

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

MEMORANDUM

DATE: January 5, 1994
TO: Deep Submergence Science Community
FROM: P.J. Fox, DESSC Chair
SUBJECT: The Annual Deep Submergence Science Community Gathering and Matters Arising

On December 5, DESSC hosted the annual meeting of deep submergence science investigators in San Francisco prior to the start of the Fall AGU. The meeting was well-attended although the number of attendees (56) was less than last year, and those who did attend were very well behaved as evidenced by subdued discussions. I hope that the diminished level of participation and the relatively pacific dialogue during the meeting does not reflect complacency on the part of the community because, as my comments below suggest, we face a host of challenges that will require a concentrated effort by the user community, operator and sponsors. These issues must be addressed, if we wish to remain in a competitive position to address world-class deep submergence science problems during the next 5 to 10 years.

JASON-MEDEA Use: With sustained support of ONR during a developmental phase of considerable duration, a state-of-the-art ROV system is in the process of being transitioned from the initial developmental phase to an operational asset that is a new and necessary component of the National Deep Submergence Facility at WHOI. To date, there has not been strong community pressure to use the system, and those proposals that have been submitted to use the system have not fared well in the review process. I believe this reflects a number of problems. First, the community at large has needed documentation of the system's capabilities in order to establish the credibility of this new asset. This need was partially addressed in the form of a first release technical document that describes the unmanned vehicle assets offered by WHOI (*WHOI - ROV and Towed Vehicles Information and Technical Specifications, Version 1.0*, distributed by the UNOLS Office in August 1993). This problem has been compounded because the performance characteristics of the JASON-MEDEA system are still evolving and science products of early cruises have been slow to reach the market place. Considerable progress, however, has been made in areas of data management and integration of various sensors, and science products documenting the system's capabilities should be forthcoming soon. Second, we are facing very competitive times and this superb new, but costly, technology has been brought to the table in the absence of additional resources for support. It is not clear how we will solve this problem of ROV support, but solve it we must because ROVs, both at the National Facility and other institutions, are essential to the future of deep submergence science.



Letter of Interest Pressure and NSF: The good news is that there appears to be strong community interest, as expressed in letters of intent, to use the ALVIN in 1995 and 1996. Two strongly supported themes are emerging: time series work on the Juan de Fuca and EPR in established natural laboratories; and work in the global arena. The worrisome news is that more than 80% of the letters of intent identify NSF as the sponsoring agency, and a majority of these NSF programs are directed at the MG&G program. This proposal pressure profile is a very de-stabilizing situation because NSF budgets in the facilities and science directorates are not growing fast enough to support ALVIN at these increased levels. As a community we must work to find a more balanced support profile and we strongly encourage NOAA and ONR to look closely at providing science and facility support to programs which meet their varied programmatic objectives.

Status of Engineering Dives: Both the operator and the user community have gone on record supporting the efficacy of engineering dives. Unfortunately, dives scheduled for engineering and development are often the first dives to be negotiated away when there are scheduling problems. DESSC takes the position that, like seed corn to a viable farming operation, these dives are critical to the continued health of deep submergence science, both submersible and ROV, and will continue to articulate this position to the funding agencies. In this regard, DESSC will work with the operator to define a set of engineering and technology developmental goals on a yearly basis that can be proposed to the three Federal funding partners.

Equipment Development: The majority of the user community would agree that ALVIN, although remarkably reliable, has fallen off the cusp of optical, manipulative and interactive capabilities. This past year, in response to community concern, DESSC identified an immediate need to upgrade aspects of ALVIN's imaging and data management capabilities. Dan Fornari served as a link between the user community and the operator and a WHOI proposal was submitted to the agencies this Fall to substantially improve ALVIN as an investigative platform. This process was effective to address a serious and immediate problem. It is now appropriate, however, to take a longer range view of developmental needs for both ALVIN and the JASON-MEDEA ROV and to place these needs in the context of a phased acquisition strategy. DESSC will work with the operator to develop a model for community consideration by the Dec. 1994 meeting.

Post 1996 Overhaul and the Global Arena: Based on community input, derived from interest letters and discussions at the 1992 and 1993 Annual Deep Submergence Science meeting in San Francisco, DESSC is recommending that in 1996 when the submersible comes out of overhaul and KNORR is converted as the support ship, the deep submergence facility will embark on an expedition to the Western Pacific. This recommendation is not without challenges: the loss of ALVIN, and possibly JASON-MEDEA, as assets to carry out time series experiments in the on-going natural laboratories located in the traditional work areas means that plans for suitable alternatives must be developed before the end of 1994; the community of Western