

UNOLS evaluates approaches for improving Quality of Service

The UNOLS Council has recently embarked on an initiative to investigate ways to improve the quality of service provided to marine science by the U. S. Academic Research Fleet. Now it is time to bring the rest of the community into the process.

**What has stimulated this
Quality of Service initiative?**

A comprehensive external review of the U.S. Academic Research Fleet was conducted in 1998-99.

- *Fleet Review Committee appointed by NSF's Assistant Director for Geosciences.*
- *Requested by the National Science Board as a pre-requisite to re-authorizing the Ship Operations Program at NSF.*

Their 1999 Report provided the community with a careful assessment of the current and future research vessel requirements and the overall management structure for the fleet. This report is referred to as the Academic Fleet Review (AFR)

The committee found:

- *U.S. marine scientists were provided excellent access to the sea through the centralized scheduling and coordination of UNOLS.*
- *User satisfaction with the current system was very high.*

They also found some areas of concern.

These included:

- *the complexity of cruise scheduling.*
- *some lack of consistency between institutions with regard to conventional shared-use equipment and services.*
- *concern about the acquisition, use, and maintenance of increasingly sophisticated and expensive equipment which is not available or maintained in a uniform manner throughout the fleet.*

Also...

- *There was some concern that some scientific users, particularly those from non-operator institutions, felt they had little recourse for action if a ship, its equipment, or technical staff failed to meet the scientific requirements of their specific project*

The Academic Fleet Review states in the section containing recommendations:

- *" Several recurrent issues such as improvement in the scheduling process (especially abrupt changes), equal support of non-operator researchers, quality of shore support, and maintenance/support of installed and pool equipment need to be worked on and improved. "*

“ The orientation towards a continuous improvement program and a formal quality control program (looking toward the best industry training and practices) needs to be infused into the entire UNOLS and operator system.”

These observations of the Fleet Review Committee were summarized within two of the eight final recommendations in the 1999 Academic Fleet Review.

4. The funding agencies and UNOLS need to support fleet improvements by enhancing quality control, expanding training of personnel in technical and safety procedures, and developing even higher standards for shared use facilities

7. *There is a need for a strong, continuing program of new technology introduction; steady improvement of existing facilities and technologies; greater, continuing attention to quality control and safety; and a more systematic, standard approach to maintenance, renovation, upgrading, and replacement.*

In four years, the Ocean Science's Facilities Section will have to show what action has been taken to implement the recommendations in this report!

This is one reason why we have a "Quality of Service" initiative.

**The other reason is because
UNOLS is a quality
improvement program.**

*It's what we do and why we exist; to
provide the highest quality facilities
possible for marine science research
and education.*

So... We are not talking about starting a totally new “Program”

We are talking about finding ways to improve what we are already doing!

UNOLS was created in 1972 to ensure that scientists had access to safe, effective, sea-going platforms for ocean research, regardless of whether or not their home institution operated a vessel in the academic fleet.

What is the present system for
quality control and improvement
within UNOLS?

- *UNOLS Committees and Council*
- *Post Cruise Assessments*
- *Inspection Program*
- *Ship Operations Committees*
- *Involvement of Scientists at operating institutions as administrators or advisors.*
- *Direct feedback by ship users to Ship Operators and Technician groups.*

UNOLS Committees

- *Council*
 - provides oversight, new direction and assessment of overall program.
- *Ship Scheduling Committee*
 - Ensures access to the fleet by all and coordinates schedules for optimum utilization of the fleet.

- *Fleet Improvement Committee (FIC)*
 - Plans for the future of the fleet
 - examines way to improve the capabilities of the current fleet
- *Deep Submergence Science Committee (DESSC) and Arctic Icebreaker Coordinating Committee (AICC)*
 - Act like Ship Operations committees for the National Facility at WHOI and for the Coast Guard's Icebreakers

Research Vessel Operators Committee (RVOC)

- *RVOC predates UNOLS and has always been a forum for sharing ideas, technologies and policies that help to bring about better and more uniform service to science.*
- *Many programs and group efforts have been undertaken through RVOC and quality of service will be no different.*

Research Vessel Technical Enhancement Committee (RVTEC)

- *Modeled after RVOC, this committee promotes the sharing of knowledge of new technologies, procedures, policies and training that directly serves the needs of scientists using our fleet.*
- *This committee is where a large part of the quality of service issues will be addressed.*

A partial list of what you are already doing:

- Standard data formats and media.
- Improved shared use equipment specifications, calibration and operation.
- Personnel qualifications and training for marine technical staff.
- Improved communications to and from ships and between scientists and operators.

Post Cruise Assessments

- *Two forms are available for Chief Scientists*
- *Online form at:*
<http://www.gso.uri.edu/unols/pcarform.htm>
- Older paper form still in use.
- Submission rate is around 60%
- Very few reports contain significant constructive criticism.
- Form for Captains and Technicians only used by Captains. Need input by all!

Inspection Program

- *Auditing system that should help to ensure uniform quality of operations, equipment and safety.*
- *Independent assessment of condition that should verify the effectiveness of other efforts.*
- *Contract for re-implementing the program is needed.*
- *Input from Technicians and operators on how the program is structured would be helpful.*

Ship Operations Committees

- *Committees established at operating institutions to oversee and advise on operation of Research Vessel.*
- *May contain users from other institutions.*
- *Not all institutions have them.*
- *Recommended vehicle for planning improvements and replacements.*
- *Good vehicle for user input on operations.*

Institutional Involvement & Direct Use Input

- *This is the cornerstone of making sure we provide the facilities and services required by the scientific users of the fleet.*
- *Support for quality research vessel operations and technical services needs a high profile at operator institutions.*
- *There is no substitute for personal communication with the scientific users of our vessels.*

What more do we need to do?

- *Some suggestions from the report directly applicable to RVTEC*
- *Uniform shared use equipment & Technician support:*
 - Standards for base level of equipment.
 - on your agenda for today.
 - equal standards for technical support.
 - common charges (for any that are paid directly)

- *Increased reliability, quality of data and performance for shared use equipment:*
 - fleet wide quality based system to ensure proper logistical and technical support at each operating institution.
 - adopt a modern quality control system.
 - increased education and training of personnel.
 - rigorous evaluations of operator performance.
 - budget support for the quality program and training.

- *Increased shared use of specialized systems that have wide application.*
 - Users want expensive and complex systems to be provided by operators.
 - Eliminate duplication of equipment purchases by individual PI's.
 - Continue to expand the concept that some of these systems are shared between several operators. Supported by one operator?
 - Ensure availability, reliability and quality of data from these systems for all users.

- *Take advantage of slack periods in schedules for:*
 - Equipment overhaul, upgrade and replacement.
 - This requires advance planning and budgeting.
 - Technical training and education.
 - Rotation to other institutions or support for specific projects that improve the fleet or your own vessel operations.
 - Identify and implement improved technologies and equipment.

Improved feedback system

- *This is a UNOLS wide action. Current forms created by RVOOC.*
- *Need to improve the type of information and feedback that we use to evaluate our performance and make improvements.*
- *Need to increase participation in the process by users and providers of services.*
- *Improve the feedback to users so that they feel that their concerns are being addressed.*

What's Next?

- *Identify a formal quality improvement or control program for the fleet as a whole.*
- *ISM or ISO 9002?*
 - ISM is a safety and pollution control program that is mandatory for some and will probably be the norm for all. It is not a quality program.
 - ISO 9002 is a quality assurance program but may be better suited for individual operators than it would be for the UNOLS organization.

What other programs are there?

- *Six Sigma*
 - Elimination of defects to a level that is near perfection. GE program that AFR committee Chair Roland Schmitt was involved with.
- *Demming Award*
 - Japanese business award program for quality organizations.

- *Malcolm Baldrige National Quality Award*
 - U.S. Equivalent to Demming Award.
 - Oriented to business and educational organizations.
 - Established by Congress and administered by the Department of Commerce.
 - Criteria can be used as a guide for a continuous quality improvement program without competing for the award.

NSF's Innovation and Organizational Change Program

- *UNOLS Council heard from program manger Mariann (Sam) Jelinek.*
- *UNOLS is a complex organization and it would be a challenge to develop a formal program that cut across the many institutions and agencies.*
- *Researchers in that program may be available to help us.*

We need your help

- *Technicians are an integral part of the service provided to science.*
- *Your input on improving the quality of service at your own institution and across the fleet is invaluable in developing a program that makes a real difference.*
- *Participate in surveys, committees and programs that will continue our efforts to improve service.*

Closing Thoughts

- *Quality of Service means satisfying the customer which in our case is “ Marine Science”*
 - Scientists, PI ’s, Chief Scientists, Science Technicians, and students.
 - Funding Agencies and Program Managers.
 - Taxpayers and the public.

Quality of Service means a quality organization.

- *Meeting or exceeding the expectations of the customers.*
- *Meeting the expectations and needs of employees, staff, crew and EVEN technicians.*
- *A source of satisfaction and pride for everyone involved.*

UNOLS is made up of many individual organizations

- *This may mean that we have several levels of quality management and improvement programs.*
- *These should be integrated and complimentary as much as possible.*
- *UNOLS as an organization should ensure that the overall goal of “ Quality Service to Marine Science” is the prevailing culture.*