

DRAFT – 01/27/05

Global Class Science Mission Requirements Steering Committee

In the next five to ten years, several of the present Global Class ships will reach the age when mid-life refits normally are required. The Science Mission Requirements (SMRs) for this class of vessels were originally drafted in 1989. Since that time, there have been several advances in oceanographic research as well as technology developments, and emerging new missions, that affect the desired capabilities for these vessels. One example of an emerging mission capability, not foreseen in 1989, is meeting the needs of the future ocean observatory programs. Additionally, SMRs will need to address regulatory constraints that have been implemented in recent years. Thus, the UNOLS Fleet Improvement Committee (FIC) has formed a steering committee to update the Global Class SMRs. The first Global ship due for a mid-life refit is the R/V *Thomas G. Thompson*, which will have completed fifteen years of service in 2006. Additionally, the Lamont-Dougherty Earth Observatory (LDEO) is preparing to place into commission a new Global Class research vessel which replaces the R/V *Maurice Ewing*. Therefore, reviewing and revising the 1989 Global Class SMRs is an exercise whose time has arrived.

Over the past couple of years, UNOLS has drafted Science Mission Requirements (SMRs) for two new classes of vessels that were outlined in the Federal Oceanographic Facilities Committee (FOFC) report, "A long-Range Plan for Renewal." These SMRs were for Regional Class and Ocean Class vessels. The final documents are posted on the UNOLS website at <http://www.unols.org/committees/fic/smr/index.html>. The FIC has recommended that the model used to develop the Regional and Ocean Classes SMRs be followed for the Global SMR effort. Additionally, the format of the Ocean Class SMR document should be used as a template in drafting the Global SMRs.

The Global Class SMR Steering Committee has been established by FIC to develop and submit revised Science Mission Requirements for review by the community and approval by UNOLS FIC and Council with a nominal target completion date of late 2005. Membership consists of a range of science disciplines, institutions, and includes vessel-operator representatives.

The Global Class SMR Steering Committee should draft a set of requirements that address the Global Class ships as specified by the FOFC plan (Length: 70-90 m; Endurance: 50 days; Range: 25,000 km ; Berths 30-35) and other science needs as expressed by the oceanographic community. The goal would be to produce an SMR document similar to the Ocean and Regional Class SMRs and include additional requirements that have arisen since those documents were produced (e.g. ADA, Hazmat, ISM, and homeland security). The SMRs should be developed for general-purpose requirements applicable to all Global Class research vessels. The committee should also consider additional requirements for a seismic capable ship, an observatory support (heavy lift) vessel and a human occupied vessel (new HOV) support ship as additional appendices to their report. All SMR documents are working documents and will be updated on a regular basis as needed.

Task items for the Global Class SMR Steering Committee include the following:

- Establish a project timeline.
- Review the past SMRs and other documentation to form the basis of the new/revised SMRs.
- Use recent experience and comments to define methods for getting broad community input including a survey of the community for future ship needs.
- Identify any workshop/meeting/internet conferencing needs and essential participants, eventually including Naval architect input. Funding will be requested, as appropriate, through the UNOLS Office.
- Develop mission scenarios.
- Draft a set of requirements and desired capabilities. Wherever possible, requirements involving numerical data points should be expressed in ranges rather than discrete values.
- Update progress through UNOLS website. Post the draft SMR document on site.
- Solicit input and feedback from the larger science and operator community
- Produce a SMR document for review and approval by UNOLS.
- As a follow-on activity incorporate Heavy Lift considerations, and Seismic Capabilities into appendices, as noted above.

Orig. D. Hebert, 12/13/04

Rev. J.M. Prince, 1/27/05

Rev. D.S. Schwartz, 1/27/05.