

## **UNOLS Non-Operators Subcommittee Procedures for Recommending Non-Operational Periods of Ships in the UNOLS Fleet**

**Revised and approved June 8, 2015**

**Statement of the Problem:** Since 2007 it has become standard practice for the funding Agencies to provide UNOLS Council with their joint projection for the coming operating year with respect to ship operations based on Agencies' budgets, the demand for ship days, the availability of new vessels in the fleet and the condition of the present vessels. Specifically, they notify UNOLS of their intentions and preliminary decisions and request UNOLS's input to guide their final decision, particularly when any of the following major actions are being considered: retirements of existing vessels, layups of existing vessels or changes in operating institutions. In a report dated July 24, 2006, an ad-hoc UNOLS subcommittee outlined "Criteria and Process for Recommending Non-Operational Periods of Ships in the UNOLS Fleet." The following updates that process, and describes the practice that will be used to provide future input to the Agencies. This document supersedes the document prepared in 2006.

**Process:** The Agencies' preliminary decisions about actions to be taken regarding UNOLS vessels are submitted to UNOLS. The UNOLS response to the Agencies' preliminary decisions is formulated by a subcommittee composed of an odd number of members from non-operating (hence less conflicted) institutions. This subcommittee consists of at least three members, and the UNOLS Chair may appoint past Council members or other UNOLS subcommittee members if necessary. After evaluating the Agencies' plan, the subcommittee shares the draft response with UNOLS ship operators, UNOLS Council, and any other interested parties (e.g., the UNOLS Office, UNOLS sub-committees, ship user and general UNOLS membership). Based on their own analysis and the input received, the subcommittee is charged with providing timely, balanced, fair, and un-conflicted feedback to the Agencies regarding both the adequacy of the initial Agency recommendations and possible alternative scenarios they might consider. The subcommittee response is approved internally by a simple majority of its members (hence the odd number of members). If there is not unanimous consent on the final response, minority opinions will also be provided to the Agencies. The final report of the committee is then presented to the UNOLS Council for a vote before being forwarded to the Agencies.

**Background:** The principal cost driver for oceanographic ships is crew costs, followed by fuel, maintenance, and IDC. The most effective way to save funding, therefore, is to retire a ship completely, such that it no longer has crew, fuel, maintenance, or IDC expenses. However, a retired ship cannot return to the fleet when the funding situation improves, and therefore early retirements are only considered as a last resort (such as when it is certain that the fleet is operating at over capacity) or when a replacement ship has already been identified.

Short of retirement, the next most cost-effective way to eliminate expenditures is a cold lay-up. In this situation, all but one or two essential crewmembers are laid off, the ship does not sail, and maintenance is kept to a bare minimum. Planning for extended or cold lay-up on USCG-inspected vessels should take also into account the cost and time required to bring the vessel back into USCG standards for inspection and certification (should it lapse) when being reactivated. The cold lay-up of any ship for a



year results in losing crew, marine technicians, and shore-based administrators as they seek other jobs. Those valued staff members may not be available to return to employment associated with the vessel after the lay-up period, and sufficient expertise might not remain to even train new crew and technicians. The latter is especially true for institutions that operate a single vessel, such that layup of their ship may prove fatal to their ship operations.

Hot lay-ups and partial lay-ups are non-operational periods that save little beyond fuel dollars. The ship is typically tied up at the dock and is not supporting science, but most of the crew is retained (although potentially on leave). Maintenance is current so that the ship is ready to sail and certifications are maintained. Such layups might make sense when funding has been identified to bring the ship back into operation within a few months. The added cost of remobilizing and re-staffing a ship that was in cold lay-up negates the cost savings unless the lay-up is for a substantial period of time (e.g., approaching a year).

Relevant to ship operations, lay-up funds, scheduling, and capacity, in their Annual Recommendation Letter dated June 27, 2014, NSF and ONR articulated, among other Agency positions, that:

- 1) “Vessel owners have sole discretion on whether or not to retain their vessel(s) in service. Agencies have final say on where their respective federal work will be carried-out.”
- 2) “In order to improve the efficiency and economy of the overall Academic Research Fleet schedule, it is not assumed that NSF and ONR will 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. The need for lay-up funds for a specific ship will be carefully reviewed by the federal Agencies on a case by case basis and will be considered within the context of the overall Fleet right-sizing and budgetary projections.”
- 3) “Federal Agencies prioritize decisions based on strategic objectives, schedule efficiency, scientific effectiveness, and budget comparisons, to maximize science support while making every effort to reduce overall costs. This may require a long-term view beyond a 12-month forecast. It may be the case that consolidation of underutilized schedules adds transit days but reduces overall costs, and is in line with Agency position 2 above.”
- 4) “NSF and ONR agree an appropriate level of surge capacity is needed; in particular for rapid response type cruises and to allow for potential future increases in science utilization.”

**Values to be considered (IN PRIORITY ORDER):**

The following guiding principles, listed here in order of priority, should be considered when making recommendations. It is understood, however, that the Agencies and subcommittee making such recommendations should have the option of modifying the order in exceptional circumstances, provided they justify their reasoning.

*Meeting science needs.* The choice of ships to operate should be made such that PIs are not waiting years to get a ship that can handle the science program on account of the lay-up schedule. One ramification of this value is that ships with unique capabilities or equipment, such as the



*Atlantis (Alvin), Langseth (MCS), and Sikuliaq (ice strengthened)* are less likely to be candidates for lay-up, as long as they have reasonable demand for their unique capabilities/equipment in any given year and that their schedules can be filled out with other programs that might have been accommodated on any of the large ships.

*Geographic availability.* Based on data from the UNOLS office, only the ships with unique capabilities/equipment (e.g., *Atlantis, Langseth and Sikuliaq*) have no bias in their areas of operations imposed by the geographic location of the operator institution. Therefore, when laying up multiple ships in the same class (e.g., two regional ships) in any one year, they should be from different coasts and institutions, depending on the funded scientific demand for each region.

*Efficiency of operations.* Often, science programs could be scheduled on one of several vessels, and depending on how that choice is made, one vessel or another ends up with a light schedule and is a candidate for lay-up. In this situation, we recommend that the choice of which vessel to assign to the funded science be based on which schedule maximizes the use of funding for science, as opposed to transit days or port days. For example, if an Atlantic ship has a full schedule by virtue of spending a month each way transiting to the Pacific to pick up one leg of work there, it is unlikely to yield a cost-efficient schedule. It does not appear currently that for ships within the same class, there is enough difference, assuming full schedules after lay-ups and retirements are implemented, to make decisions based on day rates. Efficient and cost-effective operations should be encouraged, but cutting costs at the expense of maintenance, safety, effective transit speeds, adequate meals and availability of crew overtime to support science operations should not be encouraged in an effort to reduce day rates and operational costs.

*Quality of operations.* Decisions should be made such that ship operations that consistently meet or exceed the science mission requirements are rewarded over a ship that consistently disappoints the PIs. While the post-cruise assessments (PCA) provide some qualitative information on performance, especially regarding specific equipment needs/performance on the ship, they should be only one of several metrics in evaluating overall quality of operations. The range of average PCA ratings is too narrow (4.6 – 4.8 out of 5 in all categories) to be used quantitatively for performance ranking. The sum of comments made can be insightful, though still not numerically quantifiable. More important than issues raised in PCAs is the operator's response to correcting issues raised, which doesn't always show up in later PCAs. Quality of operations can also be used when deciding between laying up or retiring a ship. If a vessel has been problematic in terms of meeting science needs, and is also repeatedly a candidate for lay-up due to under-utilization, it may be considered a stronger candidate for retirement.

*Diversity of operators.* There is a demonstrable benefit to both science and graduate education of having ship operations at multiple institutions. Therefore, we recommend that diversity of operators be valued, but not at the top of the list.

**Additional relevant information:**

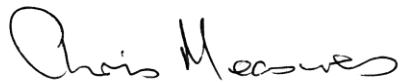
*Personnel impacts.* Recommendations should consider the impact on experienced technical staff, crewmembers and shore-support personnel, and the potential for alternative methods for retaining their services. Investments in training and experience are significant.

*Potential for other sources of funding.* Vessels that have a history of and potential for diversified



funding should be given consideration for remaining active. Examples are vessels that can demonstrate support from and use by their operating institution, state and local agencies, other federal agencies (in addition to NSF/ONR/NOAA) and non-governmental organizations.

*Agency budget timing and decisions:* The timing of different federal budgets is an issue to consider in making recommendations. NSF decisions are generally known earliest, then ONR decisions by the new fiscal year. NOAA decisions are typically known early in the new fiscal year, but may not be made until the second or third quarter in cases of a continuing resolution. UNOLS might recommend delaying final decisions on operating schedules for specific ships until all funding decisions are known, especially in cases where losing a specific science program would have a major negative impact on the efficiency and viability of a schedule, or the decision to lay up a ship.



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Chris Measures, UNOLS Chair

