

APPENDIX IV

COMMENTARY - The Academic Research Fleet

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ABSTRACT

The United States Academic Research Fleet is a jewel in the crown of U.S. science. Operated by and for the country's oceanographers, this small fleet of research vessels is efficient and responsive to the ever-changing needs and increasingly global interests of science. Nourished by benevolently engaged federal and state agencies, the academic fleet provides quality afloat facilities for our extensive coastal waters (including the Great Lakes) as well as the "blue" waters of all the world's oceans.

INTRODUCTION

The United States academic research fleet is a unique jewel. No other country comes even close to matching this fleet in either size, condition, diversity, or capability. Most other research vessels are government owned and operated. The University-National Oceanographic Laboratory System (UNOLS) fleet reflects the nation; it is a loosely organized amalgam of private, state, and federally owned vessels that compete entrepreneurially in an extremely collegial fashion to provide services to its constituents, the ocean scientists.

THE ACADEMIC RESEARCH FLEET TODAY

Dedicated academic ships are a relatively new phenomenon. There were no dedicated ships until the early 1930s and the military provided most of the research vessels through World War II and into the 1950s. However, today the fleet has grown in numbers and in quality, and enjoys remarkable safety and performance records.

The configuration of the fleet is driven by science needs. A product of continuing evolution, the UNOLS fleet now comprises twenty-seven ships operated by nineteen separate institutions. Scientists participate actively in every phase of the fleet operations from sitting in on committees that draft ship design specifications, to design and procurement of scientific tools for ship board use to ship scheduling, inspection, and safety standards.

The user community is involved and sets the standards. This user to operator to funding agency connection is extremely important and effective. By having the ships operated by oceanographic institutions, quality of service provided is assured. The users are able to directly oversee ship operations. This modality also results in distributing the fleet throughout the community with enormous advantages (and a few disadvantages). The following details point out several of the advantages of a distributed fleet.

- Direct contact with the scientists and technicians who use the ship with constant feedback on performance and ideas for improvements.
- The feeling of ownership and pride of performance that comes from being members of the oceanographic community.
- Cost management: Because ship operating costs and science funding come from the same pot, the ocean science community as a whole shares mutual goals in keeping costs within reasonable

bounds. Federal agency representations play an appropriately strong role in this process.

- Constituency: The ships become magnets for state, regional, and federal programs. Operating institutions become advocates for facility funding.
- Research and education are enhanced at the local level. Quality ships attract quality people into oceanography.
- Smaller vessels, because of their short range, need to be distributed on a regional or institutional basis - it would be impractical any other way.
- Composition of the academic fleet offers significant opportunities for cost sharing from non-federal and non-governmental sources. This cost sharing typically amounts to \$12 million dollars annually.
- Additionally, the local presence and availability of vessels invites and enables marine scientific instrumental testing and development.

The downsides occurring from this distributed fleet are emphasized by the following points.

- Cost: There are some minor inefficiencies of distributing the fleet mostly stemming from the requirement for duplications of shore-side infrastructure.
- Unevenness of quality: More often, however, these are differences in standardization. The overall quality remains high.
- Parochialism: In-fighting over who gets the assets can have a negative effect on cohesiveness and common purpose, however, competition can be healthy and invigorating as well.

In the "old days," the fleet was small and operated as a "home" fleet by and for a few large institutions, but this model had many flaws, principally being unfair to the "have not" institutions that wanted to participate in the growing field of oceanography. The home fleet model tended to be driven to a certain extent by ship (expedition schedules) rather than by science needs. And the reality of ship operations is that they are expensive; community use is an economic necessity. The formation of UNOLS in the early 70s overcame many of the home fleet model problems, namely:

- Community-wide scheduling is more efficient and equitable;
- Standards set by the community through UNOLS enhance fleet effectiveness and afloat safety;
- Spreading the wealth improved the overall effectiveness and responsiveness of the academic fleet; and - UNOLS provides a powerful voice for the community.

However, the challenges ahead are many and large for UNOLS for the following reasons:

- Managing growth to match both science needs and funds;
- Anticipating and advocating new facilities to support new science needs; and
- Keeping the precious spirit of collegiality in balance with the inevitable pressures of competition.

SUMMARY

The UNOLS fleet continues to be a unique and essential part of the national system. Further development should strengthen the already close relationship between the ships and the science they support.

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