

UNOLS Fleet Improvement Committee



October 14, 2009

Fleet Improvement Plan



University-National Oceanographic Laboratory System

UNOLS Fleet Improvement Plan 2009

*The UNOLS Academic Research Fleet:
Continued Access to the Sea*



Prepared by the
UNOLS Fleet Improvement Committee

April 2009



Status

Plan endorsed by UNOLS
Council at the March 2009
meeting

Plan published in April and is
online at:

[http://www.unols.org/committees/fic/FIP05/Fleet Improvement Plan 2009 Final.pdf](http://www.unols.org/committees/fic/FIP05/Fleet%20Improvement%20Plan%202009%20Final.pdf)

A link to this site is on the main
UNOLS web page

Fleet Improvement Plan Recommendations

- To realize the U.S. Commission on Ocean Policy recommendation for strong support for ocean research, including ample access to modern research vessels, the UNOLS fleet must increase beyond the current projected levels detailed in the *Federal Oceanographic Fleet Status Report* [Interagency Working Group on Facilities (IWG-F)].
- The Federal agencies should continue the fleet renewal activities that are currently underway (the Alaska Region Research Vessel, the three Regional Class ships, and the two Ocean Class ships), under the timeline shown in the 2007 *Federal Oceanographic Fleet Status Report* [IWG-F].
- Begin the process now for new ships that will be needed in 2017 and beyond. Plans for replacement of the two existing general purpose Global Class vessels whose planned end of service life occurs by 2017, must start now. A minimum of one and preferably two new general-purpose Global Class vessel(s) should be planned for, funded, and constructed by 2018.

Fleet Improvement Plan Recommendations

- New state-of-the-art ships with technically sophisticated equipment will require more highly-trained and specialized personnel to provide technical support. Personnel strategies must be developed to improve the staffing and retention of experienced technical support personnel and crew.
- Recognizing the delays in the timelines for delivering some of the planned ships into the fleet, some of the current ships nearing their end of service life should have their service life extended and be maintained at an adequate operational level to meet near term science requirements until the new ships come on line.
- The Ocean Observatory Initiative (OOI) will place new and increased demands on the vessels of the UNOLS fleet, and on Remotely Operated Vehicles (ROVs) for operations and maintenance. As the observatory systems are installed, the planned end of service dates and geographic locations of these ships should be carefully considered to ensure that OOI ship demands can be met.

Fleet Improvement Plan Recommendations

- A capable National Deep Submergence Facility (NDSF) that includes a suite of deep submergence vehicles is required for continued support of science on the seafloor and on the mid ocean ridge systems. OOI projects new and increased demands for ROVs for support at their study sites. We recommend that planning and acquisition efforts for new deep submergence assets continue.
- If budget projections remain at the current low level, retirement of the least capable ships near the end of their service lives should be considered. Any decisions on ship retirement versus lay-ups should be made based on multi-year projections of ship time demand rather than single year figures of fleet utilization.
- The smaller (e.g., under 40 m) ships of the UNOLS fleet serve a crucial role in supporting science in our nation's coastal zone where the human impacts of development and resource use are greatest. To continue to meet current requirements for the entire academic oceanographic community, UNOLS should encourage the timely replacement of Local vessels and Coastal/Regional vessels by institutions, state governments, and regional partnerships.

Fleet Improvement Plan Recommendations

- Federal agencies that operate their own research vessels are encouraged to examine their respective fleet capacities and capabilities to ensure that the Federal fleet as a whole is optimally utilized. Ship capacity that could be used to support academic research ship demand should be identified. Issues of access, facility scheduling, and financial support of an integrated Federal fleet of vessels should be addressed as a coordinated effort between UNOLS and the Interagency Working Group on Facilities.
- We recommend that UNOLS, the federal agencies, and individual operators consider how to make the present and future fleet more environmentally sustainable. New and existing technologies and practices should be used in the construction, operation, and recycling of research vessels and UNOLS should take a leadership role in promoting a green U.S. research fleet, as we move forward in developing the academic fleet.

SMR Update and Input to Ocean Class R/V RFP Development

Project Description and Tasking:

- **SMRs could benefit from some update, re-organization as well as incorporating lessons learned.** Stronger statements about minimum requirements and relative priorities are needed to make the SMRs more effective in the design development process.
- **Three key concepts** would improve the utility of the SMRs:
 - **Create an SMR statement of research vessel design principals and requirements (would apply to all classes):** Would include statements about such things as habitability, noise levels, lighting levels, lab design standards, pollution control, communications capabilities, etc. Quantifiable items would be presented in a table with columns for absolute acceptable minimum and an ideal target value.
 - **Class specific requirements** such as range, endurance, speed, number of science berths, number, size and type of laboratory spaces, main work deck area size, etc. would vary according to the class of vessels. These are quantifiable and would be presented in a table similar to the one above.
 - **Establish a relative priority for each requirement.** Cost drivers in ship design and construction should be considered.

SMR Update and Input to Ocean Class R/V RFP Development

Timeline:

- **Near-term:**

- This effort could have a beneficial impact on the current effort by ONR and PEO-Ships to create the RFP and performance specifications for the Ocean Class design effort. PEO-Ships is currently working on a notional design that would be used to create a cost estimate for the project and they are also working on the specifications and RFP language.
- Community feedback over the next couple of months regarding the minimum acceptable values, target ranges, and relative priorities for the Ocean Class SMRs would be useful for their efforts.

- **One Year:**

Finalizing revised SMRs for Regional, Ocean and Global Class can take place over a longer time frame, but could be completed within a year.

SMR Update and Input to Ocean Class R/V RFP Development

Status and Proposed Process:

- UNOLS Office created Ocean Class SMR Table of Values and Priorities
- FIC, NSF, ONR and PEO-Ships reviewed the SMR table which, in addition to desired targets, has minimum threshold values. Each item was assigned a level of relative priority (critical, very important and important).
- Revised SMR table used as basis for Ocean Class AGOR's specifications in their RFP for Phase I
- Revised SMR table posted on UNOLS web site for community comment. Received responses from more than 150 people representing more than 30 institutions.

SMR Update and Input to Ocean Class R/V RFP Development

Status and Proposed Process (continued):

- FIC revised the actual requirements and priorities, provided them to PEO-Ships and ONR, posted them to UNOLS web site
- Need to determine how the text of SMRs should be reorganized to increase the utility of the SMRs – Not sure how best to do this.
- Revise the Regional and Global Class SMRs
- Determine how to include Lessons Learned to document
- Compare (present and planned) vessels in a Class to the SMRs

SMR Update and Input to Ocean Class R/V RFP Development

Next Steps - Finalize SMRs:

- With FIC and Council approval, provide Ocean Class SMR final draft to ONR and PEO-Ships
- Create final draft of all three SMRs and post for final comments.
- FIC and Council approve final revised SMRs

FIC Action Items

Input to the Ocean Class Research Vessel Design

UNOLS provided feedback on OC Specs, Oct 08.

Updated SMRs provided as soon as review done. SMR Table already provided.

Provide advice to PEO-Ship during Phase I (design/build competitive process with two teams).

Mike Prince will represent the interest of ONR and UNOLS, serving as the point of contact for the broader UNOLS community.

FIC hopes to form an Ocean Class Advisory Committee to provide expertise. Composition of the committee will be similar to that of the Regional Class Advisory Committee except that they would not normally attend Design Review meetings but interact with Mike Prince. Members will be selected after the two Operators are chosen.

FIC Action Items

- Discuss the FIC `Roadmap for the Future`
- Keep abreast of new technologies entering the UNOLS fleet (e.g., the over-the-side handling system on the RV *Hugh Sharp* and RV *Kilo Moana*, WHOI Long-Coring System)
- Ocean Observatories - Stay in contact with OOI Office.
- Design and Constructions Efforts - Stay engaged in ongoing design and construction efforts (Regional Class, ARRV, Ocean Class, etc.)
- Keep informed on projects related to improvement of the UNOLS fleet (e.g. fuel saving, Integrated Survey System, bubble sweep down mitigation)



FIC Membership

- **David Hebert, URI (Chair) – [at-large, 9/09] PO**
- **Newell Garfield, SFSU – [Non-op, 9/09] PO**
- Jim Cochran, LDEO – [At-large, 10/10] MG&G
- David Checkley, SIO – [Operator, 7/10] Bio
- Allan Devol, UW – [Operator, 1/12] Chem
- **Bauer, Jim, VIMS – [Non-Operator, 9/09] Chem/Bio**
- Maureen Conte, BIOS – [Operator, 9/09] BioGeoChm
- Al Hine, USF – [Non-Operator, 9/09] Geology
- Marc Willis, RVTEC Rep (ex-officio)
- Al Suchy, RVOC Rep (ex-officio)
- **Clare Reimers, OSU (Chair-Elect) [At-large, 09/09-09/12] Chem**

YELLOW – Second Term ending

PINK – First term starting