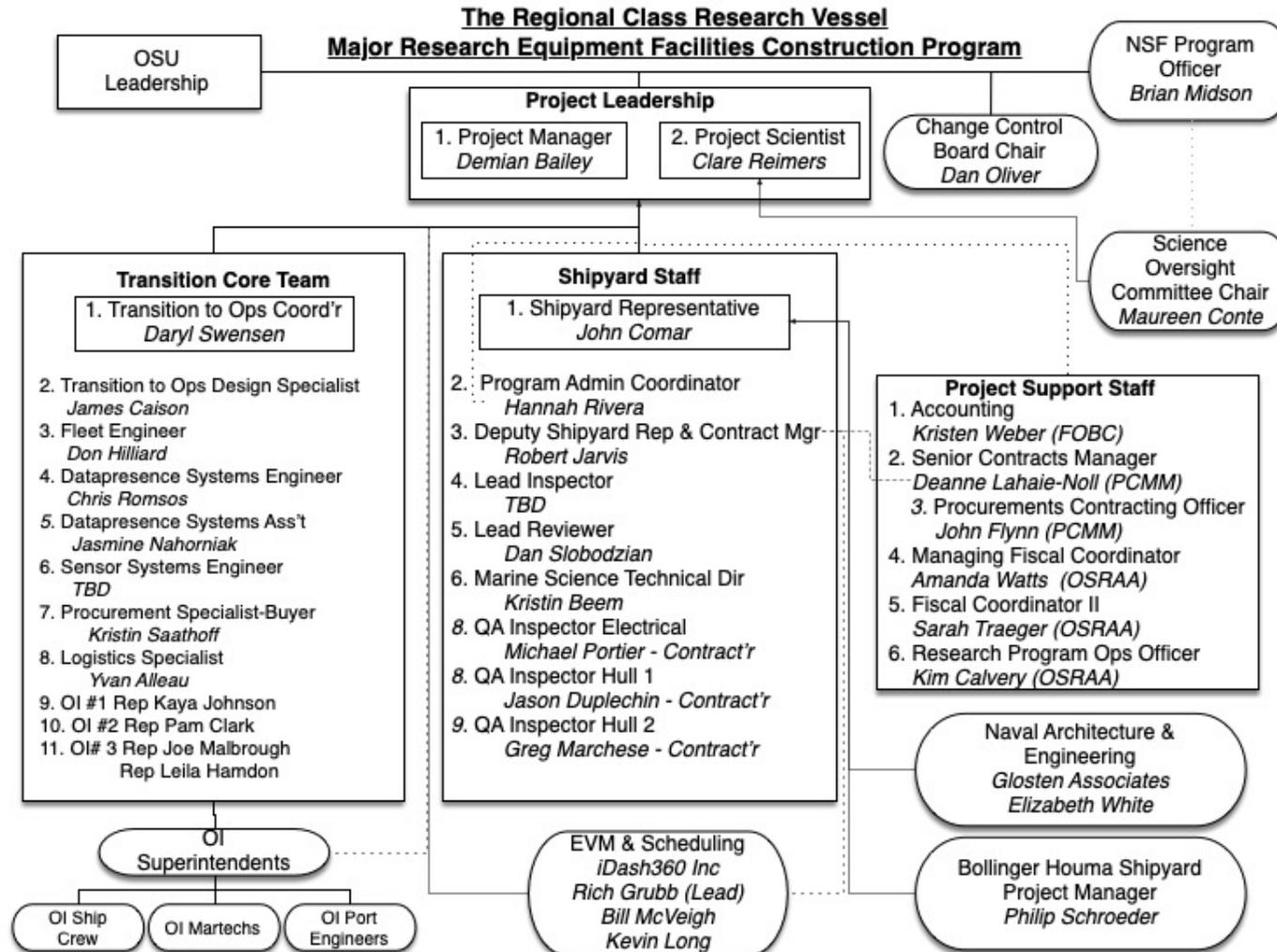
Regional Class Research Vessel Program- Oregon State University

October 3rd, 2022

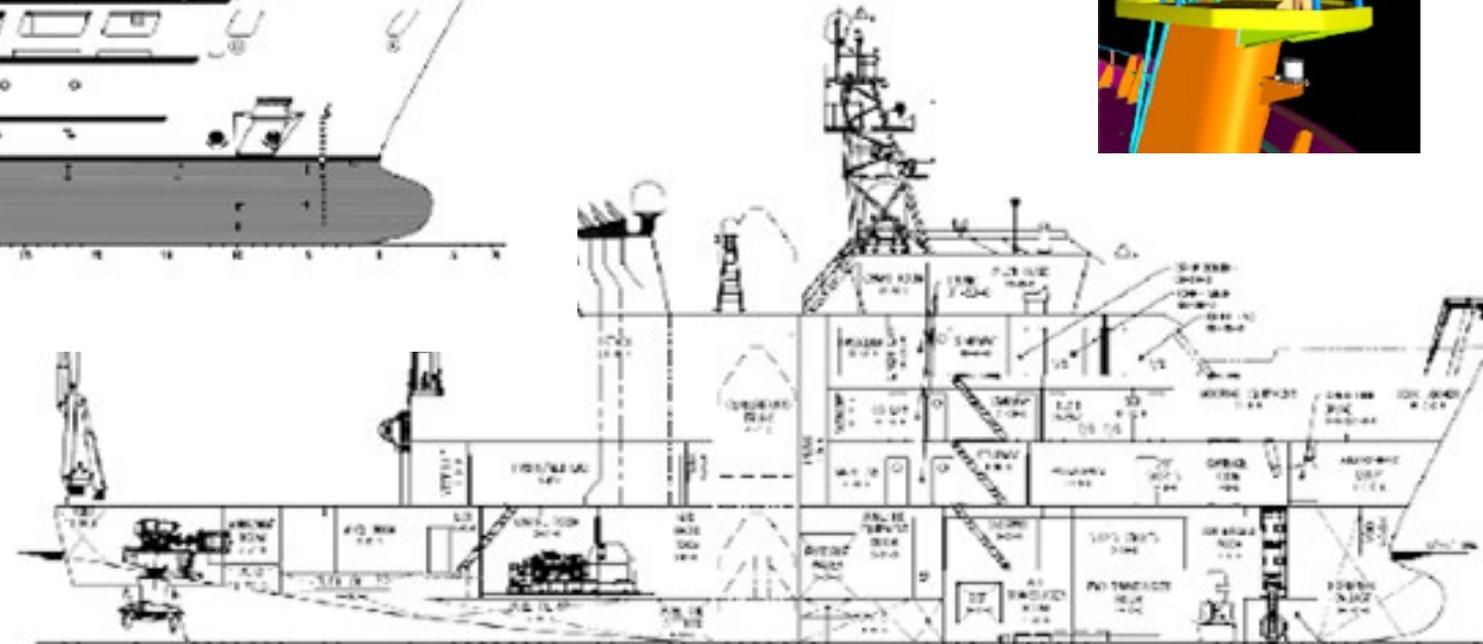
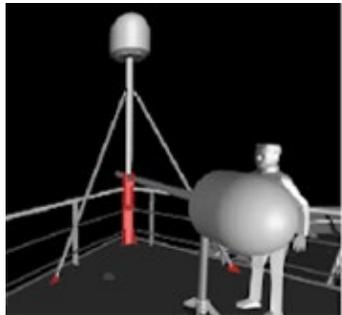
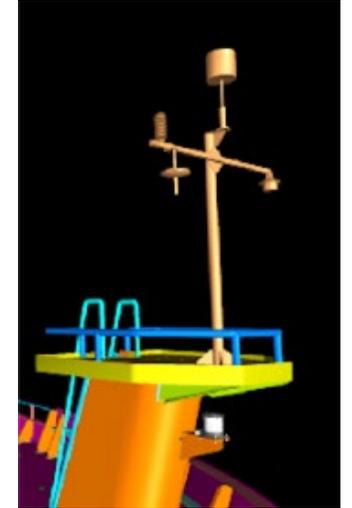
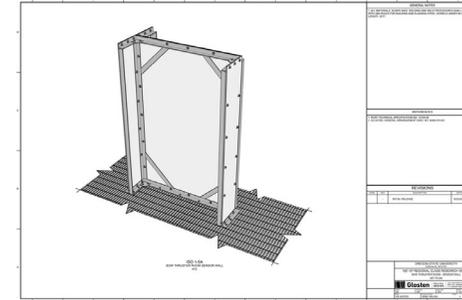
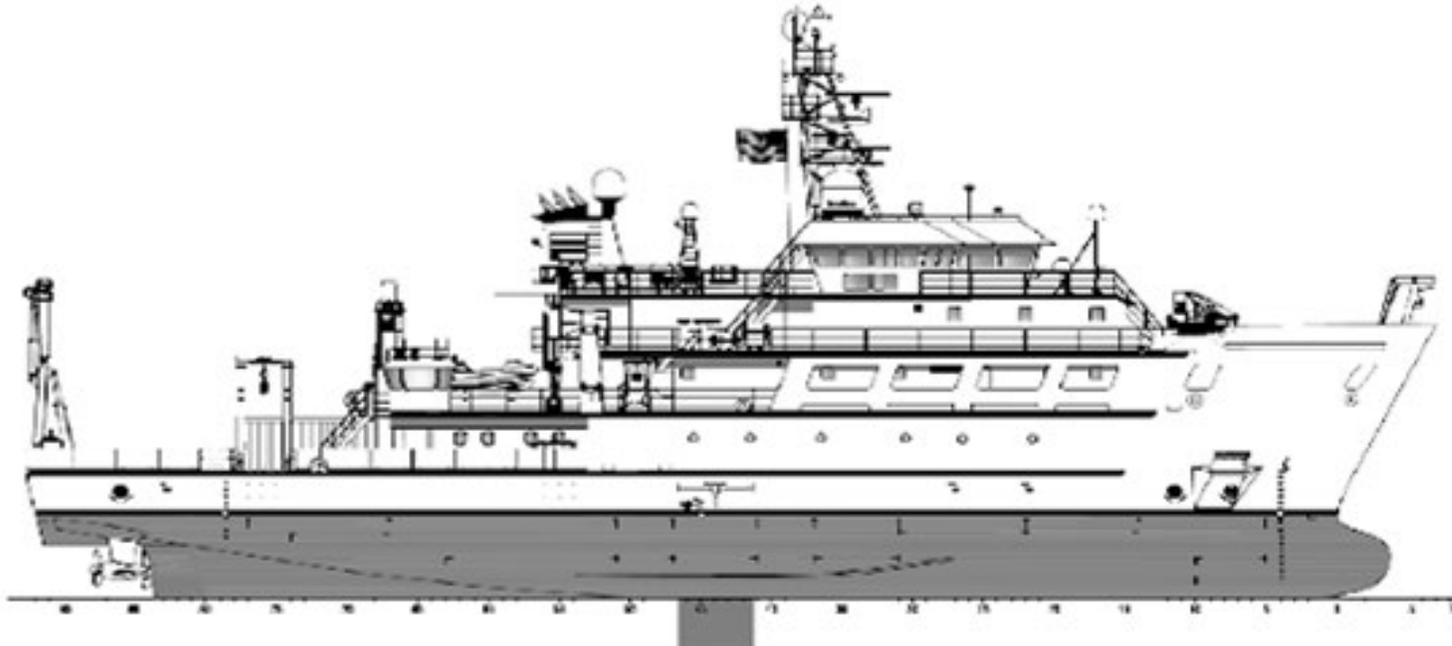




RCRV Team



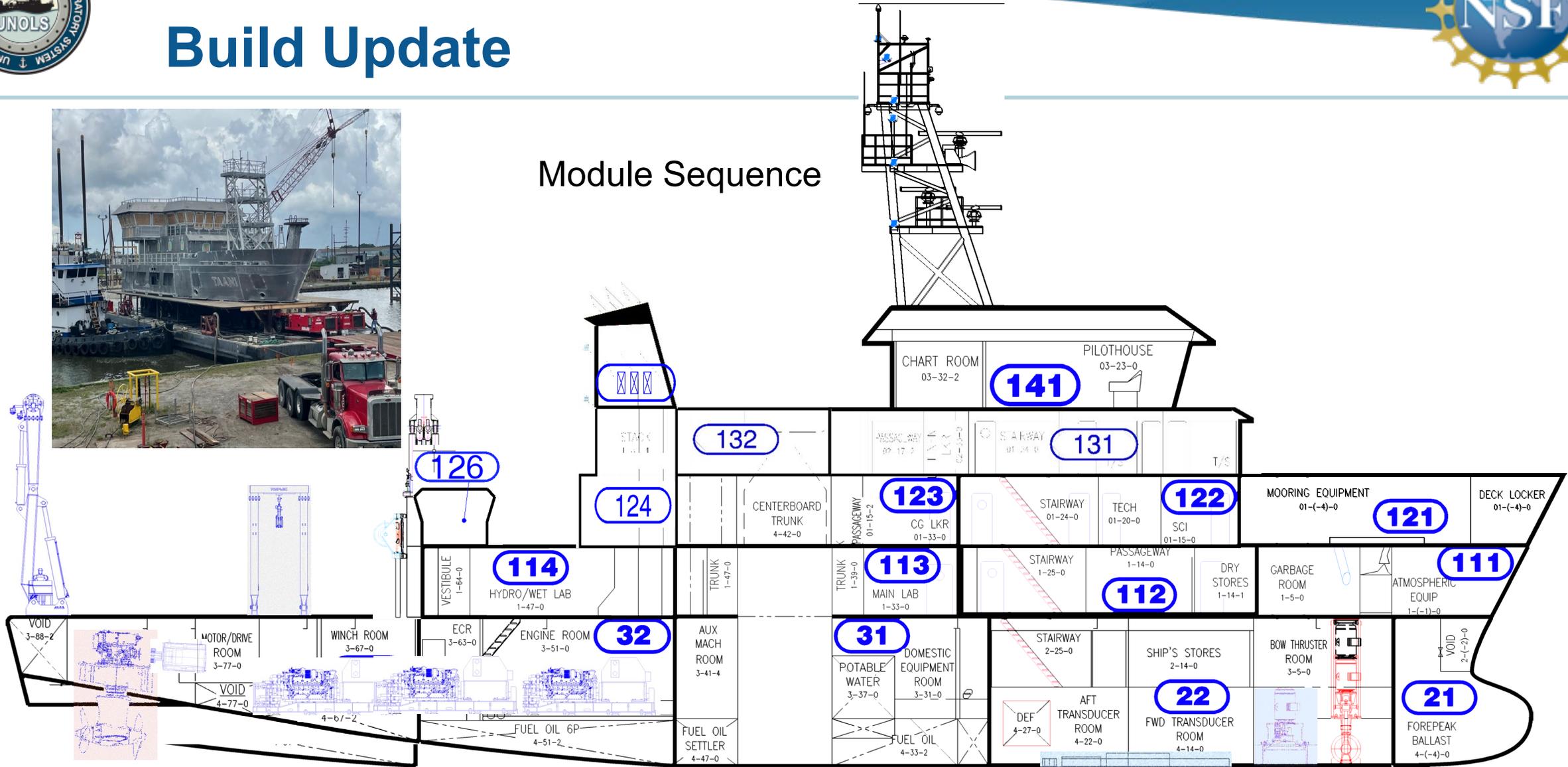
General Arrangement and Science Services



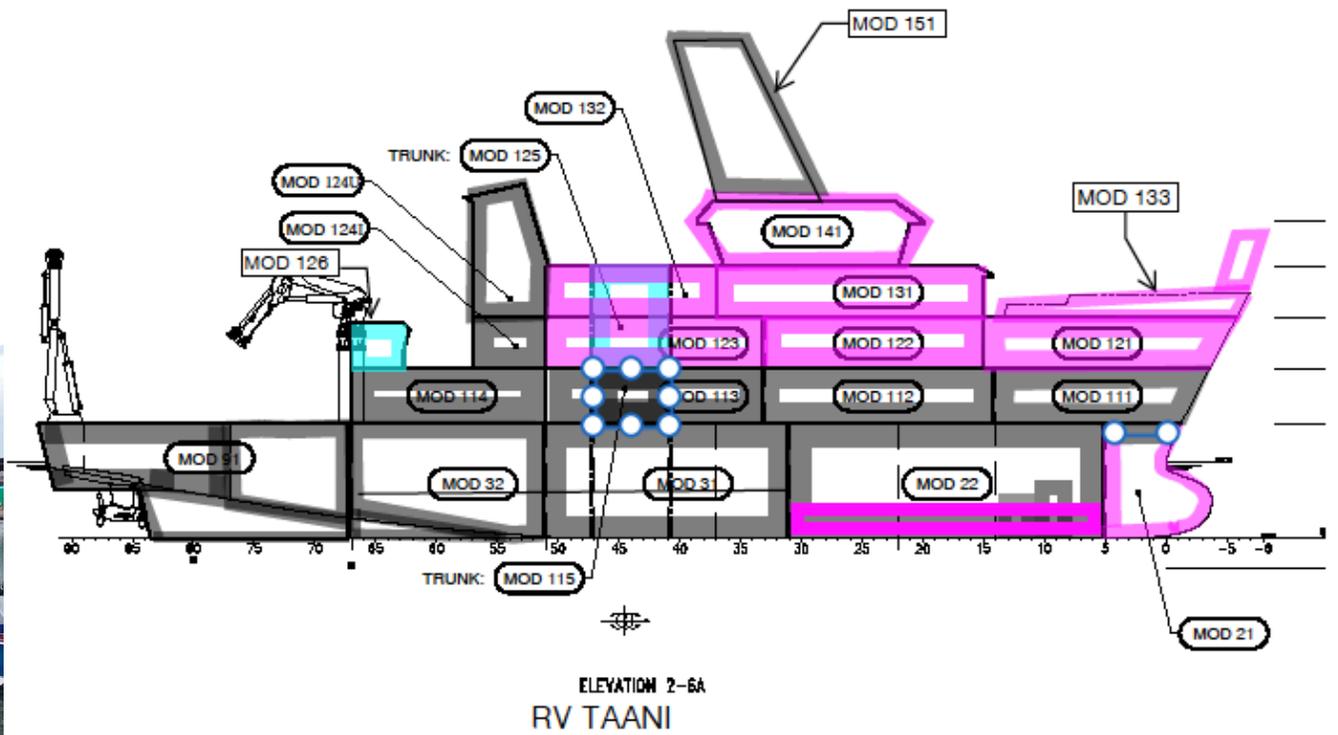
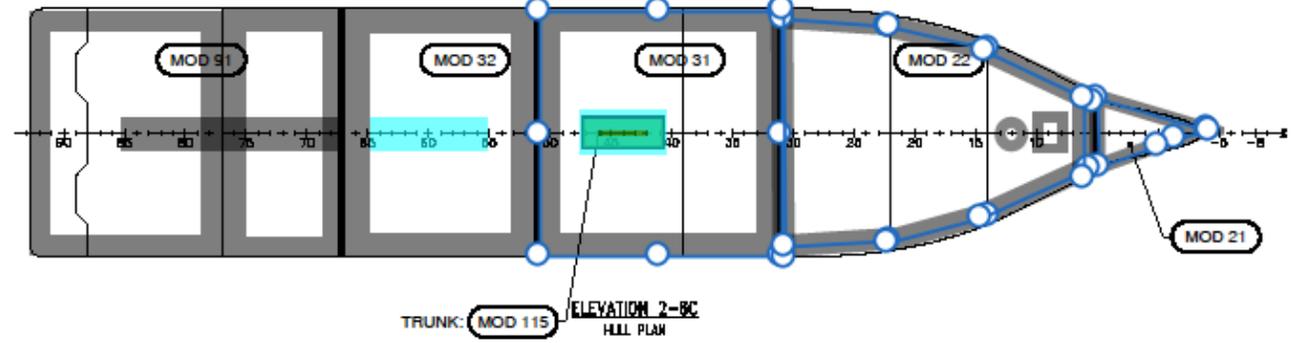
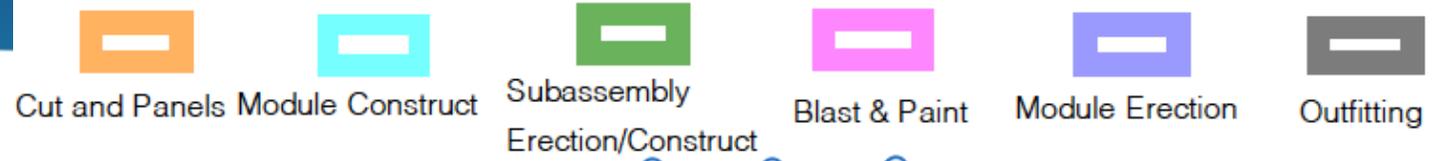
Build Update



Module Sequence

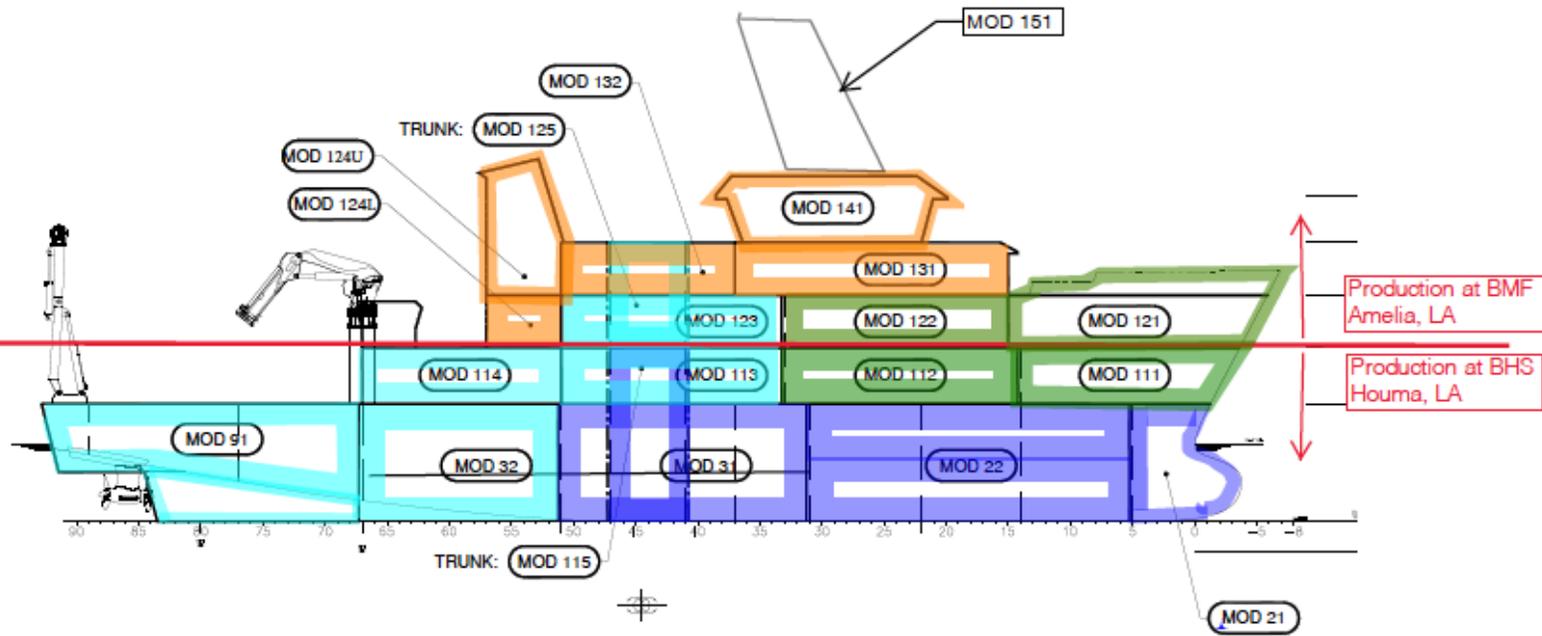
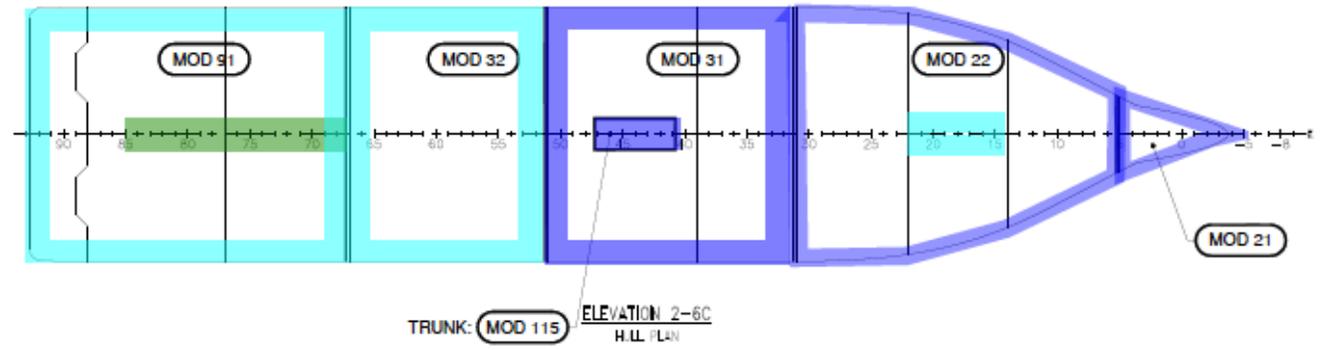


R/V TAANI

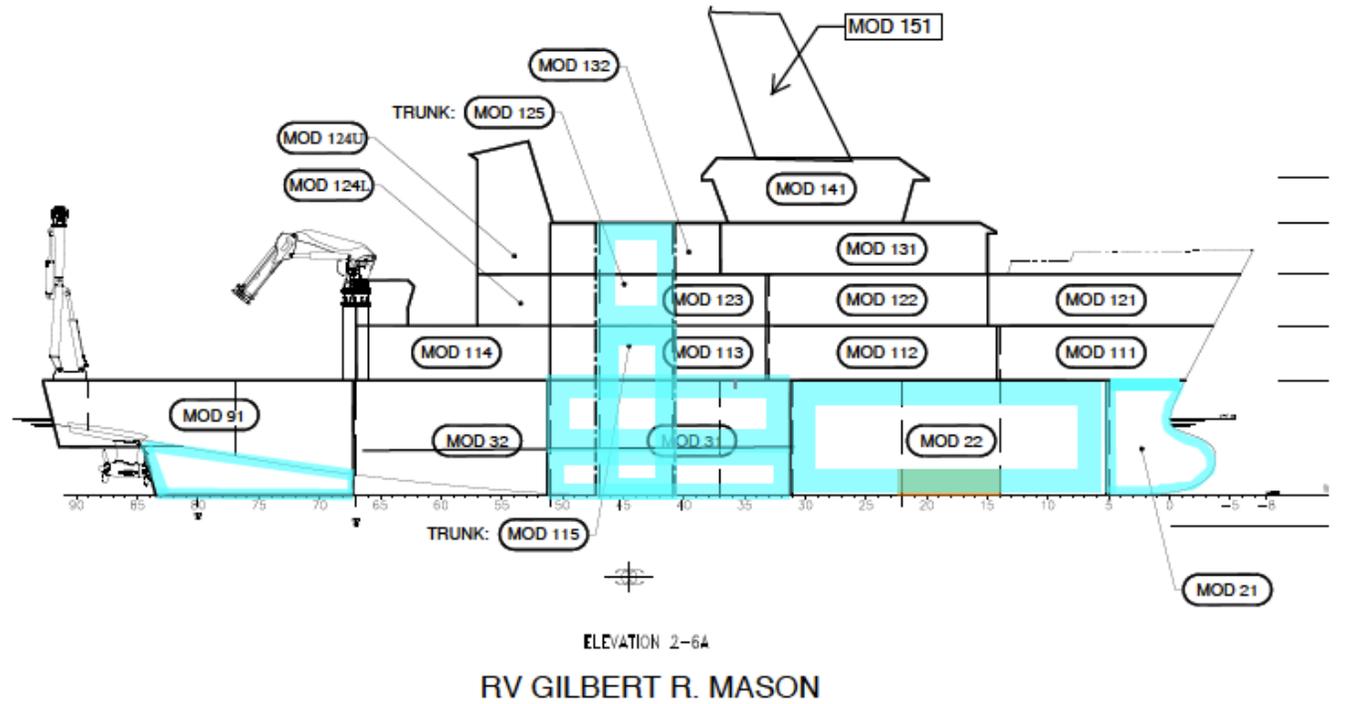
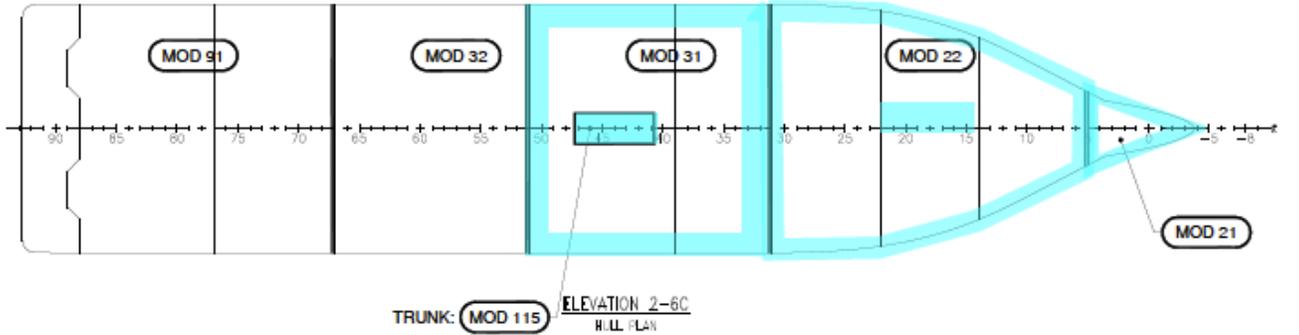
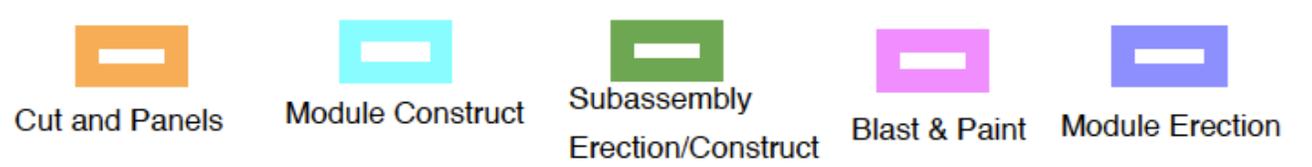
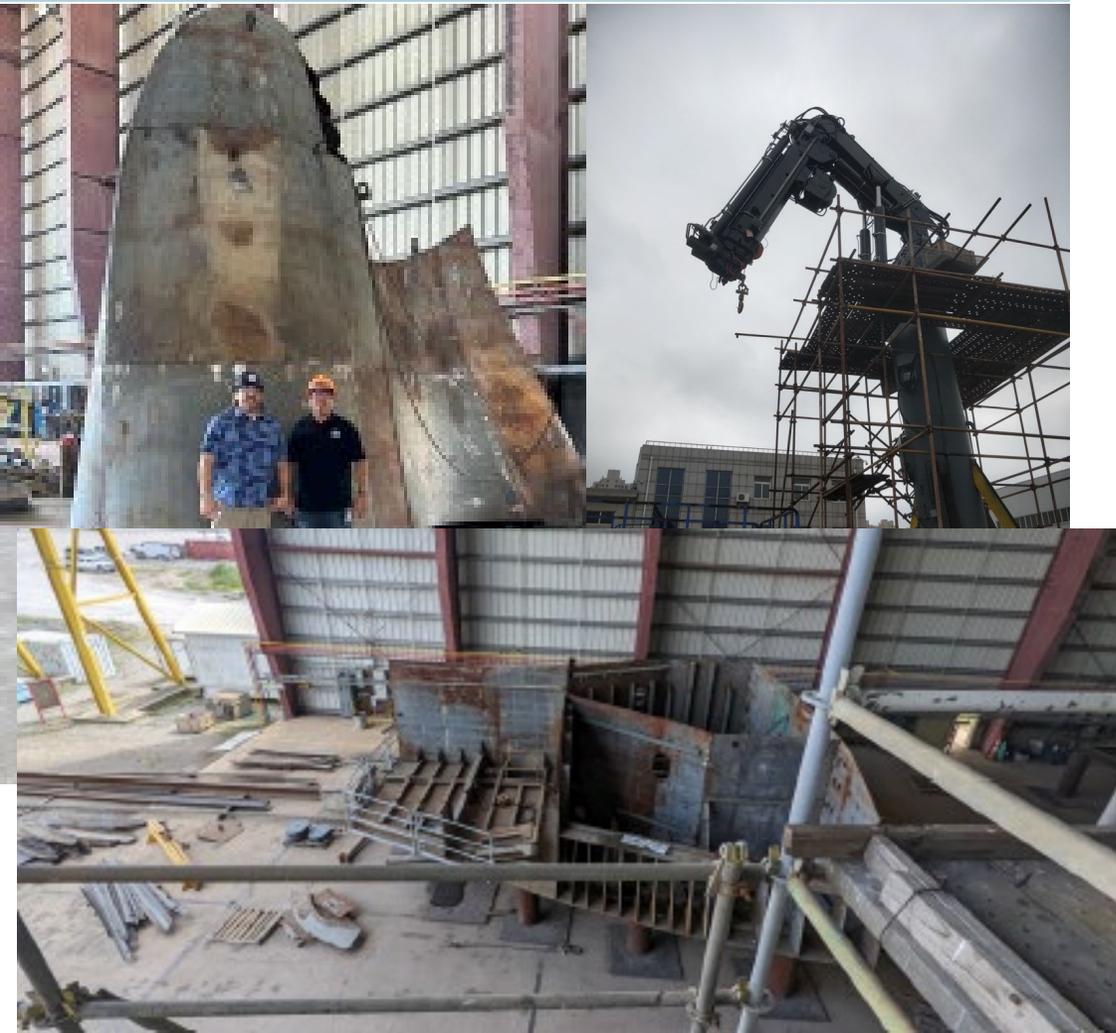


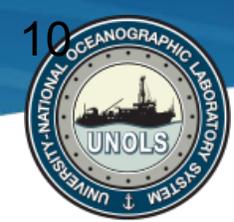


▭ Cut and Panels
 ▭ Module Construct
 ▭ Subassembly Erection/Construct
 ▭ Blast & Paint
 ▭ Module Erection



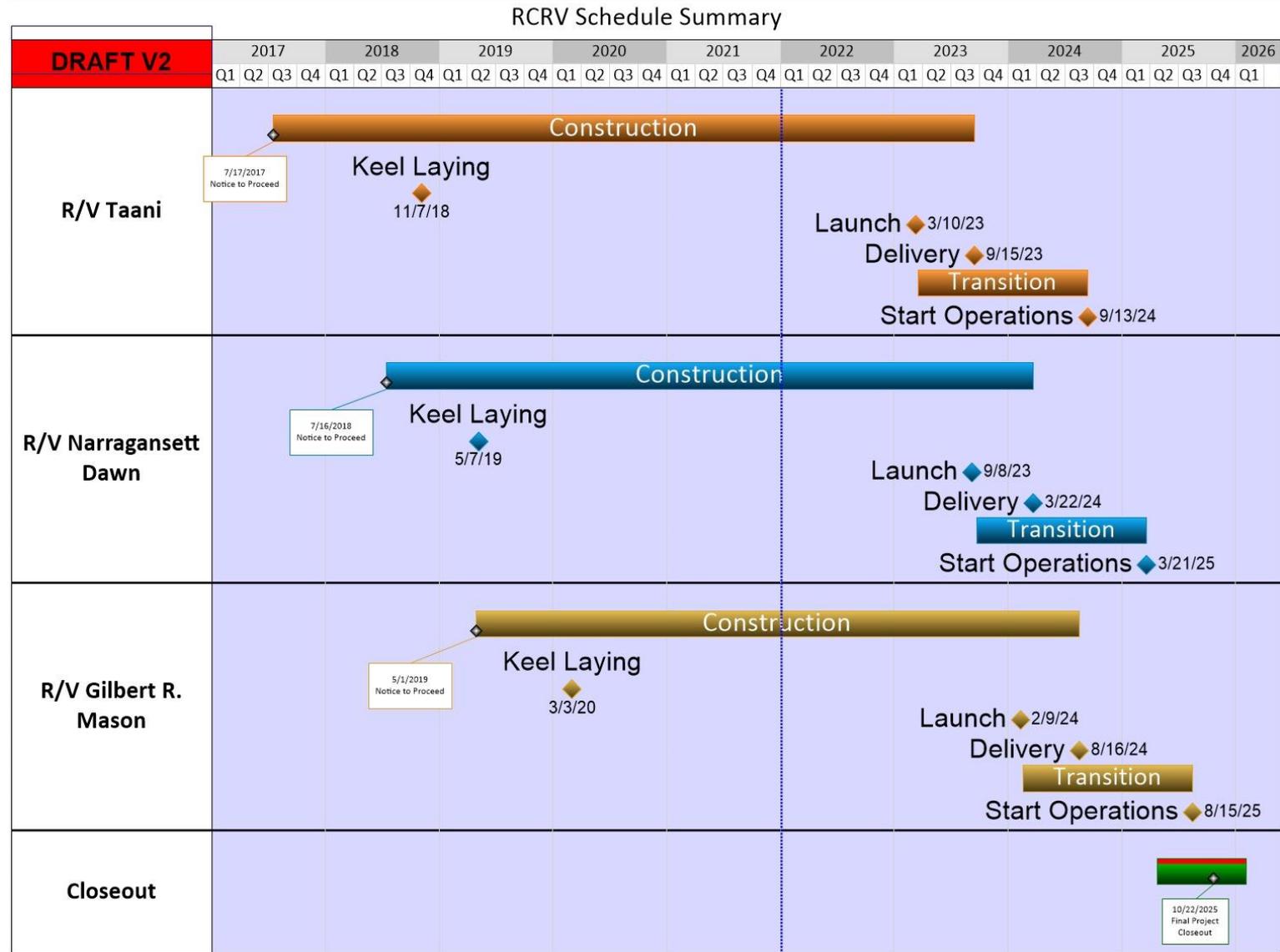
R/V Gilbert R. Mason





Delivery Schedule **DRAFT** (Ida Delay)

- **R/V Taani**
 - Start of Transition to Operations
 - **03/07/2023**
 - Delivery
 - **09/15/2023**
 - Start of Operations
 - **09/13/2024**
- **R/V Narragansett Dawn**
 - Start of Transition to Operations
 - **09/11/2023**
 - Delivery
 - **03/22/2024**
 - Start of Operations
 - **03/21/2025**
- **R/V Gilbert R. Mason**
 - Start of Transition to Operations
 - **02/05/2024**
 - Delivery
 - **08/16/2024**
 - Start of Operations
 - **08/15/2025**

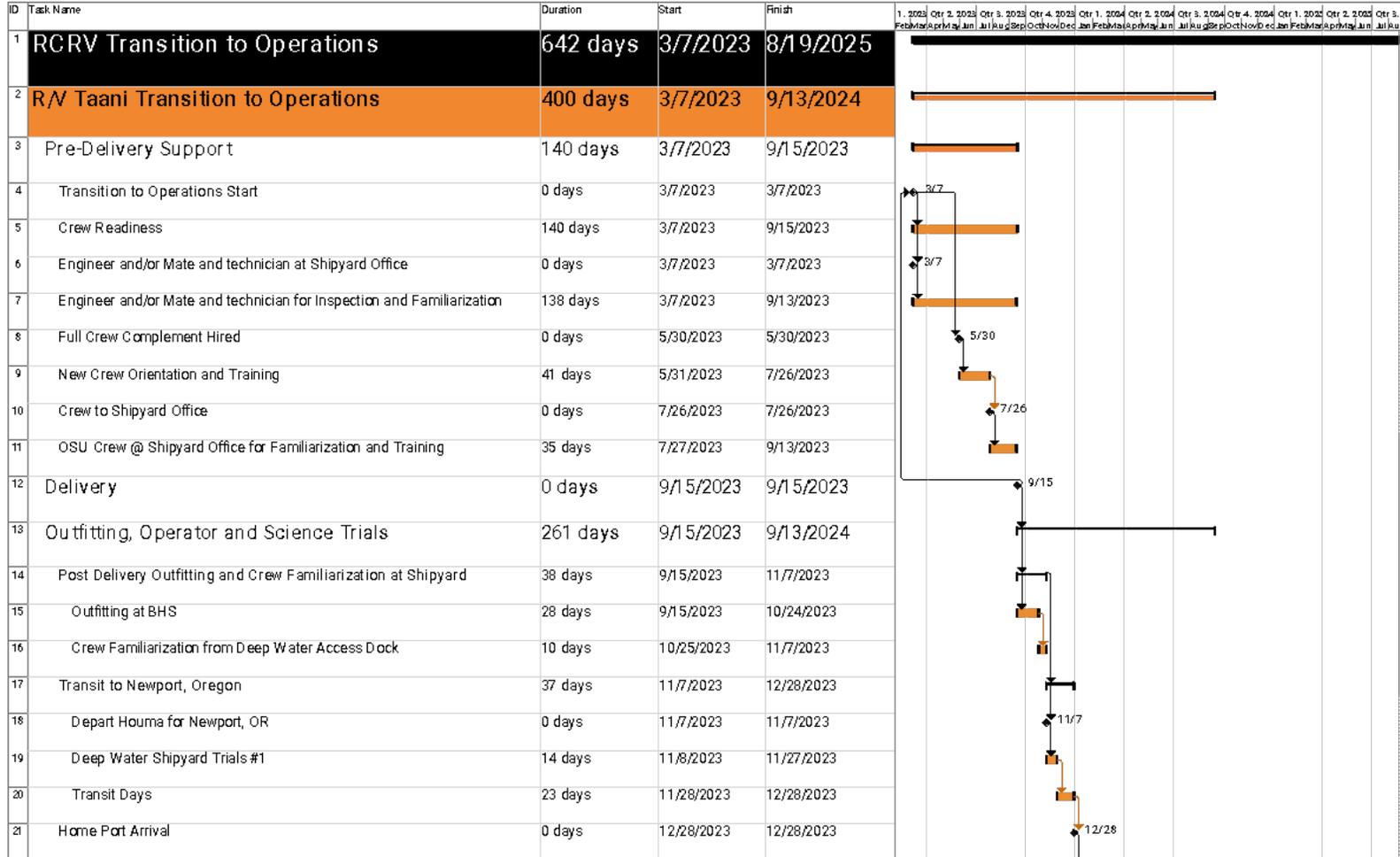




Transition to Operations Phase IV



- 18-months transition plan tied to shipyard contract Delivery date.
- Starting 6-months prior to Delivery, crew hiring, shipyard support, crew training and familiarization.
- At Delivery, full crew and technicians on site at the shipyard for outfitting and start of vessel trials (40 days).
- Transit to home port for local outfitting, and operator and science trials (86 days)
- Warranty haul out at a local shipyard.
- NSF Inspection and Acceptance as UNOLS vessel
- **Teams of experts for operations and science trials. Funded participation for the full vessel verification.**





Operations and Science Trials



RCRV Trials Matrix

- Item Test
 - Anemometer
- System Test
 - Atmospheric Sensors
- Test Procedure
- Prerequisite
- Test Phase
- Duration
 - Single
 - System
- Location
- Conditions
- Expert Support
- Vendor/Tech
- Acceptance Criteria
- Support
 - Equipment
 - Supplies
- Documentation

Scientific Equipment Test and Verification

Work Breakdown Structure (1.0.0.01.04)	Relevant System/Through Sensors	Associated Sensor or Subsystem-WETStar Fluorometer	What factors are being tested- Performance and Data Quality	Are there any systems required to be in place prior to test verification- COROLUX	What Phase will testing verification occur- I, II	How long is required for a single test- 1 hr	How long is required for full integration (test)- 72 hours in transit	Location Needed- Coastal and oligotrophic waters	What testing conditions are needed- production and blue waters	Day, Night, Both, M, A, Both	Suggested Experts for Installation/Content Matters, etc	Is a vendor or manufacturer tech required- Validate	Include any and all additional information needed to test and verify- Testing of various environments, coastal versus oligotrophic waters	What equipment is required or based for test/verification- Filtration manifold to collect discrete samples, optional portable fluorometer to run discrete samples at sea.	Are there any supplies or samples needed- Discrete Chlorophyll samples and supplies (0.3µm GF/F)	Link to Applicable Documentation-Link to Discrete Pigment Sample Collection Protocol	Any notes-Dial pattern.
WBS	System	Subsystem / Sensor	Test	Prerequisite	Test Phase (I, II)	Required Single Test Duration (hrs)	Required Integration Test Duration (hrs)	Location Needed	Environmental Conditions Needed	Day or Night Testing	Suggested Support/Experts	Tech Req	Acceptance Criteria	Equipment Needed	Supplies or Samples Needed?	Link to Applicable Documentation	Notes
C1.02.01.04	Atmospheric Sensors	Biospherical PAR Sensor OQR	Performance and Data Quality	COROLUX	I, II	1.0				Day	Kathy Lentz (NOAA)						Right to test could be useful for mooring location, influence of LED beam light on sensor. Accompanying profiling sensor on the CTD PAR DSP. Goby identified during OPRB workshop as potential species to test.
C1.02.01.04	Atmospheric Sensors	Biospherical PAR Sensor OCR	Performance and Data Quality	COROLUX	I, II	1.0				Day	Kathy Lentz (NOAA)						Right to test could be useful for mooring location, influence of LED beam light on sensor. Accompanying profiling sensor on the CTD PAR DSP. Goby identified during OPRB workshop as potential species to test.
C1.02.01.04	Atmospheric Sensors	Valtek FTU330 MET Station	Performance and Data Quality	COROLUX	I, II	1.0					SAWOS			PT33375 Portable Calibration Kit with MET Measurement Indicator Standards	Additional Standards		Right to test could be useful for mooring location, influence of LED beam light on sensor. Accompanying profiling sensor on the CTD PAR DSP. Goby identified during OPRB workshop as potential species to test.
C1.02.01.04	Atmospheric Sensors	Valtek RTX156 MET Station	Performance and Data Quality	COROLUX	I, II	1.0					SAWOS			PT33375 Portable Calibration Kit with MET Measurement Indicator Standards	Additional Standards		Right to test could be useful for mooring location, influence of LED beam light on sensor. Accompanying profiling sensor on the CTD PAR DSP. Goby identified during OPRB workshop as potential species to test.
C1.02.01.04	Atmospheric Sensors	Ship supplied FM Young 61302 Barometer	Performance and Data Quality	IMACS to COROLUX	I, II	1.0	1.0				SAWOS						Right to test could be useful for mooring location, influence of LED beam light on sensor. Accompanying profiling sensor on the CTD PAR DSP. Goby identified during OPRB workshop as potential species to test.
C1.02.01.04	Atmospheric Sensors	Kipp and Zonen Pyranometer SMP-21 w/CF-4 Ventilation Fan Port	Performance and Data Quality	COROLUX	I, II	1.0				Day	Laura Srinivas (CIRES, NOAA GEM, G-ROAD)						Inform in participation of validation during OPRB Workshop or maintenance working group. Think a parallel to buoy or by instrument. Every time there is a calibration of two data from one, would recommend process to NOAA system performed as a system to factor application technique.
C1.02.01.04	Atmospheric Sensors	Kipp and Zonen Pyranometer SMP-31 w/CF-4 Ventilation Fan Starboard	Performance and Data Quality	COROLUX	I, II	1.0				Day	Laura Srinivas (CIRES, NOAA GEM, G-ROAD)						Should plan testing with and without ventilation fan.
C1.02.01.04	Atmospheric Sensors	Kipp and Zonen Pyranometer SMP-4 w/CF-4 Ventilation Fan Starboard	Performance and Data Quality	COROLUX	I, II	1.0				Day	Laura Srinivas (CIRES, NOAA GEM, G-ROAD)						Inform in participation of validation during OPRB Workshop or maintenance working group.
C1.02.01.04	Atmospheric Sensors	Kipp and Zonen Pyranometer SMP-4 w/CF-4 Ventilation Fan Starboard	Performance and Data Quality	COROLUX	I, II	1.0				Day	Laura Srinivas (CIRES, NOAA GEM, G-ROAD)						Inform in participation of validation during OPRB Workshop or maintenance working group.
C1.02.01.04	Atmospheric Sensors	Valtek Provent Weather FD71P	Performance and Data Quality	COROLUX	I, II	1.0					SAWOS			FD-71P Portable Calibration Unit			Should test for sources of reflection interference based on mooring location. Verify that there is no local interference.
C1.02.01.04	Atmospheric Sensors	FM Young Para Gauge 54302	Performance and Data Quality	COROLUX	I, II	1.0					SAWOS						Should test for sources of reflection interference based on mooring location. Verify that there is no local interference.
C1.02.01.04	Atmospheric Sensors	Ship supplied GM 20 Ultrasonic Anemometer Port	Performance and Data Quality	IMACS to COROLUX	I, II	1.0	1.0				SAWOS						Ship Supplied
C1.02.01.04	Atmospheric Sensors	Ship supplied GM 20 Ultrasonic Anemometer Starboard	Performance and Data Quality	IMACS to COROLUX	I, II	1.0	1.0				SAWOS						Ship Supplied
C1.02.01.04	Atmospheric Sensors	Ship supplied FM Young 66039 2C Ultrasonic Anemometer	Performance and Data Quality	IMACS to COROLUX	I, II	1.0	1.0				SAWOS						Ship Supplied
C1.02.01.04	Atmospheric Sensors	GM 20 Ultrasonic Anemometer Mast	Performance and Data Quality	COROLUX	I, II	1.0					SAWOS						
C1.02.01.04	Atmospheric Sensors	GM 20 Ultrasonic Anemometer Mast	Performance and Data Quality	COROLUX	I, II	1.0					SAWOS						
C1.02.01.04	Atmospheric Sensors	Day-view Camera Radiometer Mast	Performance and Data Quality	COROLUX	I, II	1.0				Day	SAWOS, Ian Black						
C1.02.01.04	Atmospheric Sensors	Day-view Camera Mast Mast	Performance and Data Quality	COROLUX	I, II	1.0				Day	SAWOS, Ian Black						
C1.02.01.04	Atmospheric Sensors	Beta SPN1	Performance and Data Quality	COROLUX	I, II	1.0				Day	Laura Srinivas (CIRES, NOAA GEM, G-ROAD)						
C1.02.01.04	Atmospheric Sensors	Valtek DL51 Collector	Performance and Data Quality	COROLUX	I, II	1.0					SAWOS, Chris Parani, Elizabeth Thompson			DL51 Termination Head for baseline validation.			
C1.02.01.04	Atmospheric Sensors	Picarro G2411 Atmospheric Gases	Performance and Data Quality	COROLUX	I, II	1.0					Dave Munn (NOAA)				Calibration gases, 4 standards.		
C1.02.01.04	Atmospheric Sensors	HyperOCR IC64 Hyperspectral Radiometer	Performance and Data Quality	COROLUX	I, II	1.0				Day	Andrew Sargent						Right to test could be useful for mooring location, influence of LED beam light on sensor. For example, corresponding CTD profiles sensor (CSP).
C1.02.01.04	Atmospheric Sensors	Atmospheric Sampling Manikin	Performance and Data Quality		I, II	1.0					SAWOS						
C1.02.01.04	Surface Sensor	Deep State Camera with ROSA	Performance and Data Quality	COROLUX	I, II	1.0					Ian Black						
C1.02.01.04	Surface Sensor	Sea State Camera MET Mast	Performance and Data Quality	COROLUX	I, II	1.0					Ian Black						
C1.02.01.04	Surface Sensor	ROPR Remote Ocean Surface Radiometer	Performance and Data Quality	COROLUX	I, II	1.0					Melissa Reynolds (IMR)						
C1.02.01.04	Surface Sensor	WuV3B Wave Rider	Performance and Data Quality			1.0					Hans Oetzel						No indication in contract for testing specifications.
C1.02.01.04	Flowthrough Sensors	Diaphragm Pump Forward Intake	Volume and Latency			1.0											
C1.02.01.04	Flowthrough Sensors	Diaphragm Pump Aft Intake	Volume and Latency			1.0											
C1.02.01.04	Flowthrough Sensors	Sensor Manifold Flow Regulator	Performance			1.0											
C1.02.01.04	Flowthrough Sensors	DFE-41 Thermocouple/Man Monitoring	Performance and Data Quality	COROLUX	I, II	1.0					Patricia (Duglas), Dave Munn, Jack Bart						Fluorite quality measurements (small) and also sample bottles, tubing, alternate probe for temperature validation.
C1.02.01.04	Flowthrough Sensors	EBC-41 Thermocouple Apollo 1002	Performance and Data Quality	COROLUX	I, II	1.0					Patricia (Duglas), Dave Munn, Jack Bart						Fluorite quality measurements (small) and also sample bottles, tubing, alternate probe for temperature validation.
C1.02.01.04	Flowthrough Sensors	EBC-31 Inlet Sea Surface Temperature	Performance and Data Quality	COROLUX	I, II	1.0					Patricia (Duglas), Maria Koveravagh, Jack Bart						Alternate probe for temperature validation.
C1.02.01.04	Flowthrough Sensors	Ship-supplied Thermometer at Forward Intake	Performance and Data Quality	IMACS to COROLUX	I, II	1.0	1.0				Patricia (Duglas), Maria Koveravagh, Jack Bart						Alternate probe for temperature validation.
C1.02.01.04	Flowthrough Sensors	Ship-supplied Thermometer at Aft Intake	Performance and Data Quality	IMACS to COROLUX	I, II	1.0	1.0				Patricia (Duglas), Maria Koveravagh, Jack Bart						Alternate probe for temperature validation.
C1.02.01.04	Flowthrough Sensors	EBC-41 Oxygen Sensor	Performance and Data Quality	COROLUX	I, II	1.0					Patricia (Duglas), Jack Bart						Discrete pigment samples (0.3µm GF/F) for measurements at 3 parameters (Chlorophyll, Phytoplankton, Phaeopigment).
C1.02.01.04	Flowthrough Sensors	ECO Triplet FL3	Performance and Data Quality	COROLUX	I, II	1.0					Maria Koveravagh (Black), Kendra Day						Link to 0.3µm Whittler Sample Collection Protocol.
C1.02.01.04	Flowthrough Sensors	FCV Triplet 183	Performance and Data Quality	COROLUX	I, II	1.0					Maria Koveravagh (Black)						Link to 0.3µm Pigment Sample Collection Protocol.
C1.02.01.04	Flowthrough Sensors	ECO Triplet 182FL	Performance and Data Quality	COROLUX	I, II	1.0					Maria Koveravagh (Black)						Calibration fluids.
C1.02.01.04	Flowthrough Sensors	Wetstar Fluorometer	Performance and Data Quality	COROLUX	I, II	1.0					Maria Koveravagh (Black), Kendra Day						Fluorite quality measurements (small) and also sample bottles, tubing, alternate probe for temperature validation.





- [Webcam 01](#)
- [Webcam 02](#)
- [Webcam 03](#)
- [Webcam 04](#)
- [Webcam 05](#)
- [Webcam 07](#)

RCRV Update

Regional Class Research Vessel Program- Oregon State University

October 3rd, 2022