DRAFT

Global SMR Committee Phone/Web Conference
March 8, 2005
Meeting Summary Report

Meeting Participants:

Tom Althouse (SIO)
Annette DeSilva (UNOLS)
Bob Embley (OSU)
Dave Hebert (URI), FIC Chair
Ken Johnson, MBARI
Mike Prince (UNOLS)
Dan Schwartz (UW)
Pat Wheeler (OSU)

Welcome and Introductions – A phone/web conference of the Global Class Science Mission Requirements (SMR) Committee was held on March 8, 2005. The meeting was called to order at 1300 EST. Meeting participants introduced themselves. A motion to accept the meeting minutes of January 28, 2005 <http://www.unols.org/committees/fic/global/global_mtg012805_draft.PDF> was made and approved.

The agenda for this meeting included the following items:

- Accept Minutes of January 28th Meeting
- Review status of task items
- Review Preliminary Global Utilization Trends
- Review the Draft Community Survey Form
- Review input from Committee members
- Review project timeline

Review Task Items and Assignments – The task items from January 28, 2005 were reviewed and refined. The notes below summarize the discussion on the task items. Items that were completed prior to the meeting were not discussed.

Refine Mission Statement: Deferred until after the SMRs are drafted.

Compare the Ocean Class and Global SMRs –Tom Althouse provided the UNOLS Office with a table that includes both the Ocean and Global SMRs. Mike Prince and Annette reviewed Tom's table and provided additional requirements. These were distributed to the Committee for review. The table will be reviewed later in the meeting.

Community Survey – Mike Prince drafted and distributed the community survey to the committee prior to the meeting. We will review the survey later in the meeting.

Compare the current Global Ship capabilities to the '89 Global SMRs and the Ocean Class SMRs – This tasking is assigned to the large ship operators and is ongoing.

Evaluate construction projects underway in other countries - Tom Althouse is working on this task and will provide input on the GOSars vessel and the NERC vessel.

Identify modifications that have been made to the current Global Vessels – The large ship operators are working on this task.

ORION Requirements –Dave Hebert will keep abreast of ORION plans.

Review past workshop recommendations – The committee will continue to review and consider the recommendations from past workshops.

Review AICC and ARVOC requirements for HEALY and PALMER – Mike Prince has contacted Dave Forcucci regarding HEALY. At the next AICC meeting in late March, Mike will discuss this topic with ARVOC.

Investigate new technologies – Dan Schwartz will explore MTS and do a literature search.

Identify impacts of new and emerging regulatory requirements - Large ship operators will address this.

New Agency Requirements – The agencies may have new requirements, as we learned recently during the recent Ocean Class hull evaluation. NSF and ONR representatives were requested to provide this information at the recent FIC meeting. There was some concern by Global Committee members that there might be future requirements for helicopter capability. The agencies will be contacted again regarding future requirements.

There was a brief discussion on future science needs and FIC's efforts to update the Fleet Improvement Plan. The FIC is trying to identify future science needs and initiatives. The large science programs (RIDGE, Margins, etc.) are being contacted. Ken Johnson indicated that he knew of other large science programs that are coming on line. He will pass these along to the UNOLS Office.

Large ship utilization – Annette DeSilva compiled preliminary utilization statistics for the large ships showing trends, research disciplines, areas of operation, etc. See Appendix I.

The first table provides a description of the existing large vessels. The next slide shows large ship utilization from 1993 to present. The major reason why fleet utilization is down in 2005 is because of the recent budget shortfalls. Also, EWING only carried out one cruise in 2005 and is now out of service for the remainder of the year. Additionally, at the direction of the agencies, the large ships are operating with reduced schedules of approximately 270 days.

It was recommended that large ship demand (ship time requests) statistics be compiled. Annette indicated that she would revise the charts to show deferred ship time. Much of this information is already in hand. Pat Wheeler asked what are the projections for 2006? Reply – bleak. It would be useful to include 2006 in the charts. For 2006 the agencies have indicated that we need to cut $6M from budget. Mike Prince indicated that we would probably have 2006 estimates at the end of the month. Larry Clark has asked UNOLS for suggestions on how to reduce the operation costs in 2006 to meet the budget projections. On the positive side, utilization by NOAA may go up to support their buoy program.

Next Annette showed the geographic distribution of the large ship time from 2003, 2004, and 2005. There has been a lot of work in the North Pacific.

The next chart showed Fleet utilization projections through 2020. The chart includes observatory facility demand in accordance with the Chave report. The agencies complain about this chart for a variety of reasons:

- New Ocean Class ships might be able to take over some of the work currently carried out be the Global ships
- The observatory ship time demand will be scaled back to meet actual budgets
- The global ship utilization for traditional science might decrease in the future, freeing time to support observatories.

Bob Embley asked if in the future one vessel should be dedicated for observatory support. Mike Prince replied that NSF has indicated that until the observatory program is funded, modifications or increases in the facilities should not be considered. Bob Embley suggested that the community survey should include questions regarding observatory facility needs.

There was a brief discussion on the FOFC long-range fleet plan update. Mike stated that the next plan would have to include a large ship replacement since it covers the period when THOMPSON will reach its retirement date. He explained that the FOFC working group represents all of the different agencies that support UNOLS. The FOFC group is working with UNOLS.

The next chart shows the level of support for the Global ships broken out by agency from 1999 to 2005. NSF is the major provider. Ken Johnson pointed out that in 1999 the Navy support was higher as a result of the additional NAVO work.

The last chart shows the average day rate for the Global ships from 1999 to 2005. There has been an upward trend as a result of inflation, increasing fuel costs, and new security and safety regulations. Tom Althouse added that the big driver for large ships is fuel cost. There won't be as much impact from fuel on the other ship classes. The updated SMRs must state the need for economical, fuel-efficient vessels.

Draft Community Survey - Mike Prince reviewed the draft community SMR survey <GCSMR_survey_Form.html>. The following provides a list of committee suggestions:

1. Item 1: Discipline
    a. Add – ship operations and management
    b. Add – marine technicians

2. Add a field asking "Specific field of research or interest"

3. Item 3 - Add the Navy Map or have a pull down box with the Navy regions. Mike will set up some check boxes for areas and also ask them for the Navy map designations.

4. Item 4 - Change endurance – ask for range: min and max, with a separate box for comments.

5. Item 6 – desired transit speed – change to request desired on-station speed and desired operational speeds.

6. Item 7 – sea keeping –revise. Add detail.

7. Item 8 – station keeping – add check boxes for:
    a. Do you need DP?
    b. Transducer wells?
    c. Vehicle operations?

8. There are two number 15s

9. Add general category "Non-traditional requirements" – stimulates them to think outside of the box.

10. Add an item – "DO you plan to use AUVs, ROVs, etc?"

11. Add an item for UAVs

12. Add "freezers" to Science Storage requirements.

13. Add Separate category for hazmats – It would be useful to get an idea of how much activity is planned and any unique, special future requirements.

14. For all items – add breakouts

15. Item 11 - General Science Storage requirements – breakout; perhaps add HAZMAT here and any other items.

16. Question 18 – Shipboard communication needs – this refers to intra ship communications and data networking

17. Question 19 – external communications – More information is needed. bandwidth requirements (probably should be qualitative). Types of data requirements/video. More information is needed. We want to make sure that the capabilities will be there to support future ops – such as educational efforts.

18. Add a question asking if they are involved in any major workshop.

19. Add questions on observatory facility needs.

20. Add questions on habitability.

Mike asked the group to provide any additional comments over the next couple of days. He will revised the survey and redistribute it for final review. Once it is ready it will be given to Laura for posting.

SMR Values Table – Mike Prince reviewed the SMR values table. The table can be used as a template to compare the Ocean and 1989 SMRs and indicate desired Global SMR values. Bob Embley suggested to include an item on shipboard noise. It is important that the noise requirements are kept low. Whatever the current noise specs are, they are not good enough. Mike indicated that noise is included in the section on habitability, but additional detail could be added. Tom Althouse explained that THOMPSON was built to a circular of requirements (COR). Most of the noise requirements were addressed in the CORs but getting the ship builders to meet them has been an arduous job. At SIO, they have put a lot of effort into correcting the noise problem and now during DP ops REVELLE is very quiet. Individuals in the forward spaces don't even know that the DP is on. The point is that this can be done. Tom has obtained the noise spec for the G.O.Sars vessel and it is extremely quiet. Tom is trying to get the noise specs for the NERC ship. It was noted that the survey does not address habitability and it was suggested that it should be added.

Project Timeline – The project timeline was reviewed and no changes were recommended:

- Post Survey for community input - mid April
- Deadline for community response - End of May/early June

All agreed that the highest priority is getting the survey out to the community. The committee will continue work on the other items in the task list below.

Summary of Updated Task List (updated as of 3/8/05):

Task	**Assignment/Due Date/Status**
Refine Mission Statement	Defer to project end
Review the SMR Values Table - Review the Ocean Class and 1989 Global Class SMRs to determine what should be included in the updated SMR document.	Committee - ongoing

Draft Community Survey – Mike Prince will revise with Committee comments and redistribute. Post for Community input – mid April. Deadline for Response – end May/early June.	Mike Prince
Compare current Global Class vessel capabilities with the Ocean Class and 1989 SMRs to determine how well the SMRs describe current and future science requirements.	Large Ship operators (Tom Althouse, Al Suchy, Dan Schwartz, and Paul Ljunggren.)
Evaluate construction projects under development in other countries (UK ship, GOSars vessel).	Tom Althouse
Identify modifications that have been made to the current Global Vessels BROWN, ATLANTIS, REVELLE, THOMPSON) since they entered service.	Large Ship Operators
ORION Requirements – keep in touch with ORION Office	Dave Hebert
Review past workshop recommendations (ocean drilling, NSF Futures documents, Cowles/Atkinson report, etc).	Committee – provide suggestions to Annette.
Review AICC/ARVOC requirements for HEALY and PALMER	Mike Prince
Investigate technology developments in new commercial ship construction	Dan Schwartz
Identify impacts of new and emerging regulatory requirements (ICES Noise standards, ADA, Marine Mammal and Acoustic Permitting, USCG Inspected, SOLAS ships, HAZMAT, International Requirements, Double Hulls, Ice Capable classifications, Etc.	Large Ship Operators
Contact major funding agencies to determine if they have new science requirements.	UNOLS Office
Compile large ship utilization trends and ship demand.	Annette DeSilva

Next Meeting – The next phone/web meeting was scheduled for April 13, 2005.

The meeting adjourned.

APPENDIX I

Slides:

- Meeting Agenda
- Task Items
- Global Utilization Trends

<http://www.unols.org/committees/fic/global/global_slides_030805.PDF>

APPENDIX II

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.