

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

ALVIN REVIEW COMMITTEE

Summary Report of the
May 14, 15, 1984 Meeting

Clark Laboratory
Woods Hole Oceanographic Institution
Woods Hole, Massachusetts

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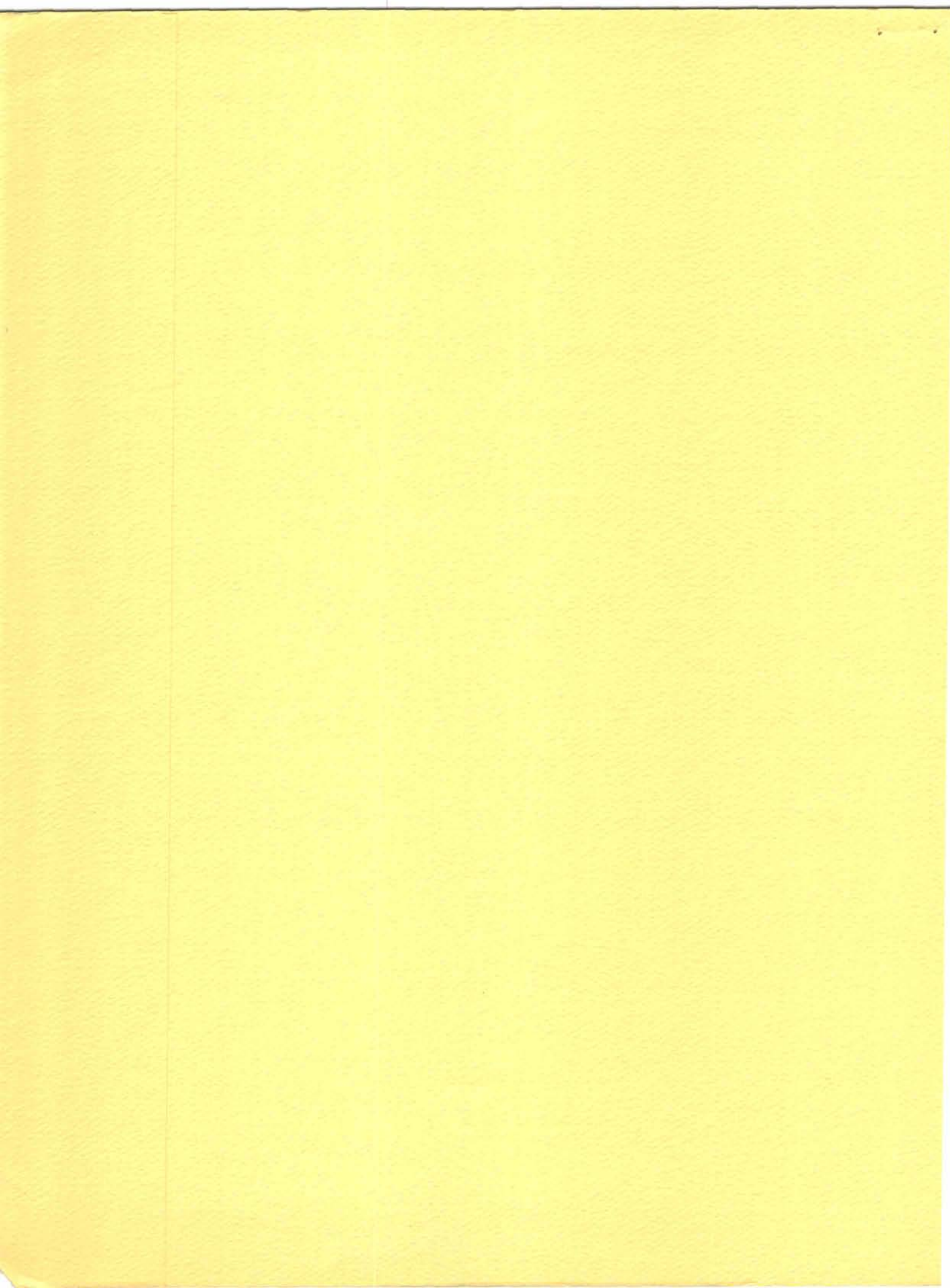
Minutes of Meeting

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July 1984





ALVIN REVIEW COMMITTEE

Minutes of Meeting

May 14, 15, 1984

Clarke Hall

Woods Hole Oceanographic Institution

Woods Hole, Massachusetts

The meeting was called to order by Chairman Robert W. Corell at 8:00 a.m., May 14, 1984. Committee members, funding agency representatives from NSF, ONR and NOAA, W.H.O.I. operator representatives and UNOLS Office staff present:

ALVIN REVIEW COMMITTEE

R.W. Corell, Chairman

R.C. Aller

P.A. Jumars

D.E. Karig

F.L. Sayles

J. Weissel

M. Wimbush

A.A. Yayanos

G.D. Grice, W.H.O.I., *ex-officio*

UNOLS Office

W.D. Barbee

AGENCY REPRESENTATIVES

B.T. Malfait, NSF

J.G. McMillan, NSF

P. Penhale, NSF

K. Kaulum, ONR

E. Finkle, NOAA

W.H.O.I. (Operators)

J.D. Donnelly

Barrie Walden

Since several ARC members (ARC Roster is Appendix I) were able to attend only the first day of the meeting, the agenda order was revised so that all dive requests could be reviewed and schedule recommendations could be reached on the first day. (The agenda is Appendix II.)

Before beginning the review, the Committee discussed, articulated and accepted rules for the review, especially relating to potential conflicts of interest:

1. There is potential for conflict of interest on any dive request originating at a Committee member's institution or if any investigator listed on the request is from a member's institution.
2. The Chair will raise the question of conflict of interest at the beginning of consideration on each request for dives. Notes for the meeting will reflect these queries and actions of the member(s) involved.
3. If a Committee member is listed on a request (or is, in fact, actively involved) that member will be excused from the room for all discussion, consideration and voting on that request.
4. For requests originating at Committee member(s)' institutions, or with investigators from their institutions, those Committee members so connected will be excused from the room for all discussion,

consideration and voting on that request except that at the invitation of the balance of the Committee (and with that member's concurrence) members connected only by institutional affiliation may comment on requests. However, in no case will those members vote on the request in question.

5. If there remains a question concerning conflict of interest concerning any member(s) for an individual request for dives, it will be decided by vote of the balance of the Review Committee.

6. Voting Committee members will vote to rank individual requests for dives as:

outstanding
excellent
fair to good
poorest ranking
tabled--not ranked

Review of dive requests for 1985 in the Pacific. The dive requests for review were submitted in response to a UNOLS announcement: *Opportunities for Oceanographic Research DSRV ALVIN*, issued in January, 1984 (Appendix III). A total of 35 dive requests were received for 402 dives. (Requests are summarized in May 4, 1984 letter and ALVIN Shiptime Proposals Received, Appendix IV.) The Committee decided to review requests in the regional groupings shown on page 1, Appendix IV. These regions were addressed in sequence: California Basins, Hawaii area, East Pacific Rise (including Galapagos), Guaymas and Gorda-Juan de Fuca interspersed, and Marianas-Bonin. (As each request for dives was introduced, conflict-of-interest questions were raised, and it was noted when any Committee member did not participate in a part or all of a review.)

A summary of the reviews shows that of the 35 requests for dives, 24 (requesting a total of 245 to 254 dives) were rated excellent to outstanding. Ten requests were rated fair to good, and one was tabled without rating (not appropriate for the ARC's process). In the requests rated excellent or better, more than 80% of the dives were associated with science projects already assured of funding.

Following their review of dive requests, the ARC asked Jack Donnelly and Barrie Walden, representing ALVIN/ATLANTIS II to discuss maintenance, logistics and operational factors, and to provide preliminary estimates of the time required to meet various sets of dive requests. *Of significance in that discussion:*

the ALVIN/ATLANTIS II could remain in the Pacific well into 1986, although repair/inspection/overhaul period would have to be scheduled for ATLANTIS II and maintenance/inspection work would have to be done on the ALVIN;

scheduling the approximately 250 dives rated excellent to outstanding (and accommodating required maintenance/inspection) would take fifteen to eighteen months.

Following the discussion on operational factors and a general discussion concerning the impact of scheduling on projects already underway, the ALVN Review Committee recommended that all dives in requests rated excellent to outstanding be scheduled beginning January 1, 1985 and to be concluded by approximately April 30, 1986.

The operators of W.H.O.I., together with the funding agencies, Office of Naval Research, National Oceanic and Atmospheric Administration and National Science Foundation, were informed of schedule recommendations. (Recommendations are indicated in Appendix IV.)

The Committee directed that the UNOLS Executive Secretary draft letters on all of the requests reviewed informing investigators of the Committee's schedule recommendations.

Reports on the 1983 ALVIN season and ALVIN/ATLANTIS II operations (in 1984) were made by John Donnelly and Barrie Walden.

The ALVIN scientific submersible program in 1983 was curtailed by ALVIN and ATLANTIS II modifications. Three scientific projects were addressed. A total of 28 dives were completed, including six for pilot training.

The rest of 1983 was devoted to modification of ALVIN and equipping ATLANTIS II to act as a support vessel. Although modifications and conversions were not completed within the time initially estimated, construction and installation were completed and certified by early 1984. (ABS certification and temporary Navy and Coast Guard certifications were granted in January. Certification allowing manned deployment and recovery was received in April, 1984.)

The first research project was undertaken in February, 1984. The single point life system on the ATLANTIS II and relevant procedures work well. Although operational sea state limits have not yet been determined, it is clear that deployment and recovery capabilities are at least as good as LULU's.

The ATLANTIS II, is since March, equipped with an *isotope van* to keep the rest of the ship clean.

The ALVIN is undergoing scientific systems and equipment upgrade. A new data logging system has been installed that will provide data and information to the scientist at cruise end. Improved video cameras are in place. An improved ALNAV system is now standard equipment.

Armature failures in motors for ALVIN lift/propulsion motors have been a problem. New lift power systems are on order, and if they prove successful in operation, the system will be used for main propulsion. The new system has lower power demand, which should lead to more bottom time on dives and greater flexibility in scheduling.

Future plans are to eliminate the need for a long baseline navigation system (for most projects), to provide interface capability for additional systems such as CTDs and to continue to improve manipulator arms. Staying abreast of manipulators state-of-the-art may prove difficult.

The 1984 schedule is the most ambitious yet undertaken for ALVIN.

John McMillan, NSF, gave a brief characterization of the Oceanographic Facilities and Support Section's budget outlook (see UNOLS News or reports of UNOLS meetings in 1983 and 1984). He also expressed OFS appreciation to those investigators requesting ALVIN dives under NSF sponsorship who had submitted their science proposals in timely fashion. Those timely submissions are of great aid to NSF's oceanographic facilities planning and scheduling.

Keith Kaulum reported that the ONR level for research ship and facilities funding is keeping pace with their funded program requirements.

ONR is contracting with W.H.O.I. to operate the LULU in support of the NAVY submersible SEA CLIFF and TURTLE. The availability of a more capable support vessel should make SEA CLIFF or TURTLE more desirable as research submersibles, and enhance their use by the academic research community.

The Navy's submersible NRI has recently been opened for use on appropriate science proposals funded by NSF, NOAA, USGS or other Federal agencies. The Navy review group received only six proposals from other agencies in 1984. ONR is disappointed at this lack of response. *Investigators who have interest in using NR-1 should contact Keith Kaulum for information on the submersible's capabilities, tentative schedules and operating areas, conditions for use and procedures for requesting time.* The ARC suggest that ONR might produce an announcement of research opportunities (similar to the ALVIN flyer) for distribution to the community and to publicize availability of NRI, SEA CLIFF and TURTLE.

Beginning in 1986, an ONR Special Focus Program on microorganisms at hydrothermal vents should both increase and focus Navy use of ALVIN. ONR hopes to stabilize their recent erratic pattern of ALVIN use.

Elliott Finkle described NOAA's budget for undersea research, which has risen from about \$2.5M in 1982 to \$3.8M in 1983, over \$7M in 1984 and is estimated at \$6.5M in 1985. Sixty percent of undersea research funds are for submersible use, both deep (ALVIN) and shallow. NOAA places great importance on the use of ALVIN in their polymetallic sulfides program.

NOAA's direct sponsorship of undersea research facilities in California, Hawaii, North Carolina, Virgin Islands and, most recently, in Connecticut was discussed. NOAA provides facilities support, but usually not science program support. *Interested investigators should contact Elliott Finkle in NOAA's Undersea Research Program Office.*

Robert Corell gave an update report on the ALBART concept and programs for augmenting ALVIN support capabilities. A contract was let in March, 1984 to the University of New Hampshire for design concept of an ALBART system for submersible support (essentially, a surface buoy or boat that could provide communications and horizontal control, etc. for submersibles). A study, now underway, will examine for such a system implications to science programs, an analysis of needs and capabilities and, in general, a basis for decisions on whether or not to proceed with engineering studies. Reports will be delivered about the end of summer, 1984. If concepts are deemed valid, and development goes forward, an ALBART system could be available in 2-2½ years.

The Committee discussed non-diving operations off ATLANTIS II, in particular, the desirability of assigning ATLANTIS II to non-ALVIN projects for some portion of the ship's operating schedule. The Committee noted the recent letter from the Chairman, NECOR Executive Committee to Chairman, UNOLS that states a case for ATLANTIS II assignment to general oceanographic and SEA BEAM investigators not encumbered by ALVIN. As that letter states, the need for 50% ATLANTIS II time on non-ALVIN programs has been asserted repeatedly; that concept has not been addressed by ARC or the ALVIN community. The ARC stood by its recommendation that ATLANTIS II/ALVIN be committed to research submersible investigations through early 1986. To address the question comprehensively, a working group was formed to prepare a report for ARC and the UNOLS Advisory Council by about September 30, 1984. The report should provide for a full ALVIN program, scheduling implications to the ALVIN operating group, and better management and utilization of long transits between ALVIN or other projects.

ATLANTIS II/ALVIN operators were asked if there were possibilities for increasing available scientific party bunks. Several possibilities have been considered, including vans and conversions of some lab space to bunks. Decisions are still pending.

The ARC was asked to provide recommendations to NSF on the SEA BEAM electronics/processing package for ATLANTIS II. Recommendations should address the needs and potential use on ALVIN projects of systems which merge navigation and swath data to produce more or less elegant presentations.

A policy regarding night diving was briefly discussed. Operators stated that with their existing operation and shipboard staffing pattern the number of dives per day (or per cruise) cannot be significantly increased. (If nighttime dives were to be scheduled routinely they would usually replace daytime dives, not augment them.) The W.H.O.I. Submersible Program Manager will re-examine the current night diving policy and report to the Chairman, ARC by late summer.

Robert Corell outlined elements of ALVIN program advanced planning. Over the last two years the ARC's planning effort has been extended to consider prospective program content, areas of operation and program scope two to three years in advance. New elements are solicitation for notices of intent to use ALVIN, workshops to consider out-year programs and a prospectus to outline ARC recommendations for out years. Publication of Opportunities for ALVIN Research (the ALVIN Flyer) and the annual ARC review of dive requests will continue. These elements, but more importantly, the timely submission of science proposals and prompt decisions by funding agencies have made the scheduling process more orderly. The ARC agreed to continue to solicit notices of intent and to hold a workshop on ALVIN program intent in conjunction with the Fall AGU/Ocean Science meetings in San Francisco in December, 1984.

R. Corell discussed cooperation with Japanese scientists and agencies in the Marianas region. Earlier, as Chairman, ARC, he had exchanged letters with Japanese scientists and talked with U.S. scientists and agency officials to help coordinate U.S. and Japanese efforts. Working contacts have been established concerning ALVIN between Japanese and U.S. scientists and agencies, and no further ARC role is anticipated.

Although *Policies on Data Handling and Archiving* exist, they are perceived by some to be piecemeal, and less than comprehensive. It was agreed that existing policies should be assembled and examined. George Grice agreed to collect and collate existing policy statements for the Committee's examination.

The need for *peer review of science proposals* associated with ALVIN dive request supported by agencies other than NSF was examined. The ARC will develop a statement of recommendations on this issue.

The Committee developed a policy on alternates for members unable to attend review meetings. The Committee reaffirmed the need for a full Committee to conduct a comprehensive review of dive requests. If a Committee member cannot attend a dive request review meeting he should, with the Chairman, ARC, select an alternate. The first option for selecting alternates should be the pool of ARC graduates from the last five years.

Three members of the Committee, R. C. Aller, University of Chicago, F. L. Sayles, W.H.O.I., and A. A. Yayanos, Scripps, have terms expiring in 1984. All three suggested that turnover in the ARC is desirable, and chose not to be considered for an extended service to the Committee. The Chairman expressed UNOLS' and ARC's appreciation for their service to ARC and the ALVIN community.

The ARC then considered replacement candidates and recommended to UNOLS:

J. Kirk Cochran, SUNY, Stony Brook
Jody W. Deming, Johns Hopkins University/Chesapeake Bay Institute
Geoffrey Thompson, Woods Hole Oceanographic Institution

(At their May 26, 1984 meeting, UNOLS accepted the three recommended candidates).

The Committee agreed that the 1985 review meeting should be scheduled in about the second week in May.

The meeting was adjourned at noon on May 15.

7/84

UNOLS Review Committee
for DSRV ALVIN1975
(First Meeting 2/19/75)

	Term Expires
A.R. Richards, Ch., Lehigh	7/78
C.L. Drake, Dartmouth	7/76
G. Grice, WHOI	7/78
R.R. Hessler, SIO	7/77
G. Keller, NOAA/AOML	7/77
S. Murphy, U/Wash	7/76
C. Rooth, RSMAS	7/76
K.K. Turekian, Yale	7/78
Tj. van Andel, Stanford	7/77
A.E. Maxwell, WHOI, ex-officio	

	1979	Term
R.W. Corell, Ch., UNH		7/76-6/82
R.N. Anderson, L-DGO		7/79-6/82
J.B. Corliss, OSU		7/77-6/80
J.M. Edmond, MIT		7/78-6/81
K.C. Macdonald, SIO		7/78-6/81
D.C. Rhoads, Yale		7/78-6/81
R.D. Turner, Harvard		7/77-6/80
M. Wimbush, URI		7/79-6/82
A.E. Maxwell, WHOI, ex-officio		

1976

A.R. Richards, Ch., Lehigh	7/78
R.W. Corell, UNH	7/79
M. Gregg, U/Wash	7/79
G. Grice, WHOI	7/78
D. Hayes, L-DGO	7/79
R.R. Hessler, SIO	7/77
G. Keller, OSU	7/77
K.K. Turekian, Yale	7/78
T.J. van Andel, Stanford (resigned 9/76)	
A.E. Maxwell, WHOI, ex-officio	

1980

R.W. Corell, Ch., UNH	7/76-6/82
R.N. Anderson, L-DGO	7/79-6/82
J.M. Edmond, MIT	7/78-6/81
D.E. Karig, Cornell	7/80-6/83
K.C. Macdonald, UCSB	7/78-6/81
D.C. Rhoads, Yale	7/78-6/81
G.T. Rowe, Brookhaven	7/80-6/83
M. Wimbush, URI	7/79-6/82
A.E. Maxwell, WHOI, ex-officio	

1977

	Term
R.W. Corell, Ch., UNH	7/76-6/79
J.B. Corliss, OSU	7/77-6/80
M.C. Gregg, U/Wash	7/76-6/79
G.D. Grice, WHOI	2/75-6/78
D.E. Hayes, L-DGO	7/76-6/79
A.F. Richards, Lehigh	2/75-6/78
K.K. Turekian, Yale	2/75-6/78
R.D. Turner, Harvard	7/77-6/80
A.E. Maxwell, WHOI, ex-officio	

1981

R.W. Corell, Ch., UNH	7/76-6/82
R.C. Aller, U.Chicago	7/81-6/84
R.N. Anderson, L-DGO	7/79-6/82
D.E. Karig, Cornell	7/80-6/83
G.T. Rowe, Brookhaven	7/80-6/83
F.L. Sayles, WHOI	7/81-6/84
M. Wimbush, URI	7/79-6/82
A.A. Yayanos, Scripps	7/81-6/84
G.D. Grice, ex-officio	

1978

R.W. Corell, Ch., UNH	7/76-6/79
J.B. Corliss, OSU	7/77-6/80
J.M. Edmond, MIT	7/78-6/81
M.C. Gregg, U/Wash	7/76-6/79
D.E. Hayes, L-DGO	7/76-6/79
K.C. Macdonald, Scripps	7/78-6/81
D.C. Rhoads, Yale	7/78-6/81
R.C. Turner, Harvard	7/77-6/80
A.E. Maxwell, WHOI, ex-officio	

1982

R.W. Corell, Ch., UNH	7/82-6/85
R.C. Aller, U. Chicago	7/81-6/84
J.K. Weissel, L-DGO	7/82-6/85
D.E. Karig, Cornell	7/80-6/83
G.T. Rowe, Brookhaven	7/80-6/83
F.L. Sayles, WHOI	7/81-6/84
M. Wimbush, URI	7/82-6/85
A.A. Yayanos, Scripps	7/81-6/84
G.D. Grice, ex-officio	2/82-

1983

R.W. Corell, Ch., UNH	7/76-6/85
R.C. Aller, U. Chicago	7/81-6/84
P.A. Jumars, U/Wash	7/81-6/84
D.E. Karig, Cornell	7/80-6/86
F.L. Sayles, WHOI	7/81-6/84
J. Weissel, L-DGO	7/82-6/85
M. Wimbush, URI	7/79-6/85
A.A. Yayanos, Scripps	7/81-6/84
G.D. Grice, ex-officio	3/82

ALVIN REVIEW COMMITTEE MEETING
 0800, 14, 15 May 1984
 Clark Laboratory, W.H.O.I.

Welcome and Introduction: *Chair, Robert W. Corell*

Review of Proposals for 1985 in the Pacific: *Committee discussion and review of proposals already summarized and distributed.*

ATLANTIS II/ALVIN Schedule Recommendations for 1985: *The Committee's recommendations will be developed for transmittal to W.H.O.I. operators, funding agencies and the community.*

Comments on ALVIN Program by Funding Agency Representatives: *J. McMillan, NSF, K. Kaulum, ONR, E. Finkle, NOAA.*

Report on the 1983 ALVIN Season: *Barrie Walden and staff.*

Report on ALVIN/ATLANTIS II Operations: *How the new system is working -- Donnelly, Walden and staff.*

UPDATE Report on ALBART Program/Concepts: *Status and concept report on program for augmenting ALVIN support capabilities - Corell and others.*

Review of Non-Diving Operations Off ATLANTIS II: *Discussion of ATLANTIS II capabilities and utilization other than ALVIN dive support. Include both ALVIN and non-ALVIN projects (e.g. the NECOR letter.)*

Policy re Nighttime Diving: *A discussion.*

Review of Notices of Intent 1986-1987: *The Committee's recommendations for 1986-1987 operating areas, expeditionary plans, etc.*

ARC Advanced Planning: *Robert Corell will head a discussion based in July, 1983 Protocol meeting (August 11, 1983 letter attached) interface with UNEPC and questions concerning ATLANTIS II support of ALVIN (NECOR letter).*

Cooperation with Japan in Marianas Region: *See the correspondence.*

Policy on Data, Samples and Archiving: *Discussion on current policy, need for new policy and suggested approaches to formulation (A Subcommittee?).*

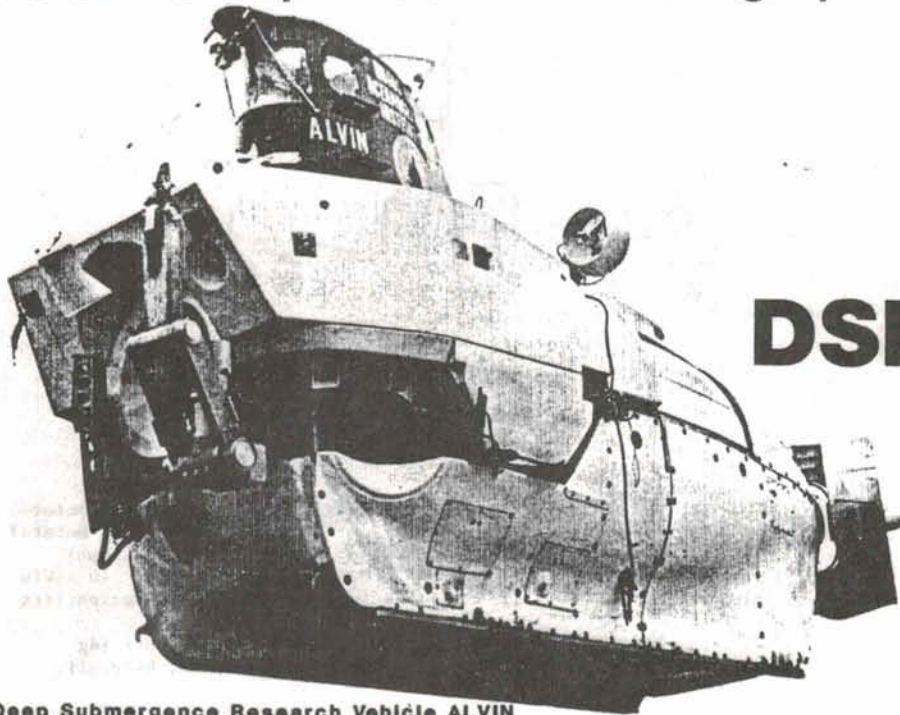
Role of External Science Review in ALVIN Dive Requests: *Examine need in other agencies for a process parallel to NSF's peer review for science proposals.*

Recommendations for ARC Members and Policy on Alternates: *Aller's, Sayles' and Yayanos' terms expire. Recommend replacements. Articulate a policy on Alternates when members cannot attend reviews.*

Other Business: *Can there be?*

The University—National Oceanographic Laboratory System

Opportunities for Oceanographic Research



DSRV ALVIN

at the
Woods Hole
Oceanographic
Institution

The Deep Submergence Research Vehicle ALVIN

The Deep Submergence Research Vehicle ALVIN, based at the Woods Hole Oceanographic Institution, is designated a UNOLS National Oceanographic Facility. Diving time is available for qualified research projects selected on the basis of scientific merit and compatibility of the proposed research.

DSRV ALVIN is owned by the U.S. Navy under the purview of the Office of Naval Research and is operated by the Woods Hole Oceanographic Institution. Operations are supported under a Memorandum of Understanding among the National Science Foundation, the National Oceanic and Atmospheric Administration and the Office of Naval Research.

Planning and Scheduling for ALVIN

Recommendations for ALVIN areas of operation and for projects to be included in the ALVIN schedule are made by the UNOLS ALVIN Review Committee (ARC). Over the last several years the task of matching dives on the ALVIN with requests for time by skilled individual investigators is becoming critical and requires careful advanced planning. The ARC has initiated a series of workshops, held each winter (December, 1983 and January, 1984 this year) to solicit interest in using ALVIN two, three and more years into the future. (See the November 2, 1983 letter from George Shor, Jr. and Robert Corell to the ALVIN community.) On the basis of these workshops and Notices of Intent, the ALVIN Review Committee will, early each year, issue a PROSPECTUS outlining interest and recommended tentative plans for ALVIN two and three years in advance (i.e., the February, 1984 PROSPECTUS will recommend broad areas of operation for ALVIN, etc., for 1986 and 1987).

Recent Operations

The 1983 ALVIN diving program was drastically curtailed in order to modify ALVIN and reconfigure the ATLANTIS II to function as a submersible support ship. A limited scientific program was conducted in midyear, using ALVIN/LULU. The ALVIN/ATLANTIS II combined facility should be available for operations early in 1984. The tentative schedule for 1984 includes diving operations in the western Atlantic, followed by investigations in the eastern Pacific from the Galapagos to the Gorda-Juan de Fuca Ridge.

Requests for 1985

The ALVIN/ATLANTIS II will end 1984 in San Diego, CA and will initiate 1985 operations from there. Since schedules projected earlier had been made in anticipation of extensive operations in the latter part of 1983, current plans have necessarily deferred several projects that the ARC had recommended in April, 1983. Those ALVIN Time Requests submitted to the ARC to meet their 1 March 1983 deadline, which have neither been scheduled nor explicitly recommended against, are still before the Committee and will be considered at the 1984 review for 1985 operations. Investigators are, however, urged to submit updated time requests to provide current information on desired times, funding status, etc. These pending Time Requests together with Notices of Intent received late in 1983 support the ARC's tentative recommendation that ALVIN/ATLANTIS II remain in the Pacific for the entire 1985 operating year. New ALVIN Time Requests will be considered for 1985 diving operations in the Pacific as far west as the Marianas. Diving locations will be recommended on the basis of the number and quality of Time Requests approved as well as on logistical considerations.

ALVIN Time Requests through UNOLS are for use of the facility only and no research or travel funding is implied. Associated research proposals should be submitted in a timely fashion through usual channels to granting agencies.

Time Requests will be reviewed by the ALVIN Review Committee at their Spring, 1984 meeting to recommend projects to be accomplished, a schedule and priorities of operations. Criteria for the review include scientific merit and suitability for the ALVIN/ATLANTIS II.

The principal investigator is expected to meet pre and post cruise obligations that may exist for operations within jurisdiction of foreign states.

Requests for 1985 must be received by April 1, 1984 in the UNOLS Office. Requests should include the Request form or a copy together with additional information on the intended research as requested in this announcement. Failure to meet the deadline will jeopardize consideration of the Time Request.

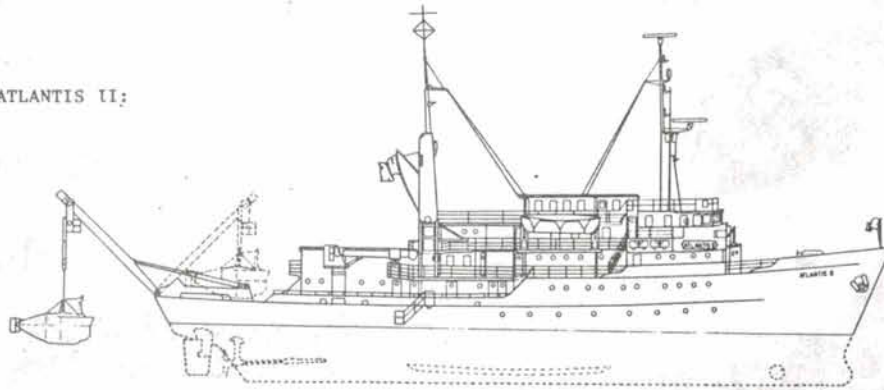
To obtain further information regarding ALVIN/ATLANTIS II system capabilities, specialized equipment or the provision of escort services, contact:

Barrie B. Walden, Submersible Program Manager
Woods Hole Oceanographic Institution
Woods Hole, MA 02543
Telephone: (617) 548-1400, Ext. 2407

Proposal submissions should be addressed to:

Chairman, ALVIN Review Committee
UNOLS Office, WB-15
School of Oceanography
University of Washington
Seattle, Washington 98195
Telephone: (206) 543-2203

R/V ATLANTIS II:



DESCRIPTION OF DSRV ALVIN

Length: 7.6 meters (25 feet)
 Beam: 2.4 meters (8 feet)
 Draft: 2.1 meters (7 feet) surfaced
 Full Speed: 1 1/2 knots
 Cruising Speed: 1 knot
 Cruising Range: 5 miles submerged
 Displacement: 18 tons
 Endurance: 72 hours
 Normal Dive Duration: 6-10 hours
 Depth Capacity: 4,000 meters (13,120 feet)
 Complement: 1 pilot, 2 scientific observers

Propulsion: Large stern propeller, 2 small side lift propellers which can be rotated and separately reversed.

Ownership: The submersible ALVIN is a Navy-owned national oceanographic facility jointly supported by the National Science Foundation, the Office of Naval Research and the National Oceanic and Atmospheric Administration and operated by the Woods Hole Oceanographic Institution.

Navigation: Gyro compass and gyro repeater; magnetic compass; nose mounted horizontal scanning sonar system; indicators for depth, list, trim and variable ballast; echo sounder; battery voltmeters, ammeters and ground detector; five viewpoints.

Electrical Power: Three banks of lead-acid batteries, 60 and 30 volt DC systems, 40.5 KWH total. Limited amount of 115 volt 60 cycle AC power.

Communication: Sonar telephone (voice or code); marine band (VHF) radio.

Other Features: The submersible is designed to be versatile with respect to the weight, space and power requirements of portable scientific equipment in order to meet the differing needs of scientists using the vehicle. Scientific equipment which remains on board most of the time includes two remotely controlled mechanical arms and associated sample trays, 35 mm film cameras and associated strobe and incandescent lights, closed circuit video system with recorder, water temperature monitor, current speed and precision depth indicator.

A precision navigation system is also available which will allow accurate positioning of the submersible at any time during a dive series. This system and other specialized equipment such as hard rock samplers, magnetometer, precision temperature sensors and analog or digital data logging equipment are available for use with ALVIN, but may require some additional funding for installation and operation.

DESCRIPTION OF R/V ATLANTIS II

Built: 1963	Length: 210 feet LOA (64 meters)
Beam 44 feet (13 meters)	Draft: 16 feet (5 meters)
Gross Tonnage: 1,529 tons	Displ.: 2,300 L tons
Crew: 25	Scientific Personnel: 10 ALVIN support team plus 15 scientists

Main Engines: Two GM 12-567E diesel engines driving through reduction gears with variable speed, hydraulic clutches. 2,000 shp.

Bow Thruster: 750 hp trainable. DC motor driving from main gear PTO.

Ships Service Generators: Two 480/120 volt AC 300-KW generators driven by CAT 353 diesel engines.

Propellers: Twin screw: 3 fixed blade; bronze.

Ownership: Built under grant from NSF. Conditional title rests with W.H.O.I.

Speed: Cruising: 11.5 knots
 Full: 13.5 knots
 Minimum: Dead slow

Endurance: 45 days Fuel Capacity: 90,000 gallons
 Range: 9,000 miles

Laboratories: wet - 400 square feet
 dry (4) - 3,500 square feet plus 28' by 13' ALVIN hanger

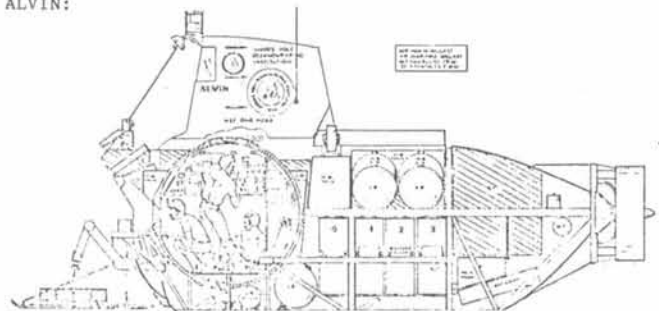
Sewage System: Two type III holding tanks;
 Five to ten days endurance.

Ship is equipped for full range of oceanographic observations and work. One trawl winch: 30,000 feet 1/2" cable. One CTD winch 27,000 feet 0.303" cable or 30,000 feet 3/16" wire.

One marine crane: 20 ton capacity.

One hydraulic powered A-frame: 18 ton capacity for launch and recovery of ALVIN

DSRV ALVIN:



SUBMISSION OF ALVIN TIME REQUESTS

Requests for use of DSRV ALVIN should be initiated by sending a completed time request form (copy overleaf) to: Chairman, ALVIN Review Committee, c/o UNOLS Office, WB-15, School of Oceanography, University of Washington, Seattle, WA 98195. Requests may be made by scientists and engineers at any university or research institution in the United States, and should be supported by a research proposal (preferred length: 4-8 pages, single-spaced for items 1 to 6) which specifically addresses each of the following:

1. The nature and significance of the proposed research;
2. The scientific questions being asked and the approaches that would be used toward their resolution;
3. Justification of the need for ALVIN for this work;
4. The research site(s) and its justification;
5. Number of dives required, justification for the number of dives and any seasonal considerations;
6. Likely requirements for future ALVIN dives (not requested here) for completion of the research;
7. Proposed number of scientists and engineers in the party;
8. Curricula vitae of principal participants;
9. Potential or current support for the proposed research effort;
10. List of publications resulting from any previous ALVIN work;
11. Any special engineering required for dive operations.

- NOTE: 1) If operations are to be carried out in foreign waters, the required clearances should be requested as early as possible. Collaboration with foreign scientists is encouraged.
- 2) If the program is not already funded, a comprehensive proposal must be submitted by the investigator to his sponsoring agency in the conventional way. The ALVIN Review Committee will submit recommendations for consideration by the research sponsor. Final scheduling depends on approval by both the ALVIN Review Committee and the funding agency.

ALVIN Review Committee:

R.W. Corell, University of New Hampshire, Chairman
 R.C. Aller, University of Chicago
 P.A. Jumars, University of Washington
 D.E. Karig, Cornell University
 F.L. Sayles, Woods Hole Oceanographic Institution
 J.K. Weissel, Lamont-Doherty Geological Observatory
 M. Wimbush, University of Rhode Island
 A.A. Yayanos, Scripps Institution of Oceanography
 G.D. Grice, Woods Hole Oceanographic Institution, *ex-officio*

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

DEEP SUBMERGENCE RESEARCH VEHICLE ALVIN

TIME REQUEST

TO: Chairman, ALVIN Review Committee
 UNOLS Office, WB-15
 School of Oceanography
 University of Washington
 Seattle, WA 98195

DATE: _____

USE OF THE ALVIN SUBMERSIBLE RESEARCH SYSTEM IS REQUESTED FOR _____ AS FOLLOWS:
 YEAR

PURPOSE (Project title and brief outline of program) _____

PRINCIPAL INVESTIGATOR (Name, Title, Address, Tel. No.) _____ OTHER INVESTIGATORS INVOLVED _____

PROPOSED CHIEF SCIENTIST _____ TOTAL NUMBER OF SHIPBOARD PERSONNEL _____

PROJECT REQUIREMENTS

NO. OF DIVES REQUESTED _____ PREFERRED DATES _____ ALTERNATE _____

AREA OF OPERATIONS: LAT. & LONG. (Attach page size chart showing location of dives & bathymetry)

NAME OF NEAREST PORT _____ DISTANCE _____ NAUT. MI

ATTACH BRIEF DESCRIPTION OF PROPOSED ESCORT/SURFACE SUPPORT SHIP IF ONE IS REQUIRED. LIST SPECIAL EQUIPMENT REQUIREMENTS (E.G., SENSING, SAMPLING AND NAVIGATION REQUIREMENTS).

Escort requirements are available from ALVIN Operations Manager

FUNDING STATUS

<p>_____</p> <p>FUNDED</p> <p>_____</p> <p>FUNDING AGENCY</p> <p>_____</p> <p>GRANT NO:</p> <p>_____</p> <p>AMOUNT OR ANNUAL RATE BEGIN DATE DURATION</p> <p>_____</p>	<p>_____</p> <p>NOT-FUNDED</p> <p>_____</p> <p>PROPOSAL SUBMITTED: _____ TO:</p> <p>WILL BE SUBMITTED: _____</p> <p>DATE: _____ AMOUNT REQUESTED: _____</p> <p>_____</p> <p>NEW ----- or RENEWAL OF</p> <p>PROPOSAL ----- GRANT NO:</p> <p>_____</p>
--	---

ATTACH RESEARCH PROPOSAL OR PRELIMINARY PROPOSAL ADDRESSING POINTS LISTED ON OVERLEAF

SUBMITTED BY _____
 SIGNATURE

APPROVED _____
 DEPARTMENT CHAIRMAN
 or
 LABORATORY DIRECTOR

TITLE, ADDRESS & TELEPHONE NO. IF DIFFERENT FROM PRINCIPAL INVESTIGATOR


UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

UNOLS Office, WB-15
School of Oceanography
University of Washington
Seattle, Washington 98195
(206) 543-2203

4 May 1984

TO: ALVIN Review Committee

FROM: William D. Barbee 
Executive Secretary, UNOLS

SUBJECT: Summary and Proposals for Review

This transmits a Summary of ALVIN shiptime requests and the requests for review at your May 14, 15 meeting. You have 34 + requests to review. (This includes about eight that you reviewed previously at your April, 1983 meeting and that remain before the ARC. They are marked with an asterisk (*) below.)

Mariana-Bonin

3. Taylor - G & G	12
7. Fryer - G & G	10
9. Schlanger - G & G	8
17. Leinen - G & G	10
23. Koski - G & G	15
*27. Lonsdale - G & G	12
*31. Craig - Geochem.	10
*34. Hessler - Biol.	7
35. Hussong - G & G	<u>14</u>
Total	98

Guaymas

2. Edmond - Geochem.	15
4. Small - Benthos	1
8. Lutz - Benthos	4
20. Ballard - Filming	4
24. Lonsdale - G & G	5
*28. Grassle - Biol.	<u>18</u>
Total	47

Gorda - Juan de Fuca

22. Malahoff - G & G	<u>29</u>
Total	29

* Proposal reviewed earlier (1983 or 1982).

WDB:ms

cc: WHOI Submersible Program
Funding Agency Representatives

EPR, Incl. Galapagos

2. Edmond - Geochem.	5
6. Levin - Biol.	2
8. Lutz - Benthos	4
12. Forinari - G & G	14
13. Fox - G & G	21
18. Honjo - Benthos	6
26. Childress - Biol.	20
*29. Berg - Biol.	4
*30. Hey - G & G	25
*33. Malahoff - G & G	15
36. Bryan - G & G	<u>14</u>
Total	130

Hawaii Area

1. Smith, K. - Biol.	14
5. Karl - G & G	10
19. Ballard - Testing	7
25. Malahoff - G & G	12
*32. Craig, H. - Geochem.	5
37. Grigg - Biol.	<u>10</u>
Total	58

California Basins

11. Smith, K. - Biol.	8
14. Thistle, D. - Biol.	12
15. Carney - Biol.	10
16. Jumars - Biol.	<u>10</u>
Total	40
Grand Total	402

ALVIN HIGHTIME PROPOSALS RECEIVED

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT*	DIVES	COMMITTEE ACTION
1. Smith, K.L.	Carlucci, A.	Near Honolulu (See 1 Mar 1983 detailed request).	Ecological energetics of the deep-sea benthic boundary layer (BBL).	NSF-3	6/85	9/85		14	Recommended for scheduling
2. Edmond, J.M.	Gieskes, J.M. Lupton, J. Sayles, F. Simonet, B. Lonsdale, P. Levin, L.	Guaymas Basin, Larson's Seamounts.	Cooperative study of hot springs in the Guaymas Basin, Gulf of California and Larson's Seamounts.	NSF-3 ONR-3 ONR-3	Spring 1985	Before Fall 1985		18	Recommended for scheduling
3. Taylor, B.	Fryer, P. Hussong, D. Gill, J. Honza, E. Tamaki, K. Yuasa, M.	Near Yokohama, 31°N, 140°E.	Rifting processes in the Bonin Island Arc.	NSF-3 (4/24/84)	Summer 1985	Fall 1985	A/II, ALNAV	12	Recommended for scheduling
4. Small, E.B.	None	Guaymas Basin hydrothermal vents near 27°N in Gulf of California.	Observe & secure particulate bottom sediments for the extraction of its protistan microfauna.	NSF-2	Between 5/15 & 9/1/85.			1	Not recommended
5. Karl, D.M.		East Rift Zone (19°30'N, 155°30'E), Lofhi Seamount (19°N, 155°E).	Investigations of geothermal systems on the East Rift Zone of Kilauea and Lofhi Seamount.	NOAA-3 Sea Grant	8/85	3/85; 3/86; 8/86	ALNAV	10	Not recommended
6. Levin, L.	See #2. DeForest, J.	20.5°N, 109°25'W, near Mazatlan.	Faunal studies on submarine volcanoes in the East Pacific Ocean.	ONR-3	4/85	5/85	A/II	2	Recommended for scheduling
7. Fryer, P.	Gill, J.	21.°35'N, 143°40'E, near Agana, Guam.	Arc volcanism: submarine volcanoes in the Mariana Arc.	NSF-3 (4/24/84)	5/1-14	4/85-6/85	Special equip. of Ballard's.	10	Recommended for scheduling
8. Lutz, R.A.	Grassle, J.F. Edmond, J.M. Childress, J.J.	Galapagos Rift, (0°48'N, 86°09'W); Guaymas Basin, (27°01'N, 111°25'W).	Studies of Molluscan Shells from deep-sea hydrothermal vents.	NSF-3	Early 1985	Spring 1985	A/II	8	Recommended for scheduling
9. Schlanger, S.O.	Campbell, J.F. Premoli-Silva, I.	172°E, 5°30'N.	"Geological history of the Central Marshall Islands: Studies of Harrie Guyot - A Drowned Atoll - and Chronology of Volcanic Edifice Building."	ONR-2 NSF-1	2-8/85	Late 1985		8	Not recommended

Sponsor Code

1. Proposal to be submitted
2. Proposal Submitted
3. Funded

ALVIN SHIPTIME PROPOSALS RECEIVED

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT*	DIVES	COMMITTEE ACTION
10. Curl, H.C., Jr. REPLACED BY #22		Southern Juan de Fuca Ridge: 44°39.0'N, 130°22.5'W	Sea Floor Spreading Center Processes: Geothermal fluid experiment (GEOFLEX).	NOAA-1 Sea Grant	8/85	7-9/85		15	Replaced by 22. Not reviewed.
11. Smith, K.L.	Childress, J.J. Robison, B.H. Wilson, R.R.	Santa Catalina Basin (1300m).	Ecological energetics of deep-scattering layer animals: in situ studies.	ONR-2	Summer 1985	Fall 1985		8	Recommended but not scheduled. (Science proposal withdrawn.)
12. Fornari, D. J.	Batiza, R. Ryan, W.B.F. Haymon, R. Levin, L. Moore, J. G.	Eastern Pacific at 10° N, just west of East Pacific Rise	Investigations of early stages of seamount evolution, development of craters and calderas, and summit plateaus on young seamounts, petro- chemical and magmatic processes	NSF-1	late 85 early 86	flexible		14	Recommended for scheduling
13. Fox, P. J.	Gallo, D.G. Kidd, W. Karson, J.	Clipperton Transform 10° N 104° W	To investigate the tectonic manifestations of a fast- slipping plate boundary (Clipperton Transform)	NSF-2	after April 1985			21	Recommended for scheduling
14. Thistle, D.	Eckman, J.E.	32° 37.3 N, 117° 31.2 W	Hydrodynamic and biological effects of persistent biogenic structure on a bathyal harpacticoid copepod community	NSF-2	late 1985 early 1986	1 month separation needed		12 (6 plus 6)	Not recommended
15. Carney, R.S.	Gluck, D. Childress, J.	Southern California Borderland Basins	A study of a benthopelagic holothuroid dominated deep- sea benthic boundary layer fauna	NSF-3	Jan. 1985	no later than May 1985		10	Recommended for scheduling
16. Jumars, P.A.	Smith, C.R.	33° 17 N, 118° 38'W	A system for studying natural patterns and rates of distur- bance and succession in deep-sea macrobenthos	NSF-2	early 1985 1-2 mo. later 2-12 mo. later.			10 (4 plus 3 plus 3)	Recommended for scheduling

Sponsor Code:

1. Proposal to be submitted
2. Proposal submitted
3. Funded

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT	DIVES	COMMITTEE ACTION
17. Lelnen, M.	Schilling, G. Anderson, R.N. Rea, D.K. McDuff, R. Pearce, J.A. Hawkins, J.	18°00' 18°03'N 144° 17' 144°19'E	A submersible investigation of the Marianas Mounds hydrothermal area. Petrology and geochemistry.	NSF-2	late spring 1985			10	Not recommended
18. Honjo, S.	Cole, J.	05°19' N 82°05'W	In situ examination of benthic NSF-3 boundary layer.		April May 1985	Summer, not August		6	Recommended for scheduling
19. Ballard, R.D.		Loihi Seamount	To test a series of imaging cameras. Test use of remotely operated vehicle from ALVIN.	ONR-3	Feb. 1985	March		7	Recommended for scheduling
20. Ballard, R.D.		Guaymas Basin	To provide high quality video and film footage of ALVIN dives.	Nat'l Geograph- ic (and others)	Jan. & Feb. 1985	Dec. 1984		4-6	Tabled. Not reviewed
21. Malahoff, A. REPLACED BY #25	Embley, R. Hammond, S. McMurry, G. Karl, D.	Loihi volcano about 40 kilometers south of the Island of Hawaii	Loihi submarine volcano-geology, geochemistry and microbiology of rifts and hydrothermal vents.	NOAA	When- ever ALVIN Hawaii			10	Replaced by 25 Not reviewed
22. Malahoff, A. Curl, H. C.	Embley, R. Hammond, S. Feely, R. Massoth, G. Lupton, J. McMurry, G. Karl, D. Jones, M.	Southern Gorda Ridge to Northern Juan de Fuca Ridge 41° 25'N 127° 30'W to 49° 131'W	Hydrothermal systems of the Gorda and Juan de Fuca Ridges: A geological and geochemical comparative study of the processes active in vents along the two ridge crests.	NOAA OAR-3	Jun.- Aug. 1985			29	Not recommended
23. Koski, R.A.	Normark, W.R. Von Damm, K. Vallier, T.L.	17° 20'N to 18° 20' N 144° 40'E to 145° 00'E	Mariana Trough: Investigation of hydrothermal deposits and processes.	USGS-3	June- July 1985	April- May 1985		15	Not recommended
24. Lonsdale, P.	Smiley, W. Olsson, M.	Gulf of California 27° 40'N 111° 30'W	Investigation of hydrocarbon seeps at the margin of Guaymas Basin.	NSF-1	Summer 1985	Not Oct.- Mar.		5	Recommended for scheduling
25. Malahoff, A.	Embley, R. Hammond, S. McMurry, G. Karl, D.	Loihi volcano about 40 kilometers south of the Island of Hawaii	Loihi submarine volcano - geology, geochemistry and microbiology of rifts and hydrothermal vents.	NOAA-3	When- ever ALVIN Hawaii			12	Not recommended
26. Childress, H.	Somero, G. Felback, H. Johnson, K. Hessler, R. ARP, A. Jannasch, H.	Galapagos Rift	Galapagos rift biology-ecology and physiology of hydrothermal vent communities.	NSF-3	Feb.- Mar. 1985		HELVILLE (separate request)	20	Recommended for scheduling

Sponsor Code:

1. Proposal to be submitted
2. Proposal submitted
3. Funded

ALVIN SHIPTIME PROPOSALS RECEIVED

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT	COMMITTEE DIVES	ACTION
27. Lonsdale, P.	Hawkins, J., et al.	Mariana Back-Arc, Trough	Spreading center processes and products at Mariana Trough Back-arc Basin. Volcanic, tectonic and hydrothermal processes.	NSF-2	When ALVIN there			12	Recommended for scheduling
28. Grassie, J.F. Gagosian, R.B. Karl, D. Jannasch, H. Lonsdale, P.	11 listed	Guaymas Basin 27°N, 111-24W	Biology, geochemistry and geology of Guaymas Basin hydrothermal system.	NSF-2	Mar.-Sept. 1985	Not Dec.-Jan.		18	Recommended for scheduling
29. Berg, C.J.	Jones, M.L. Williams, A.	EPR, 20-5N, 109-6W Guaymas, 27N, 111-24W	Larval recruitment and colonization at deep sea hydrothermal vents.	NSF-3	Winter 1985	Spring 1985		4	Recommended for scheduling
30. Hey, R.N.	Sinton, Alwarter, Christie, Delaney, Johnson, MacDonald, Miller, Morgan, Searle, Sleep	Galapagos rifts, 2.5N, 95.5W	ALVIN/AII investigation of the Galapagos propagating rift system.	NSF-3	After April 1985	Anytime Available in 1985		25	Recommended for scheduling
31. Craig, H.	Welhan, J. Kim, Kyung-Ryal	Mariana Trough 18N, 144E	Submersible studies of hydrothermal vents and basalts in Mariana Trough.	NSF-2 (or 3?)	Jan.-Apr. 1985	Through June 1985		10	Recommended for scheduling
32. Craig, H.	Various	Loihi Seamount	Nature of hydrothermal gases.	NSF-2 (or 3?)	1985			5 (for SIO Program)	Recommended for scheduling
33. Malahoff, A.	Embley, R. Fornari, D. Ballard, R. Hekinian, R.	Galapagos Rift 0-45N, 85-30W	Extent, distribution, mineralogy and geological setting of sulfide bodies	NOAA-3	1985			15	Scheduled in 1983/1984 then deferred. Recommend for scheduling, 1985
34. Hessler, R.P.		Mariana Trough 18-10N, 144-40E	Megafauna of Mariana Trough hydrothermal vents. Composition distribution of vents and adjacent rocky bottoms.	NSF-3	1985			7	Recommended for scheduling

Sponsor Code

- Proposals to be submitted
- Proposal submitted
- Funded

ALVIN SHIPTIME PROPOSALS RECEIVED

APPENDIX IV-6

For 1985

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT	DIVES	COMMITTEE ACTION
35. Hussong, D.		Mariana Fore-Arc 19-20N, 146°-30- 147°E	Studies of tectonic features in the northern Mariana fore-arc	NSF-3	4/85	April- June		14	Recommended for scheduling
36. Bryan, W.B. Thompson, G.	Ballard, R.	EPR - 12N	Detailed study of volcanism; ridge morphology, geochem.; petrology and hydrothermal activity along ridge axis between two transforms.	NSF-2 (37)	1985			14	Not recommended
37. Grigg, R.	Malahoff, A. Uchida, R.	Off Hawaii, 21N, 158W	Ecological investigation of Hawaiian Seamounts	NOAA-2	1985			10	Not recommended

1. Proposal to be submitted
2. Proposal Submitted
3. Funded

