

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

An association of institutions for the coordination and support of university oceanographic facilities.

MEMORANDUM

To: Deep Submergence Research Community

From: M. R. Perfit, Chair
DEep Submergence Science Committee (DESSC)

Date: June 28, 1995

Subjects: [1] Deep Submergence Support Ship Conversion Efforts
[2] Projected 1996 and 1997 Operating Areas for ALVIN and ROV/Towed Vehicles

At our meeting early this month, the DESSC committee met with the Deep Submergence Operator - Woods Hole Oceanographic Inst. (WHOI), and Federal Agency representatives in order to discuss plans to provide the deep submergence community with a new/converted support vessel for ALVIN and the ROV/towed vehicles, and to develop a feasible plan for deep submergence operations in calendar 1996 and 1997. The following summary is meant to: 1) inform the community about recent developments relative to the new deep submergence support ship, and 2) provide users with the critical, long-range science planning information they need in order to respond to upcoming proposal submission dates (e.g. ONR site visits this summer, NSF target date of Aug. 15, 1995, and NOAA/NURP submissions).

Federal Agency Support for Long-Term Health of Deep Submergence and Plans for a New/Converted Support Ship

A very positive response was received from NSF, ONR and NOAA regarding their long-term commitment for access to deep submergence facilities. In that respect, the continuing study and development by ONR and NSF of a new/converted deep submergence support vessel to replace the R/V ATLANTIS-II, has proceeded to the point where two viable options are identified. The agencies are working hard to finalize which conversion plan will be selected. The options are:

- #1 - Conversion of the AGOR-25 (new R/V ATLANTIS)
- #2 - Conversion of R/V KNORR

DESSC believes that conversion of the new R/V ATLANTIS represents the greatest potential benefits to the long-term support of US deep submergence science. Positive aspects include increased science berthing, laboratory space, deck area, operational range, and longer projected life-span. The committee noted, however, that there were also potential negative



consequences to converting R/V ATLANTIS depending on the schedule for the conversion. DESSC urged the Federal Agencies to seriously consider these consequences and address them in the conversion. ATLANTIS construction is to be completed in April, 1997, but may be extended by incorporating submersible/ROV operational requirements. Current estimates for when the ATLANTIS would be ready to support deep submergence science range from 3rd-4th Qtr. 1997. DESSC identified the following potential problems relating to converting R/V ATLANTIS which could affect PIs decisions on proposal submission as being:

- 1] Uncertainties relating to the scheduling of the conversion and the potential impact on stand-downs of deep submergence operations and the consequent loss of technical/operational expertise,
- 2] Interruption of ongoing research programs and time-series deep submergence science if the conversion process extends past mid-1997,
- 3] The delivery of any WHOI supplied items that are critical to the conversion (e.g. the A-frame), and
- 4] The impact on ALVIN/A-II operations

Converting the R/V KNORR is the other viable option for providing a deep submergence support vessel that can handle ALVIN and the ROV/towed systems. At the DESSC meeting, WHOI presented a revised KNORR Conversion plan that meets the specifications of the original AGOR-25 proposal, and provides for a capable deep submergence support vessel at no cost to the Federal agencies. This proposal is well-constrained logistically and fiscally, and would result in a converted deep submergence support vessel that is ready for science operations by mid-1997. The DESSC/FIC KNORR Conversion Subcommittee has reviewed portions of this plan and approved them. Some of the potential negative aspects of converting KNORR identified by DESSC and the subcommittee are: shorter vessel life, less science berths, smaller overall size and less laboratory space.

DESSC has strongly recommended to ONR and NSF that a final conversion plan be in place by Sept. 1995 so that the scientific community can be assured of continued and relatively uninterrupted access to the deep ocean using the national deep submergence facilities. A firm conversion plan is also needed so that the deep submergence operator, WHOI, can effectively plan long-range technical and logistical issues related to ALVIN and the ROV/towed vehicles. DESSC is confident that the Federal Agencies are working towards a timely resolution of this matter within the context of the above mentioned guidelines and time-frame.

Science Planning and Request for ALVIN and ROV/Towed Vehicle Proposals and Tentative Operating Areas for 1996 and 1997

The 1996 deep submergence science field schedule has not been completely defined because of the recent changes in plans for providing a new deep submergence support ship.

The committee noted that for both conversion options a window of opportunity exists for using ROV and towed vehicles in 1996 and into 1997. DESSC has encouraged the

agencies to look critically at science proposals that seek to continue the process of integrating the usage of ROV and towed vehicles to address deep submergence science problems.

Considering both operational and funding constraints, DESSC and WHOI proposed the following 1996 and 1997 operational planning for ALVIN and the ROV/towed vehicles:

1. An ALVIN overhaul be scheduled for the first 6 months of 1996, and A-II undergo an ABS inspection and be dry-docked during the ALVIN overhaul period.
2. Following the ALVIN overhaul and testing/engineering dives, ALVIN and ATLANTIS-II conduct routine science operations starting in the Western and North Atlantic in Summer, 1996, and by early Fall 1996 move into the eastern Pacific (e.g. Galapagos region, northern EPR, Guaymas Basin, California Borderland). No 1996 Juan de Fuca operations are planned.
3. In late 1996 approximately 2-3 months of additional time for science on ALVIN can be accommodated. It is likely that ALVIN will be in the eastern Pacific during this time frame. Therefore, science proposals that receive strong reviews and are deemed fundable by ONR, NOAA or NSF could be considered for late 1996 operations.
4. The 1997 deep submergence operational plan for ALVIN and the ROV/towed vehicles must await the final decision on support ship conversion. DESSC expects to be able to tell the community about the final conversion plan and projections for 1997 science operations areas by the Fall DESSC Meeting at AGU in San Francisco. A decision regarding whether ALVIN operations in the Juan de Fuca region in summer, 1997 are possible should be available by the FALL DESSC Meeting. However, proponents should submit their proposals for the traditional operating areas (e.g. Pacific coast, eastern Pacific, Gulf of Mexico and Caribbean, and North and Western Atlantic field areas in August, 1995 (for NSF), as any proposals not fielded in 1996 could be accommodated during the 1997 field year.

DESSC reminds the community that continued proposal pressure is essential to filling-out the schedule of deep submergence operations (ALVIN and ROV) in the coming years.

5. No operations with ALVIN are planned for the Southern East Pacific Rise prior to the availability of the new deep submergence support ship, despite the fact that there are several accepted proposals to operate in that geographic area. DESSC strongly encourages proponents working in the Southern EPR and areas along-the-way to and from that remote region to submit science proposals NOW so that a full complement of science projects is approved by the time the new/converted support ship is available for operations. DESSC estimates that a Southern EPR field season could be staged as early as Jan. 1998, if KNORR is converted, or Jan. 1999, if ATLANTIS is converted.

6. DESSC and WHOI are committed to global deep submergence operations and as such encourage proponents for work in the SW Pacific and Indian Oceans to submit their proposals for ALVIN and ROV/towed vehicle work as soon as their scientific problems and databases are mature and warrant in situ field investigations. DESSC notes that the availability of both

ALVIN and the suite of ROV and towed vehicles on the new support ship will greatly enhance the investigative approaches and augment the types of data that can be collected from these remote areas.

7. DESSC notes that the ROV Jason will operate in the Juan de Fuca Ridge in the summer of 1996 for an NSF-funded instrument recovery and science program. We strongly encourage proponents for work in the eastern and northeastern Pacific region to submit proposals for ROV and towed vehicle work to augment field operations for those vehicles in support of deep submergence science.

8. The ROV/towed vehicles including ROV Jason, ARGO-II and the 120 kHz sonar system continue to be available for use from any suitable UNOLS vessels and are not dependent on the conversion schedule for the new support ship. Programs that seek to use these systems in a coordinated field data acquisition effort with ALVIN are encouraged by DESSC, however, proponents should realize that such programs will require the availability of the new deep submergence support vessel. Proponents interested in requesting the use of these systems for their data acquisition programs are urged to contact WHOI (see contact addresses given below).

9. In commenting on this letter, NSF has advised DESSC that they believe an option to continue ALVIN/A-II operations during the first half of 1996, and then overhauling ALVIN and retiring A-II is also possible. The implications of which conversion plan is ultimately selected and the timing of the conversion play a large role in determining whether this option is viable. The timing of the ALVIN major overhaul would be adjusted accordingly. NSF will consider proposals for operations off California, Mexico, Galapagos region, Caribbean and Gulf of Mexico, and NW Atlantic regions for either the first half of 1996 or the last half of 1996.

In order to ensure that 1996 provides a reasonable amount of deep submergence science and facility support, approximately 2-3 months of additional ALVIN work is desired, and the committee strongly recommends that PIs contact their sponsoring agency regarding potential field programs. NSF has agreed to the relaxation of their policy of only considering projects proposed by Feb. 15 for the following year and will consider a limited number of additional projects proposed by the Aug. 15, 1995 target for 1996 ALVIN operation.

DESSC urges interested scientists to contact either the UNOLS Office or WHOI (see numbers listed below) for any detailed information that they require for their proposals to use deep submergence facilities.

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