Ocean Class AGOR Quad Chart

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Key Characteristics:

- Hull Material: Steel; Aluminum pilothouse
- Length: 238 ft
- Beam (Max): 50 ft
- Draft: 15.0 ft
- Displacement: 3043 LT (Full Load)
- Sustained Speed: 12 kts
- Range: 10,545 nm
- Endurance: 40 days
- Propulsion: 4 x 1044 kW Diesels, 2 x 879 kW Electric Propulsion Motors, 2 x Controllable Pitch Propellers
- Accommodations: 20 crew, 24 science berths
- ABS Classed/ABS Designed to ABS ✠A1 Circle E, ✠AMS and ✠ACCU, NIBS, Ice Class D0, USCG COI

Mission: Integrated, interdisciplinary, general purpose oceanographic research in coastal and deep ocean areas. Oceanographic sampling and data collection of surface, mid-water, sea floor, and sub-bottom parameters.

Quantity: Two (2)

User: Woods Hole Oceanographic Institution (AGOR 27), Scripps Institution of Oceanography (AGOR 28)

Ship Names: R/V Neil Armstrong (AGOR 27), TBD (AGOR 28)

Builder: Dakota Creek Industries, Inc.

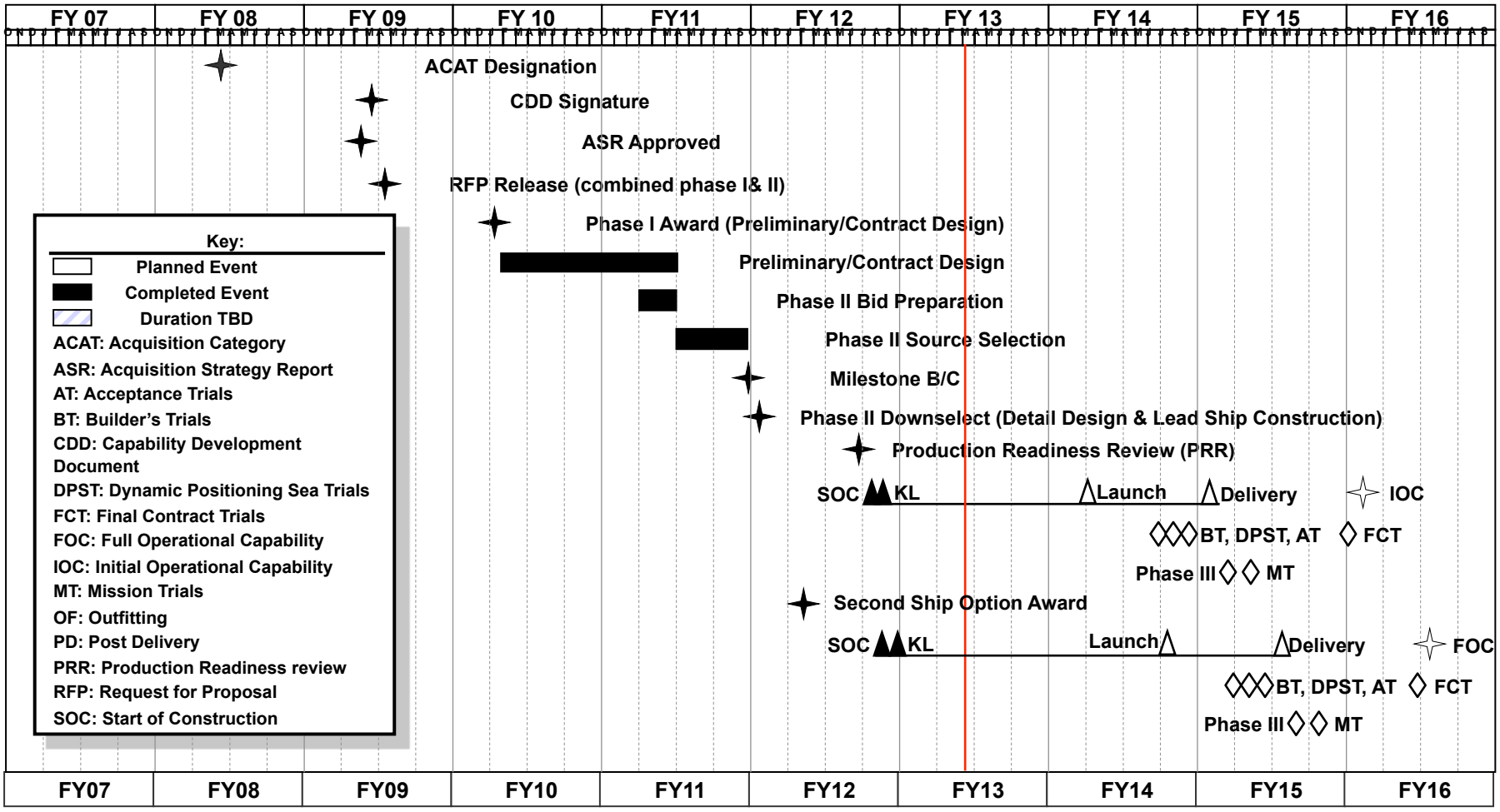
Contract: FFP

Contract Value: $177.4M

ROM Unit Cost: $74.1 M (lead), $71.0M (follow)

Key Events:	Date:
• Phase I Contract Award	Jan 10
• Milestone B/C	Sep 11
• Phase II Contract Award	Oct 11
• Follow Ship Award	Feb 12
• Start Construction (Lead Ship)	Jun 12
• Start Construction (Follow Ship)	Jul 12
• Delivery (Lead Ship)	Oct 14
• Delivery (Follow Ship)	Apr 15

Ocean Class AGOR Acquisition Schedule



Ocean Class AGOR Operator Phase II Efforts

- PMS325 is very happy with the extent and quality of review and input provided by the Operator Representatives at the Shipyard
- Operator Phase II efforts to date have included:
  - Production Surveillance
    - Performing quality assurance inspections, monitoring and reporting on production progress, witnessing factory acceptance tests (FAT).
  - Technical Reviews
    - Reviewing multiple Data Items (DI); Supporting preparation for and participating in Design Reviews (DR).
    - Supporting technical discussions and technical investigations.
  - Integrated Logistics Support
    - Reviewing Initial Outfitting List (IOL), Technical Manuals, Vendor-recommended Spares, and reviewing plans for Crew Familiarization.
  - Mission Equipment ("Phase III") planning
    - Aiding in development of procurement strategy, schedule, test plans, and overall scope of effort.
  - Post Delivery Test & Trials planning

Ocean Class AGOR Production Progress

- DCI continues to capitalize on production efficiencies by moving crews immediately from AGOR 27 to AGOR 28 assemblies.
  - Lessons learned are being incorporated into AGOR 28 in terms of more efficient assemblies, or cleaner runs of distributive systems.
- AGOR 27 is on schedule & AGOR 28 is about 8 weeks ***ahead*** of schedule.
- Quality is excellent on completed assemblies.
- AGOR 27 Modules 2, 3, 4 & 5 and AGOR 28 Modules 3 &4 are on the Building Ways – production, pre-outfitting and outfitting continue.
- AGOR 27 Modules 1, 8 & 10 and AGOR 28 Modules 1, 2 & 5 are also under production.
  - Aluminum Pilot House (10) production is starting in the “Big House.”
- Factory Acceptance Testing and Delivery of Major Equipment picking up:
  - Diesel Generators, Propulsion Drives, Start Air Receivers, Galley Exhaust Hood, Exhaust Silencers, Bow Thruster Motor, Water Mist FF System, etc.
- Functional Design complete last July, 3-D modeling nearing completion.
- Logistics – Spare Parts, Tech Manuals, Training are all on track and far ahead of other comparable projects – excellent quality.
- Planning for test and trials well under way.

AGOR 27 (R/V Neil Armstrong) Production by Module

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AGOR 27

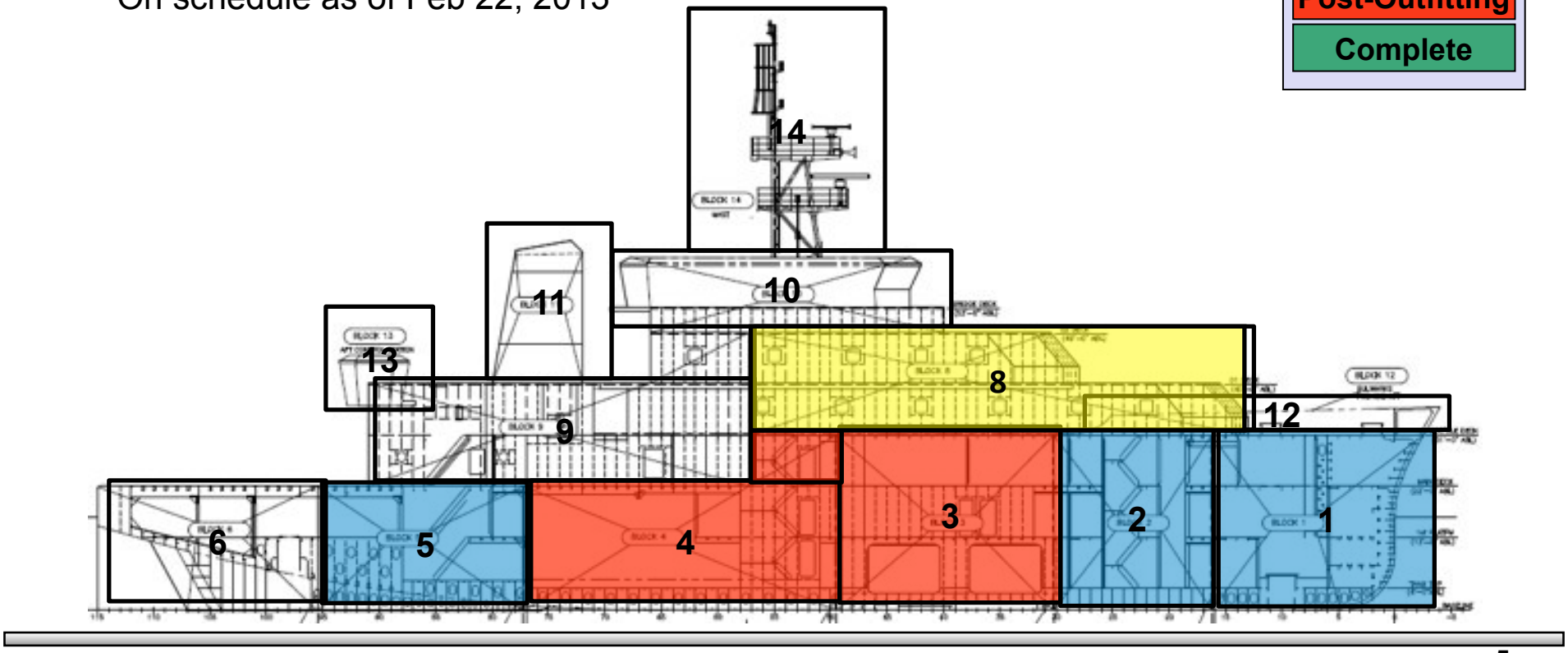
Production Progress: 24%

Material Obligations: 84%

Overall Progress: 32%

On schedule as of Feb 22, 2013

Color Key
Mat'l Prep
Fabrication
Assembly
Erection
Post-Outfitting
Complete



AGOR 27 (R/V Neil Armstrong) Current Production

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Bow Modules

AGOR 27 & 28 on the blocks

Early construction with *Thompson* in background

Multibeam openings – Transducer Flat

AGOR 28 (Name TBD)
Production by Module

Office of Naval Research

Color Key
Mat'l Prep
Fabrication
Assembly
Erection
Post-Outfitting
Complete

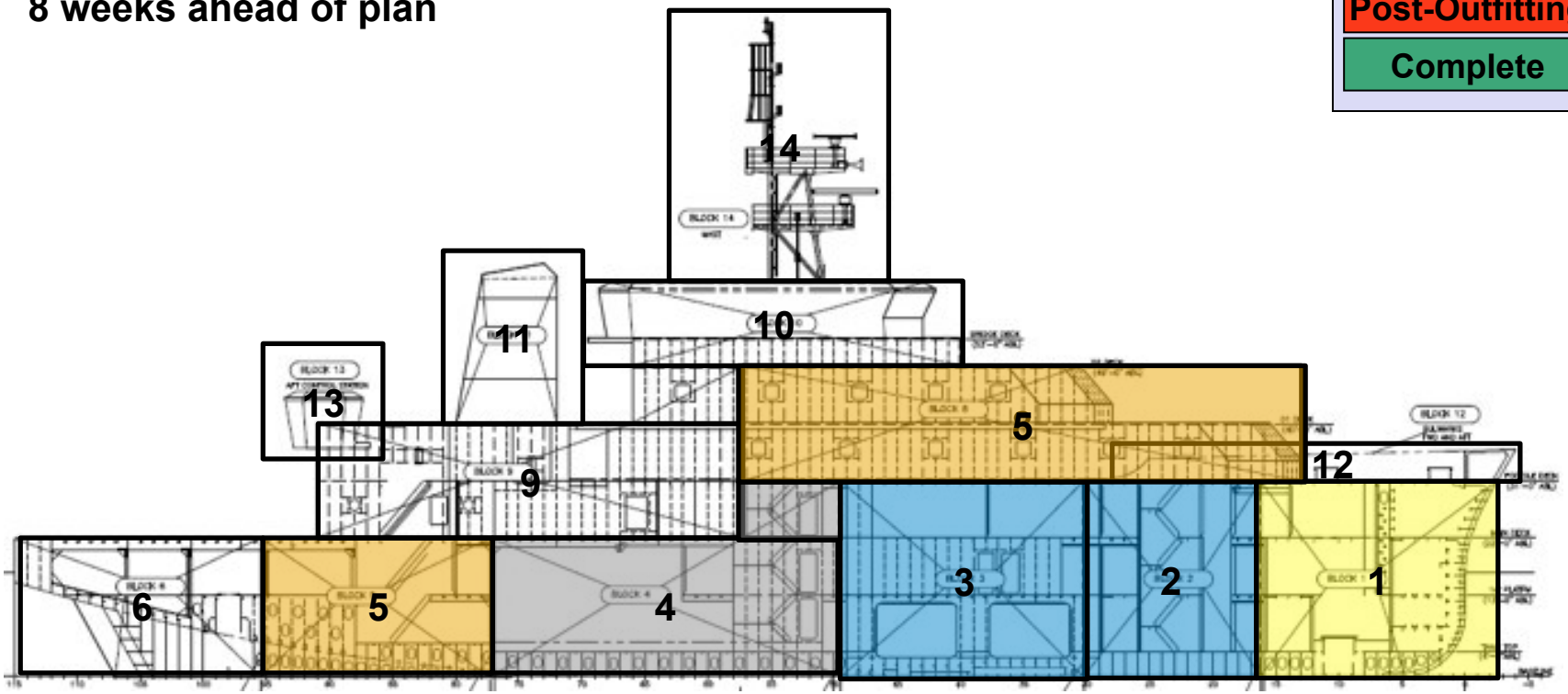
AGOR 28

Production Progress: 14%

Material Obligations: 66%

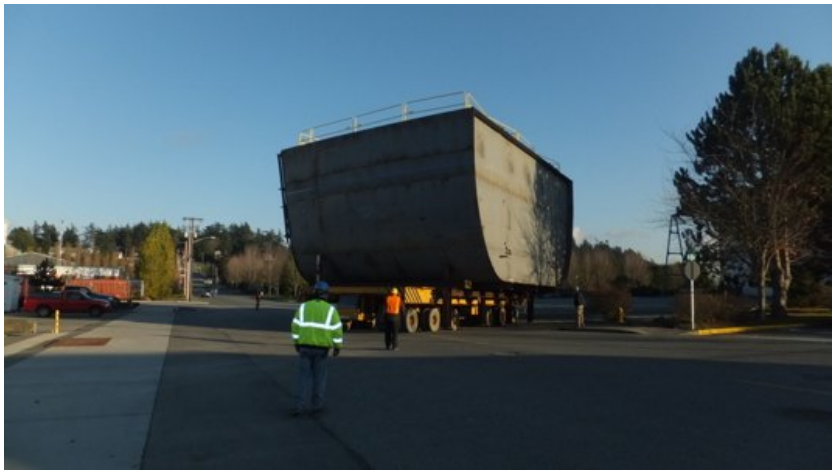
Overall Progress: 19%

8 weeks ahead of plan



AGOR 28 (Name TBD) Current Production

MOD 3 in the “Big House”



Module 3 Move across the street

Lining Up Mod 3 with Mod 4

AGOR 28 Mod 3 & 4 ready for joining

BACKUP

Ocean Class AGOR
Production Progress Definitions

Office of Naval Research

Color Key
Mat'l Prep
Fabrication
Assembly
Erection
Post-Outfitting
Complete

- Production Progress Definitions
  - Material Prep: Cutting of parts, cutting to length, end cuts on shapes and shaped plate received.
  - Fabrication: Assembly of parts into panels, foundations, pipe spools, bulkheads.
  - Assembly: Assembly of Fabricated parts into assemblies.
  - Pre-Outfit: Installation of outfitting (e.g. pipe, electric, foundations) into overhead, inner-bottoms, etc., prior to erection.
  - Erection: Complete assemblies on erection ways and welded to neighboring assemblies.
  - Post-Outfit: Completion of the assemblies and the ship.
- Production Progress shown for an entire module indicates the start of a process for the module, not the completion.
  - For example, "Assembly" of a module would indicate the first assembly tasks have been initiated, but not all assembly tasks for the module have taken place or are complete.

Transition Design Maturity
AGOR Build Strategy

Block Assembly Sequence:

- Block 4 (Engine Room) will be set first
- Join Block 3 (Transducer Compartment) to Block 4
- Join Block 2 (Forward Stair Tower) to Blocks 3 & 4
- Join Block 1 (Bow) to Blocks 2, 3 & 4
- Join Block 5 (Winch Room) to Blocks 4,3, 2, & 1
- Join Block 6 (Stern) to Blocks 5,4,3,2 & 1
- Add Block 8 (Fwd accommodation) to Block 4,3,2, & 1
- Add Block 9 (Labs) to Block 4 & 5
- Install Data Couple (Steel to aluminum transition) on Focsile Deck
- Set Block 10 (Pilot House) on Focsile Deck
- Set Block 11 (Stack)
- Add Block 12 (Fwd & Aft) Bulwark
- Set Block 13 (Aft Control Station)
- Set Block 14 (Mast)

Program Organization
OC AGOR

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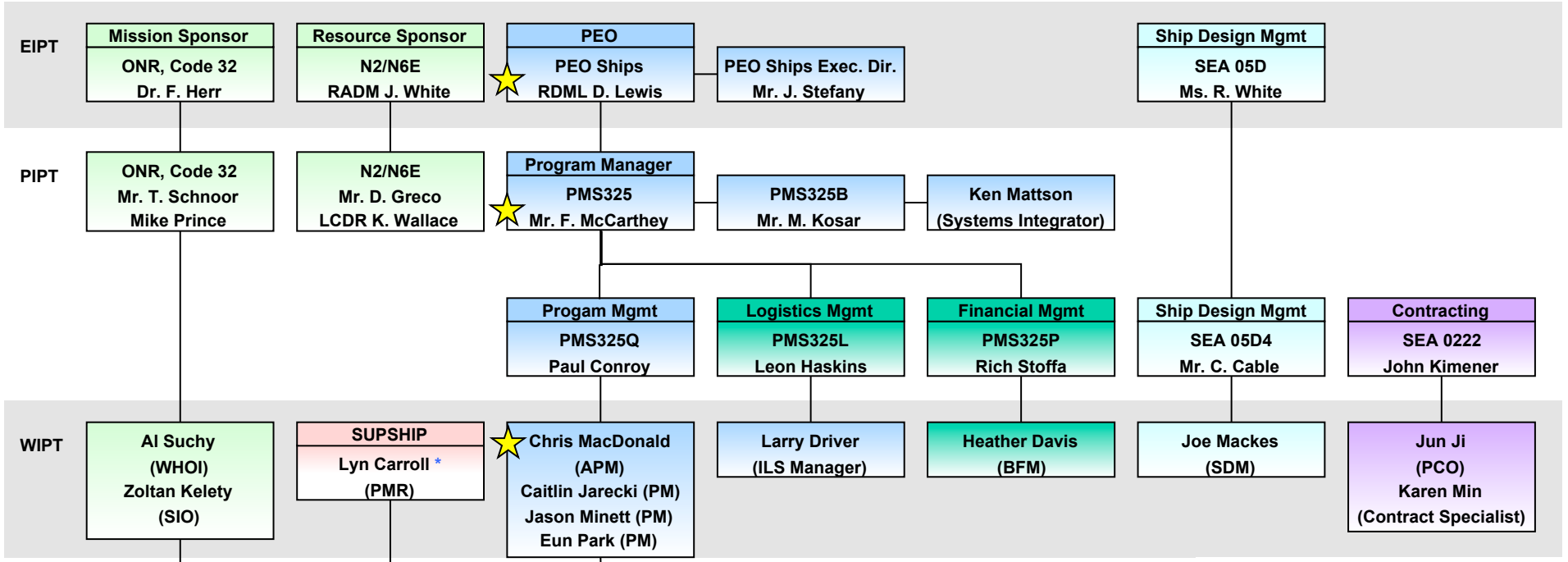


Pam Clark	Alion	(Mission Sys)
Tim Gates	ManTech	(Acoustics)
Pete Kilroy	Alion	(Program)
Shadia Mansour	CSC	(Program)
Phil O'Connor	Tessada	(ILS)
Dan Rolland	Alion	(Naval Arch)

Fully staffed- no plans for expanding

*ON-SITE

Operator Rep.
Gary McGrath *
(WHOI)
Paul Bueren *
(SIO)

Chris Newbert *
(Proj Eng)
Chris Marcoux *
(QAS)

Gayl Glascoe*
(On-site APM)

Mike Bancroft *	ECS	(Prod Mgr)
Monte Kittelson*	Tessada	(On-site ILS)
Marlou Domingo*	Tessada	(On-site ILS)

Acronyms/Abbreviations

APM	Assistant Program Manager
BFM	Business/Financial Manager
EIPT	Executive IPT
ILS	Integrated Logistics Support
MDA	Milestone Decision Authority
ONR	Office of Naval Research
PCO Officer	Procurement Contracting
PM	Project Manager
PMR	Program Manager's Rep
PEO	Program Executive Office
PIPT	Program IPT
SDM	Ship Design Manager
WIPT	Working IPT

AGOR 27 – NEIL ARMSTRONG – MOD 2, 3 & 4 and Mod 1 and 5 Innerbottom on Building Ways

AGOR 27 – NEIL ARMSTRONG – Moving Mod 5 Port Wing Tank for Erection

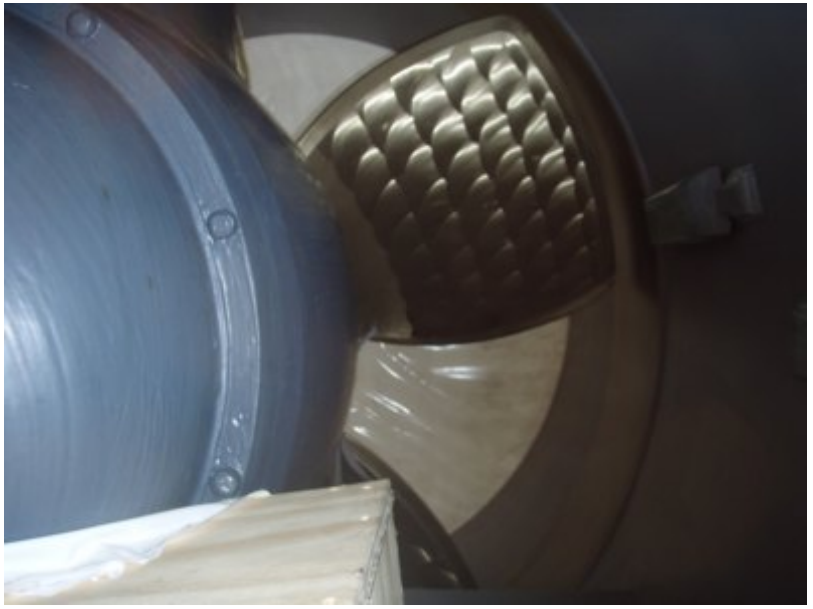
AGOR 27 – NEIL ARMSTRONG – Transceiver Room

AGOR 27 – NEIL ARMSTRONG – Aluminum Pilot House – Material Prep/Assembly Start

AGOR 27 – NEIL ARMSTRONG – Mod 6 Main Deck (note deck sockets)

AGOR 27 – NEIL ARMSTRONG – Mod 1

AGOR 27 – NEIL ARMSTRONG – Stern Thruster



AGOR 27 – NEIL ARMSTRONG – Rotary Vane Thruster (Bow-White Gill)

AGOR 28 – MOD 3 & 4 on Building Ways

AGOR 28 – MOD 3 & 4 on Building Ways

AGOR 28 – Machinery Space

AGOR 28 – MOD 5

AGOR 28 – MOD 2

AGOR 27 & 28 – Pipe Spools

AGOR 27 & 28 – Lounge TV Cabinets (wood)