

Chris Measures

Date: November 23, 2015

From: Dr. Chris Measures, UNOLS Chair

To: Captains Bauke Houtman (NSF) and Robert Timothy Schnoor

Subj: 2016 U.S. Academic Research Fleet Operations Support Findings and Recommendations

Ref: UNOLS Non-Operators Subcommittee Procedures for Recommending Non-Operational Periods of Ships in the UNOLS Fleet (revised 8 June 2015)

Please find attached the response of the UNOLS non-operator sub-committee to the **“2016 U.S. Academic Research Fleet Operations Support Findings and Recommendations”** from NSF and ONR.

The sub-committee, which is composed of individuals from non ship-operating institutions has reviewed your June 30th recommendations for 2016 Fleet operations and produced a response in accordance with the reference procedures. The UNOLS Council has approved the response.

We look forward to continuing to work with NSF and ONR to efficiently schedule the academic research fleet.

Attachment



In accordance with the “**UNOLS Non-Operators Subcommittee Procedures for Recommending Non-Operational Periods of Ships in the UNOLS Fleet**”

(https://www.unols.org/sites/default/files/NonOp_Process_Recmd.pdf), the above subcommittee provides the following response for approval by UNOLS Council to the “**2016 U.S. Academic Research Fleet Operations Support Findings and Recommendations**” from NSF and ONR.

Agency Positions:

UNOLS Council (“we” hereafter) recognizes that NSF and ONR (“Agencies” hereafter) have sole discretion on whether or not to retain their vessel(s) in service, and that they will not provide operators of agency-owned assets with lay-up funds or divert work from other UNOLS ships as an artificial mechanism by which to reduce day rates. We agree that funding decisions should be prioritized based on schedule efficiency, scientific effectiveness and budget comparisons between ship options to maximize science support while making every effort to reduce overall costs. We are pleased that the Agencies agree that an appropriate level of surge capacity is needed within the Academic Research Fleet (ARF).

While we are disappointed that NSF has decided to request funds to build two, rather than three Regional Class Vessels, we strongly agree that maintaining specialized seismic capabilities is important, and support the options the *Sea Change* report outlined for the R/V *Marcus Langseth* and access to essential geophysical instrumentation.

As always, UNOLS also encourages all institutions operating ARF vessels to charter ship days for education and research.

Agency Decisions and Recommendations

We agree that ship operators should always work to identify ways to reduce costs and look for additional funding sources, which is difficult in today’s economic climate combined with declining oil and gas revenues. We encourage operators not to over-estimate annual costs, yet recognize that unexpected equipment repairs/replacements are necessary.

While we recognize the need to fit science programs onto the new, but smaller vessels R/V *Sikuliaq*, *Armstrong*, and *Ride*, and share the expectation that these new modern vessels will perform more efficiently than the vessels they have replaced, we caution that it will take time to determine whether or not they fit the needs of large programs, especially in remote and tempestuous areas such as the Southern Ocean or northern North Atlantic (as just announced as a new NSF international initiative) whether making basin-wide surveys or process studies in the vicinity of large Ocean Observing Initiative assets. We are also concerned about the decline in icebreaker research capabilities at a time when the Arctic waters are opening up, generating growing national security and safety issues as well as research needs in this new frontier. We are pleased that funds have been identified for overhaul of the R/V *Thompson*, and encourage that funds be sought for overhaul of the R/V *Revelle* and *Atlantis*. UNOLS stresses that we will continue to need Global Class ships to conduct the studies needed to understand and manage the



oceans in the future. The charts provided in the Agency **Findings and Recommendations** show a sharp drop in next year's Global Class ship days, to a level of half the number of operating days only five years ago. The total ship operating days projected for 2016 is only half of the number of days funded in 2010, with most of the decrease coming from NSF-supported days, though in 2016 there is a decrease in ship days supported by all agencies. The decline in NSF-funded operating days in 2016 could be explained by the response to the *Sea Change* report that required a rebalancing of the percentage of money going to infrastructure versus core science funding, which is necessary, but the decline in NSF-funded ship days has continued at about the same annual rate for the previous five years. Hopefully some of this decline restores balance between core science and infrastructure costs. What is not clear is whether the drop in operating days is due to a lack of proposals because PIs are concerned that ship-using projects (especially using large ships) will not be funded in this period of very low success rates for proposals, or because of a lack of money allocated to agencies by Congress. Even existing large programs (e.g. CLIVAR, GEOTRACES) were limited in the number of cruises per year to fit the budgets. This again raises the question of whether proposals requesting ship time have a lower success rate than proposals without ship time, since Figure 4 shows a slight increase in Science Days Requested and Number of Requests from 2008 through 2014, while the number of ship days funded and operated decreased (Figures 1 and 2). An alternative explanation is that for NSF 2016, non-ship proposals have also had a sharp decline in success rate.

Given the long lead time (decades) for replacing ships of any size, we encourage Agencies to engage with UNOLS to begin planning for the replacements of Global Class vessels. One of the "**Guidelines**" from the Agencies was "Programs may be scheduled as a two-ship operation instead of a single Global Class ship if it will be more efficient and cost effective." While that may be more cost effective at times, some of us have participated in large NSF and ONR programs that used two smaller ships (or even two Ocean Class vessels as in SOFex) rather than one large ship and find that the diminished interaction and communication among scientists can reduce the scientific outcomes.

NSF's willingness to transfer the R/V *Barnes*' title to the University of Washington to support its replacement is applauded. We take this as encouragement that local ships of this type are needed and their construction by institutions helps fill the science needs of the community. While we realize that such ships are funded at the local level, strong positive support by Agencies promoting these projects in literature and conversations would help to lead the way for all potential users to contribute to the funding of such vessels, lessening infrastructure costs to Agencies.

We commend NSF and NOAA for implementing a barter agreement to exchange ship days to optimize scheduling efficiencies. We would also encourage NOAA to use UNOLS vessels when they have work they charter on non-NOAA vessels.

Guidelines



The guidelines list the factors the Agencies used to reach their **Decisions and Recommendations**. These guidelines should be distributed to all ship operators if not already standard practice. The guidelines that can help a PI in developing a proposal that will use a ship should be distributed in some fashion that will inform, but not discourage them from submitting a proposal. Guidelines 4-9 are appropriate for such distribution. We also encourage better early communication between schedulers and PI's to optimize efficiency.

UNOLS looks forward to continued interaction and dialogue with the Agencies to provide members of the oceanographic community with the best facilities possible to conduct the important research that is needed to understand and maintain sustainable conditions on earth.

