

Minutes
ALPHA HELIX Advisory Committee Meeting
6 - 7 July 1973
Woods Hole Oceanographic Institution

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| Attendees: | R. Bandurski | A. Maxwell | J. Faughn |
| | D. Carritt | R. Dinsmore | W. Garey |
| | M. Gilmartin | J. Mehl | P. Scholander |
| | L. Prosser | M. Gross | G. Shor |
| | L. Provasoli | M. Johrde | |
| | B. Steinbach | A. Green | L. Wilson |

1. Welcoming remarks were addressed to the group by Maxwell, Chairman of UNOLS.
2. Introductory comments by Bandurski and Scholander mentioned the significant contribution of the ALPHA HELIX in getting bench scientists from their home laboratories into environments where life processes can be studied under the extremes of natural conditions. The need for a stable research platform to permit the introduction and practice of life sciences at sea was stressed. The maverick nature of the ALPHA HELIX, it being neither a typical oceanographic research ship nor land-based facility, and its impact upon the future of experimental biological research in the sea were pointed out.
3. Johrde said that nothing had been finalized regarding the operation of University Research vessels for 1974 and beyond. Cost analyses have led to the consideration of laying up of certain ships in 1974, the ALPHA HELIX being one so considered. Financial limitations imposed on the Office of Oceanographic Facilities and Support, and not the ALPHA HELIX or its scientific program are responsible for the uncertainty attending future operations.
4. Bandurski stated that program directors and panels of the National Science Foundation are under considerable internal pressures. They generally give preference to research proposals involving a scientist and his ongoing laboratory work rather than to short term programs.

5. Johrde remarked that many other alternatives were evaluated before the ALPHA HELIX was transferred to the Office of Oceanographic Facilities and Support. Protected projects and programs are more susceptible to funding pressures; e.g., the recent troubles of the ELTANIN. She stated, "The ALPHA HELIX is ours and it will continue to be our problem; we are not willing to give it away".
6. Garey presented a resumé of the 7 year history of the ALPHA HELIX, its scientific program and its funding support.
7. Carritt asked for a relative comparison of cost per scientific productivity of the ALPHA HELIX and other ships.
8. Faughn reviewed ALPHA HELIX costs for CY 1972, reporting total operating expenses of \$448,000, 344 days at sea and 2879 scientist days at a cost per scientist day of \$156. In reference to this last cost category the ALPHA HELIX represents one of the most economical and productive operations in the University Research Fleet.
 - A. Shor pointed out that the statistics above do not reflect a normal year since there was no over-haul period in 1972.
9. Dinsmore presented a cost analysis compiled by UNOLS relating the ALPHA HELIX to other university research vessels. It was mentioned that ships in the size class of the ALPHA HELIX are about optimum as regarding costs of operation.
 - A. Many comparisons were made; however no concensus was reached concerning the relative expenses of the ALPHA HELIX and the costs relative to the scientific returns.
10. Bandurski asked Johrde, Dinsmore, Faughn and Shor to prepare a further analysis, equating the costs of operation of the ALPHA HELIX over a 2-4 year period with those of other research ships.

11. Johrde stated that the relatively expensive operation of the ALPHA HELIX derives from its being characteristically deployed to distant places. She suggested that the Committee might develop, for example, a 5 year program alternating near and far research locations, causing a levelling out and/or a reduction in overall operating costs.
12. Mehl discussed the review procedure at the National Science Foundation for ALPHA HELIX scientific proposals. Formerly the scientific program of the ALPHA HELIX was block funded. Now each scientific proposal is competitive with all others being reviewed by a particular panel. Last year ALPHA HELIX scientific proposals were in partial competition with the others since some money was held in reserve. This year they will probably be in full competition. If panels are asked to underwrite a portion of the ship operational costs they will be less enthusiastic about individual proposals. Mehl said that the ALPHA HELIX program can probably be continued if meaningful work is proposed. He asked whether the studies that scientists generally conduct on the ALPHA HELIX are central to their main work, or whether these investigations continue in directions of research initiated on the ALPHA HELIX. He informed the Committee that the ALPHA HELIX proposals presently before the NSF will not be acted upon until the November panel meetings.
13. An inherent limitation of the ALPHA HELIX for supporting biological oceanographic studies is the need for a suitable trawl winch. Johrde and Scripps Institution of Oceanography representatives will discuss further the acquisition of a new winch to broaden the research supporting capabilities of the ALPHA HELIX. Since biological oceanography studies often require immediate and short duration ship time, all considerations will be given to accommodate these programs during transit periods of the ALPHA HELIX.
14. The ALPHA HELIX provides a highly functional mobile laboratory facility. It would be good for the sake of cost comparisons and other purposes to assess the total costs and the feasibility of transporting scientific equipment and supplies to certain research sites and supporting the studies on barges or portable labs on shore versus ALPHA HELIX supporting costs.

15. Faughn asked whether the participation of foreign scientists would be excluded if NSF supported research work becomes a requisite for utilization of an NSF funded ship. Mehl believed foreign scientists could still be participants as they are invited by chief scientists.
16. Mehl asked the Committee to consider the procedure of having ALPHA HELIX scientific proposals submitted directly to the NSF without any pre review. He recommended that the availability of the ALPHA HELIX be advertized and then a schedule for the ship be developed.
17. The procedure for handling proposals from the R/V EASTWARD was described. Proposals for that program are sent to the office of the Program Manager and then forwarded to 3 reviewers. EASTWARD Advisory Committee members meet and recommend a package of proposals to the NSF for consideration of funding.
18. Bandurski inquired of Johrde whether foreign scientific groups might share the support of the ALPHA HELIX. She believed the question should be answered by the University of California, the owner of the ship, but she will check further at the NSF on the legality of such an arrangement.
19. Dr. Wilson, University of Michigan, presented a request for the use of the ALPHA HELIX on the Great Lakes for a 1-2 year period. Inquiries were also discussed regarding the use and support of the ALPHA HELIX by Canadian, British, Australian and Alaskan interests.
20. Shor indicated that in the event that SIO does not get additional ship operating monies from the NSF, the ALPHA HELIX might be used on short runs from San Diego with a reduced crew.
21. Johrde reiterated that the preliminary analysis and early planning figures which imply the laying up of the ALPHA HELIX will be revised and that nothing is final now. Her departing words were "Don't give up the ship."
22. Options discussed by the Committee:
 - A. Develop a compelling longer ranging scientific program.

- B. Reduce expenses to permit continued operation of the ALPHA HELIX under NSF support.
 - 1) Since crew costs represent 60% of the total operating costs, a study of the possibilities of cutting crew costs should be made by the SIO. For instance, many crew members might be replaced by personnel hired in the region of operation.
 - C. Lay up the ship.
 - D. Explore and utilize alternate funding sources.
23. Gilmartin recommended that the ALPHA HELIX Advisory Committee designate areas of operation 3 years in advance. Interest and intent of prospective scientific participants should be communicated to the Committee.
24. Prosser was unanimously elected Chairman of the ALPHA HELIX Advisory Committee.
25. The Committee decided to adopt the following future course of action:
- A. Keep the ALPHA HELIX viable during 1974 via NSF funding during this period to include time for ship overhaul and maintenance and the carrying out of the halogenization research work; offer the availability of the ALPHA HELIX to the University of Alaska for 2-3 months of the summer, relieving temporarily their immediate pressure for a biological research ship; accept the Canadian offer for support of the ALPHA HELIX for experimental biological studies during the latter part of 1974.
 - B. Designate geographical areas of operation for the ship 3 years in advance.
 - 1) On the basis of economical ship operations and one funded scientific proposal as well as others currently being reviewed at the NSF, name the Amazon basin as the area of operations for 1975 and Indonesia, New Guinea and the Great Barrier Reef for 1976.

2) Letters of intent will be received from prospective chief scientists for research work in these regions.

a) Letters of intent will include: the proposed research work, justification of the ALPHA HELIX, the nature of available scientific support, curricula vitae of the chief scientist and 2-3 of the principal research personnel and items typically on the cover page of an NSF proposal.

3) After reviewing these letters, the Advisory Committee will invite those scientists, presenting imaginative and promising research work appropriate to the facilities of the ALPHA HELIX and the environmental setting, to submit proposals.

4) These proposals will be evaluated by the Advisory Committee, with the ones representing a recommended year's program being presented as a unit to the NSF for consideration of funding.

26. It was agreed that the review procedure and deliberations of the Committee are vitally important in assuring that well coordinated programs of excellent science are carried out aboard the ALPHA HELIX. A goal of the Committee is for the acceptance of its recommended programs by the NSF without the proposals going through a further panel review.

27. The ALPHA HELIX Advisory Committee should function in the following ways:

A. Define the role of the ALPHA HELIX in scientific research and select the geographical areas of operation for the next 5 years.

1) Steinbach said that the realization of the ALPHA HELIX concept begins with the dumping of a group of top scientists onto a well equipped modern laboratory facility in an exotic environment.

- 2) Carritt remarked that the committee should continue to remind the NSF that the ALPHA HELIX is not in essence a general oceanographic vessel.
- B. Work to bring the ALPHA HELIX more prominently into the rapidly developing world of oceanography. The interests and needs of the disciplines of medicine for field research, studies of health, diseases and unique substances throughout the world should be explored.
- 1) Steinbach said that every government department is anxious to know of the "goodies" and "gems" resulting from its funded projects. The Committee should identify and forward these "goodies", pointing out to the agency that these are the results from a research effort that could not have been done, or done as well, any other way.
- C. Direct the impact of the ALPHA HELIX Research Programs to the hot issues of the present day world; e.g., food supply and the ecology of toxins.
- D. Develop new sources of funding.
- 1) Cooperative funding involving non U.S. agencies.
 - 2) Continue contacts with the Pugwash group through Nobel laureate Alfven.
 - 3) Shared support with foreign governments; e.g., cooperative effort with China in the South China Seas. The AID program to southeast Asia might provide support.
 - 4) Identify with long range UN programs.
 - 5) Dinsmore, Gilmartin and Steinbach commented that it is better that the ALPHA HELIX remain under the Office of Oceanographic Facilities and Support than be set in a special category where it would be more vulnerable to budget cuts.

6) Steinbach said that UNOLS could bring money from various agencies to the operation of the ALPHA HELIX.

E. Assure a greater number of participants, scientific productivity and international good will by encouraging the operation of independently funded field stations during certain ALPHA HELIX expeditions.

28. Prosser stressed that many field expeditions might be carried out via the shipment of supplies and equipment in containerized vans and through the supporting facilities of a portable shore laboratory. He suggested that the ALPHA HELIX scientific support group at SIO could handle the logistics for such "grass shack" operations as they do for the ship borne programs.
29. The Committee members discussed the science and prospective implementation of the 9 ALPHA HELIX proposals currently before the NSF.
30. Dinsmore and Prosser will contact Hood, Institute of Marine Science, University of Alaska regarding possible ALPHA HELIX utilization by this Alaskan group during 1974.
31. Prosser will discuss with Hochachka, University of British Columbia, the possibilities of Canadian support for the ALPHA HELIX during part of 1974.
32. It was agreed that the next general meeting of the ALPHA HELIX Advisory Committee should be convened in January or February 1974.