

JOIDES OFFICE
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M I N U T E S

JOIDES Executive Committee Meeting
21-22 May 1982
National Academy of Sciences
Washington, D.C.

Members Present:

- W. Nierenberg (Chairman, Scripps Institution of Oceanography)
- J. Baker (University of Washington)
- J. Bowman (Natural Environment Research Council - U.K.)
- G. Brass (University of Miami)
- J. Debyser (Centre National pour L'exploitation - France)
- H. Durbaum (Bundesanstalt für Geowissenschaften und Rohstoffe - Federal Republic of Germany)
- J. Ewing (Woods Hole Oceanographic Institution)
- C. Helsley (Hawaii Institute of Geophysics, University of Hawaii)
- G. Keller (Oregon State University)
- J. Knauss (University of Rhode Island)
- W. Merrell (Texas A & M University)
- N. Nasu (Ocean Research Institute - Japan)
- M. Peterson (Deep Sea Drilling Project, Scripps Institution of Oceanography; non-voting member)
- B. Raleigh (Lamont-Doherty Geological Observatory)

Member Absent:

- A. Sidorenko (Academy of Sciences, U. S. S. R.)

Liaison:

- W. Hay (Joint Oceanographic Institutions)
- A. Shinn (National Science Foundation)
- E. Winterer (Planning Committee)

JOIDES Office:

- P. Worstell (JOIDES Science Coordinator)

Potential Non-U.S. JOIDES Members (Observers)

- Olav Eldholm (University of Oslo, Norway)
- Kenneth Hsu (Federal Polytechnical School, Zurich, Switzerland)
- John Keene (Melbourne University, Australia)
- Keith Lewis (New Zealand Oceanographic Institute, New Zealand)
- Jin Qing Ming (Second Institute of Oceanography, Peoples Republic of China)
- Renzo Sartori (Inst. of Marine Geology, Univ. of Bologna, Italy)

Guests

- J. Clotworthy (Joint Oceanographic Institutions, Inc.)
- J. Honnorez (Planning Committee Chairman, designate)
- R. Larson (Chairman, Conference on Scientific Ocean Drilling)
- I. MacGregor (National Science Foundation)
- A. Maxwell (Institute of Geophysics, University of Texas)
- A. Mayer (Natural Environmental Research Council, U. K.)
- Nobuyuki Tsuzukihashi (Ministry of Education, Japan)
- S. Toyé (National Science Foundation)

Meeting Support Staff

- P. Henry (Joint Oceanographic Institutions, Inc.)
- D. Rucker (Joint Oceanographic Institutions, Inc.)

ACTION AND NOTA BENE ITEMS
 JOIDES EXECUTIVE COMMITTEE MEETING
 21-22 May 1982

<u>Page</u>	<u>Responsibility</u>	<u>Subject</u>
8	PCOM/EXCOM (N.B.)	Continue to invite observers from potential new member countries
8	Nierenberg (ACTION)	Write Director of NSF endorsing COSOD report and long-term program
11	PCOM (N.B.)	Set priorities for logging and find means to keep drilling technology ahead of drilling operations
15	PCOM (N.B.)	Possible establishment of a drilling technology "planning group"
16	PCOM (N.B.)	Possible incorporation of a microbiology interest into pre-existing panels
23	EXCOM, PCOM (N.B.)	Find ways to coordinate and integrate results of ocean drilling with continental geology
24	Worstell (ACTION)	JOIDES Office to identify and send copies of the COSOD report to prospective new members
28	PCOM (ACTION)	Recommend an advisory panel structure appropriate to future objectives of the drilling program
31	PCOM (N.B.)	Possible inclusion of a German scientist in the Hydrogeology Working Group
34	EXCOM, PCOM, Panel Chairmen (N.B.)	EXCOM recommends admission of Institute for Geophysics, The University of Texas at Austin
35	PCOM (N.B.)	Possible establishment of a mechanism to coordinate the responsible use of the JOIDES drilled holes

JOIDES Executive Committee Meeting
 21-22 May 1982
 National Academy of Sciences
 Washington, D. C.

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209 INTRODUCTORY REMARKS AND PRELIMINARY BUSINESS

W. Nierenberg welcomed the Executive Committee to Washington, D. C. and thanked JOI, Inc. and the Academy of Sciences for providing meeting facilities.

W. Nierenberg noted that Alan Berman (Director designate of the Rosenstiel Institute of Marine Sciences) will assume chairmanship of the Executive Committee beginning 1 July 1982. Alan Berman, at present the Director of Research, U. S. Naval Research Laboratory, will assume the directorship of RSMAS on 1 July.

W. Nierenberg extended a special welcome to representatives from non-U.S. countries considering JOIDES membership.

Following introductions, the Executive Committee adopted the agenda, noting that Roger Larson (Chairman of the Conference on Scientific Ocean Drilling) would arrive sometime during the morning to present the COSOD report.

The Committee approved the minutes of the 2-3 December 1982 Executive Committee meeting without change.

210 NATIONAL SCIENCE FOUNDATION REPORT

Allen Shinn reported for the National Science Foundation. Having reported to the JOI Board of Governors (U.S. members of EXCOM) and IPOD (non-U.S. members of EXCOM) the preceding day, he presented only a summary report to the Executive Committee.

I. 1982-83 Membership

NSF has concluded agreements with France, Germany, Japan, and the United Kingdom for the FY 1982-83 Challenger drilling program.

II. Post-1983 Planning

A. Funding

The NSF Office of Scientific Ocean Drilling (OSOD) has moved ahead with option "3" of the alternative drilling plans -- that of converting Explorer for riserless scientific ocean drilling. (See Item 199, 2-3 December Executive Committee minutes.) The Foundation has recommended the "Explorer option" to the National Science Board, and the NSB has resolved to promote an extended scientific ocean drilling, approved the establishment of the Advanced Ocean Drilling Program, and endorsed the acquisition and conversion of Explorer. (The complete NSB resolution is given as Appendix 1.) NSF is now seeking administration approval for "reprogramming" of \$9 million for the 1983 Challenger work (\$3 million) and Explorer planning (\$6 million) through discussions with the Office of Management and Budget.

The program has been mentioned only peripherally in congressional

hearings, but so far it has not encountered difficulties. The analysis of conversion and operations costs will be a major factor in OMB's decision, but prospects for the program are excellent once the administration approves. Shinn is relatively optimistic that such support will be forthcoming.

In reviewing the program (AODP), NSF has considered scientific benefits (considering in part the results of COSOD), cost of conversion and operations (as estimated by Lockheed), and degree of international interest and participation.

With regard to international participation, 15 countries were represented at the IPOD meeting -- some participants stayed on to observe at the Executive Committee meeting. The IPOD meeting was planned to provide potential members an opportunity to discuss the program, rather than to extract explicit statements of position. Nonetheless, Canada (M. Keene, representative) has expressed a readiness to make a commitment to at least the planning phase of the program. (A mechanism whereby Canada could join as a "candidate member" is discussed under Item 216-I, below.)

B. EXCOM Discussion/Consensus

The Executive Committee discussion centered mostly on ways to (a) maintain the momentum developed in encouraging new membership and (b) express concrete support for the program.

a. With regard to new membership, the ad hoc membership committee presented the concepts of "candidate membership" and "full membership," the latter as either single-membership or consortia, (discussed under Item 216-I, below).

And the NSF will continue this summer and fall (1982) to conduct discussions with interested governments.

The EXCOM also recommended that observers from potential new member countries continue to be invited to the Planning and Executive Committee meetings. Specific coordination and invitation is left to the judgement of the PCOM and EXCOM chairmen.

b. To demonstrate a formal and concrete support of the Advanced Ocean Drilling Program J. Baker moved (seconded by G. Brass) that the Executive Committee chairman, acting on behalf of the Executive Committee, send the Director of NSF a letter endorsing the COSOD recommendation in support of the long-term scientific ocean drilling program.

Vote: 11 for, 0 against, 0 abstain. The motion passed unanimously.

(The draft text of the letter appears as Appendix 2.)

211 DEEP SEA DRILLING PROJECT REPORT

M. Peterson reported for the Deep Sea Drilling Project.

N.B./
PCOM, EXCOM

ACTION/
Nierenberg

I. CHALLENGER OPERATIONS

Recent Challenger drilling has produced some very interesting results.

The Leg 83 party extended Hole 504B to over a kilometer into oceanic crust, and sampled a mineral stockwork in the lowermost part of layer 2A. The shipboard team, despite two drill string failures, left the hole clean. Some proponents believe it can be deepened perhaps to layer 3, and return to that site is a possibility the Planning Committee may consider at its next meeting. Recovery during Leg 83, however, was very low, and DSDP would hope to find a solution before returning to the hole. Broken and ground-up pieces of basalt in the bottom of the hole which interfere with the bit's rotation are primarily responsible for the low recovery.

Leg 84, drilled in the Middle America Trench off Central America sampled the west-facing side of an ancient underthrust active margin tectonized more than 70 million years ago. Recovery of massive "snow bank" gas hydrates is another significant result. Leg 84, however, came close to being aborted owing to difficulties in receiving permission from Guatemalan authorities to drill in Guatemalan-claimed waters.

The Leg 85 team recovered 2.2 km of Neogene sequences that provide a high resolution record of oceanographic climates in the Equatorial Pacific. The heat-flow experiment planned at Site EQ-1B was unsuccessful; proponents may want to return to that site at some later date.

Leg 86 just began at the time of the Executive Committee meeting drilling the first site in red clay (NW-9) and successfully coring (HPC) the Cretaceous/Tertiary boundary on the Shatsky Rise at the second site.

Following Leg 86 Challenger will put into Yokohama then conduct a two-part leg (87A, 87B) off Japan. 87A in the Nankai Trough will study tectonic subsidence and subduction mechanisms and evolution of the Japanese margin. The ship will return to Yokohama to pick up the Leg 87B scientific team to study the history and seaward extent of the Oyashio landmass and paleo-oceanography of the Kuroshio current by drilling in the Japan Trench.

Table EXCOM-1 shows the current Challenger drilling schedule.

(E. Winterer relayed more on future drilling plans under Item 212-III, below.)

II. PROGRAM PLANS (FY 1982 and 1983)

A. Fiscal 1982

NSF has approved the 1982 program plan for DSDP operations at the level of \$22,234,027. This sum must cover costs, in addition to routine DSDP operations, for additional drill string (550 joints), logging on Legs 87 and 89, and salaries for the ship's weathermen.

(The project will take delivery of 450 replacement drill string joints 15 September and 100 additional joints 25 September. Drill string will be loaded at the Yokohama port stop immediately before Leg 89. See also Item

April 9, 1982

INTERNATIONAL PHASE OF OCEAN DRILLING
DEEP SEA DRILLING PROJECT
TENTATIVE PORT CALL SCHEDULE
D/V GLOMAR CHALLENGER

LEG	DEPARTS FROM	DEPARTURE DATE	TOTAL	DAYS OPS	STEAM	TERMINATES AT	ARRIVAL DATE	PORT DAYS	RE-ENTRY	PURPOSE
85	Los Angeles	08 Mar 82	55	31	24	Honolulu, Hawaii	02 May 82	3	No	Equatorial Pacific
86	Honolulu	05 May 82	45	25	20	Yokohama, Japan	19 Jun 82	5	No	NW Pacific
87A	Yokohama	24 Jun 82	33	30	3	Yokohama, Japan	27 Jul 82	1	No	Nankai Trough
87B	Yokohama	28 Jul 82	21	18	3	Hakodate, Japan	18 Aug 82	3	Yes	Japan Trench
88	Hakodate	21 Aug 82	32	22	10	Yokohama, Japan	22 Sept 82	14	Yes	DARPA
89	Yokohama	06 Oct 82	48	34	14	Rabaul, New Guinea	23 Nov 82	5	Yes	Old Pacific
90	Rabaul	28 Nov 82	43	28	15	Wellington, New Zealand	10 Jan 83	1/2	No	S.W. Pacific
	Wellington	10 Jan 83	--	--	11	Papeete, Tahiti	21 Jan 83	5	--	Transit
91	Papeete	26 Jan 83	55	33	22	Balboa, Panama	22 Mar 83	5	Yes	Hydrogeology

APPROVED

M.N.A. Peterson

F.C. MacTernan

Y. Lancelot

R.E. Olivas

V.B. Robson

J.M. Duke

M.N.A. Peterson
F.C. MacTernan
Y. Lancelot
R.E. Olivas
V.B. Robson
J.M. Duke

211-IV, below.)

B. Fiscal 1983

NSF has recommended a target of \$22.35 million for the DSDP FY 1983 budget. The NSF-targeted budget is expressedly geared to a phase-down period calling a significant reduction of engineering efforts, reduction of purchasing new gear, spare parts, inventories, and overall reduced spending.

Peterson commented, however, that engineering development must continue if any future drilling program is to attain immediate success. Testing tools and systems from Challenger is the only realistic way to ensure ongoing development in preparation for the post-1983 program. He noted that NSF has softened somewhat on its "Thou shalt not do engineering," stance and A. Shinn and I. MacGregor will meet with DSDP management in June (1982) to discuss a future engineering program.

Higher anticipated logging costs within the reduced budget impose further problems. DSDP is pleased with Schlumberger, its current logging contractor. Reports from shipboard parties have also been extremely good and DSDP has, and hopes in the future, to preserve a reasonable logging contract with Schlumberger. Through the cooperative research effort between the Project and Schlumberger DSDP has been able to acquire the services of Schlumberger at a reasonable cost. Nonetheless, DSDP estimates logging costs may increase by 50 per cent in 1983 and estimates that about \$950 thousand would be needed to log three legs in the FY 1983 program.

N.B./
PCOM

DSDP will ask for the Planning Committee's guidance on priorities for logging operations and means to keep drilling technology ahead of drilling operations.

III. DRILL STRING FAILURE

A recent drill string failure and drill pipe loss has created a serious budget and planning problems.

During Leg 84, new drill pipe parted beneath the Challenger's hull resulting in the loss of about 5.4 km of pipe and \$1.4 million in pipe and logging tools. DSDP thus had only about 12,670 meters of pipe remaining, of which only 8,255 meters is strictly usable -- an insufficient amount of pipe to drill most targets; (See also PCOM minutes, Item 359-II). DSDP has since ordered an additional 550 joints (5200 m) of which it will take delivery in Yokohama, just prior to Leg 89. Funds to acquire the pipe must come from the Project's FY 1982 budget.

Tests have confirmed that the pipe parted as a result of a manufacturing flaw -- an inclusion in the pipe, but have also shown that the pipe was harder (i.e., more brittle) than standard pipe.

Upon receipt of the replacement string (previously owned new string) in Los Angeles, DSDP had all pipe inspected to ensure that all fell within the specifications for hardness. This new factor nonetheless poses problems as it demonstrated the need for a different and more extensive type of inspection.

The Project thus must institute the policy of inspection of all new pipe before it will accept delivery from the manufacturer.

In conjunction with the report, Peterson noted that drill strings lost on previous legs have been a result of different failure.

<u>Leg</u>	<u>Amount (ft)</u>	<u>Cause</u>
4	15,000	Failure of bail (on traveling block) to engage.
36	12,000	Rough weather. Stem broke at neck of horn
48	16,000	Failure of pup-joint connecting drill string to hydraulic motor.
84	18,000	Tensional fatigue

In response to a query, Peterson noted that drill string inspection for pipe used in marine, especially deep sea, operations is far beyond commercial inspection for land wells. In the case of drilling on land, lost pipe can simply be retrieved from the hole so extensive, expensive inspections are neither necessary nor cost effective.

IV. EXCOM DISCUSSION

A. Permission to Drill

Members of the Executive Committee expressed concern over problems in securing permission to drill in non-U.S. claimed waters. J. Knauss pointed out that six months is now the accepted lead time to secure such permission.

Although final drilling plans do not evolve until closer to the cruise, negotiations could be opened earlier, and general options presented. DSDP might consider routinely sending a person to the appropriate governments well in advance of drilling. Little is lost if Challenger does not go into the territorial waters proposed; a great deal is lost if drilling is aborted at the last minutes owing to political difficulties.

B. Logging

In response to a query, M. Peterson noted that DSDP has conducted no formal study with regard to comparing logging subcontractors, but all involved agree the Schlumberger is providing much superior service than the previous subcontractor. "The success of the recent logging operation is beyond what we ever dreamed."

H. Durbaum stressed the importance of continued logging and reiterated the need to ensure that a logging specialist is on board Challenger during the appropriate legs. At one time, the suggestion was made to train a member of the shipboard party to ensure this capability.

Winterer noted, however, that it is not easy to recruit scientists from other fields with the depth of understanding necessary to allow them to double as logging specialists.

C. FY 83 Budget-Phase-Down

J. Knauss questioned whether the additional amount added to the FY 1983 budget would alleviate the numerous budget constraints and problems reported to the Planning Committee (PCOM minutes of 23 of February 1982). Peterson indicated that, inasmuch as the increased amount covered primarily purchase of new drill string, it did not alleviate the budget problems discussed during the planning committee meeting.

In response to another question, Peterson said that DSDP is starting to work on phase-down planning and a means to ensure continuity in certain functions. Probably two-years will be needed to completely close-out the Deep Sea Drilling Project, but phase-out planning would of course depend upon the management structure and contractors of the future program.

A. Shinn commented that NSF had budgeted \$7.6 million to cover phase-out period, but if a new group responds to NSF's RFP for Science Operations contractor it would need to specify plan (and costs) to interface with DSDP.

212 PLANNING COMMITTEE REPORT

E. Winterer reported for the Planning Committee.

I. MEMBERSHIP — ALL PANELS

A. Recommended Membership Changes

At its last (February 1982) meeting, the Planning Committee made numerous recommendations regarding changes in membership. Owing to the long interval between the Planning and Executive committee meetings, P. Worstell solicited ballots by mail from Executive Committee members to ensure continuity in panel operations. Ten members responded; all ten approved all recommendations made by the Planning Committee, thus constituting a majority.

To formalize the record, J. Ewing moved (seconded by J. Knauss) that the Executive Committee accept all changes to JOIDES Panel membership as set forth in the minutes of the Planning Committee meeting of 23-26 February 1982, Item 360-XVI.

Vote: 11 for, 0 against, 0 abstain. The motion passed unanimously.

B. Future Panel Organization and Membership

The Planning Committee also noted that for the first time in recent history panels were attempting to increase their membership. The PCOM, recognizing that decisions regarding direction of the future program and shift toward long-term planning would bear strongly upon the organization of the advisory structure, postponed its discussion until its July meeting. At that time the PCOM plans to review the overall advisory structure and develop guidelines for each panel.

It will also review more specific items including

- disposition of the Hydrogeology Working Group -- whether or not to raise the HWG to panel level, maintain it as a working group, or ensure adequate coverage of hydrogeology within existing panels.
- consider making the Stratigraphic Correlations Panel a Working Group to the Ocean Paleoenvironment Panel with which it has strong areas of overlap.

C. Executive Committee Discussion

The Executive Committee discussed panel structure in the context of future management (Item 211, below). Members noted that some regional studies tended to receive less attention within the subject panel structure. Suggestions included (a) creation of a regional panel which would specifically advocate regional studies, cross cutting those advocated by subject panels or perhaps (b) the creation of a "marginal-sea panel."

The EXCOM instructed the Planning Committee to recommend an advisory panel structure that would be appropriate to the future objectives of the scientific program, (Item 214, below).

II. ITEMS FROM PANEL REPORTS

Fairly detailed reports from the JOIDES Panels and Working Groups are contained in the PCOM minutes of 23-26 February 1982, Item 360. Winterer thus reported only on certain items of special interest.

A. Research and Development Group

Some panels and panel members have become concerned that development technology is not moving ahead fast enough to keep ahead of drilling objectives -- especially in the area of bare-rock and high-temperature drilling. The problem has in the past been addressed by DSDP where tool design is closely tied to scientific and drilling operations. Some panels now recommend that a new, independent organization be created to develop tools and systems.

Although the PCOM did not endorse the plan at its last meeting, it discussed the problem and recognized it as perhaps part of a broader concern -- that of how to integrate (and ensure funding) of all the aspects of the scientific program (engineering development, geophysical surveys, pre-cruise planning, post-cruise study).

Executive Committee Discussion - Engineering Developments. The Executive Committee discussed the problem of future technology with great interest. Problems include (a) securing immediate funding to ensure continuity is maintained and drilling is not compromised owing to lagging technological developments, (b) encouraging and tapping incentive among researchers and various institutions and (c) coordinating and managing the effort. Members noted that several categories of tool development exist which might be handled in different ways: small tools, especially downhole instruments such as the Barnes-Uyeda pore-water/heat-flow instrument and

the von Herzen heat probe are best developed by individuals (at the institutional level); major developments incurring large costs, cooperative efforts should be developed by a special engineering team (either connected to DSDP or by an independent group). But major-tool development must be closely coordinated with ship's operations to ensure compatible systems. Such tools fall in the domain of mechanical engineering and must be tied closely with the drilling systems.

Possibly a technological advisory structure -- one paralleling the science advisory is needed to address questions of technological developments. (One possibility would be the establishment of a drilling technology "planning group.")

N.B./
PCOM

B. Sedimentary Petrology Technical Manual

The Sedimentary Petrology and Information Handling panels strongly recommend publication of the Sedimentary Petrology Technical Manual. DSDP has agreed to talk to M. Loughridge (National Geophysical and Solar Terrestrial Data Center) about publishing the manual in NGSTD format. Budget constraints make its printing difficult for DSDP at this time, but the NGSTD has offered to print the manual provided it can cover costs by selling it.

C. Bare-Rock Hot Rock, Hydrogeology, and Downhole Experiments

The Inorganic Geochemistry Panel has shifted its focus from geochemistry of interstitial water to solid phase geochemistry -- chemical exchange between seawater and high- and low- temperature basalt and seawater and sediment.

The Inorganic Geochemistry and Ocean Crust panels and Hydrogeology Working Group strongly endorse developing tools and systems to spud in on rock overlain by a thin sediment cover (bare-rock drilling), and to drill into sequences with temperatures in excess of 300°C (hot-rock drilling).

The Downhole Measurements Panel further encourages development of a wire-line re-entry system, and the expansion of programs to leave instrument packages in the hole to monitor changes over longer periods of time.

D. Information Handling/Data, and Reference Centers

The Information Handling Panel emphasizes the importance of completing and maintaining the DSDP data base. It urged NSF/DSDP to ensure that sufficient funds, space, and personnel are made available to maintain all data base and further urged that the information and curatorial efforts be maintained at full strength during any proposed drilling hiatus.

The Information and Stratigraphic Correlations panels supported Riedel's and Saunders' continued work on developing microfossil reference centers.

The Information Handling Panel supports the work being done by the CNEXO group in France and cites the excellent brochure recently published by that group. It hopes that CNEXO will continue to provide support for that Group.

The Information Handling Panel also urged DSDP to acquire an onshore sister system to the shipboard mini-computer. DSDP, however, reported that although it had originally planned to purchase a sister system it had insufficient funds to do so within the present budget constraints.

E. Organic Geochemistry

The Organic Geochemistry Guide, prepared by the Organic Geochemistry Panel, is now available from B. Simoneit (OGP Chairman) or Matt Salisbury at DSDP.

Organic geochemists have also noted an increased interest among microbiologists interested in studying the distribution of live organisms in marine sediments. (DSDP had, in fact, begun preliminary planning to develop an aseptic core barrel in response to this new interest.)

Although the PCOM did not support creation of a microbiology panel, it noted this development with interest and suggested that a means might be found to incorporate the subject into pre-existing panels.

N.B./
PCOM

J. Debyser, at the present meeting, suggested that a microbiologist be added to the Organic Geochemistry Panel.

F. Dedicated Samples

Several panels and PCOM members noted the increased interest in and the value of double or triple coring intervals for comparative studies. Comparable cores for organic geochemistry, inorganic geochemistry and physical property measurements at certain sites would be particularly useful.

The problem, however, is that triple coring sections with the hydraulic piston corer is very time consuming -- and as was the case of Leg 85 when the shipboard party had no time left to sample the important Eocene/Oligocene boundary, could compromise prime scientific objectives.

The EXCOM urged care in planning a balanced program.

G. Site Survey Work

The site survey for the remainder of the 1982-83 Challenger program are in reasonably good shape. Site-survey work is now keeping ahead of the drilling.

Leg 88 - DARPA. The DARPA site has been moved nearer to Japan to an area of pre-existing site-survey data. Its location is a compromise between DARPA and OPP proponents allowing the DARPA drilling to take place at a site where ocean paleoenvironment objectives can also be realized.

Leg 89 - Oldest Pacific. A joint HIG-SIO survey has located a site in the Western Pacific where "windows" in the Cretaceous sill complex will -- with luck -- allow sampling the sediments of the "Mesozoic superocean" down to basement.

Leg 90 - Southwest Pacific Paleoenvironments. The survey for this leg

has been completed for some time; no additional data are required.

Leg 91 - Hydrogeology. The Washington, at the time of the PCOM meeting, was conducting an SIO-URI survey along the East Pacific Rise to locate sites for the drilling to test hydrothermal models. Although some problems have arisen concerning the survey work, site-selection for Leg 91 will now move ahead.

Leg 92 - Mississippi Fan. The GLORIA work provided from a recent IOS-USGS survey of the Mississippi fan has provided excellent maps. JOI has also distributed RFP for additional site-survey.

(W. Hay reported at the present meeting that JOI has received responses to the RFP and will select a contractor soon.)

The site-survey data on hand is adequate for Leg 93 (ENA-3), Leg 94 (northeast Atlantic) and the three Leg 95 alternatives, (discussed below).

III. CHALLENGER DRILLING PROGRAM

E. Winterer briefly outlined the present and planned Challenger drilling program. (Item 362 of the February 1982 PCOM minutes contains more detail.)

Although the heat-flow experiment at EQ-1B did not work, the hydraulic piston coring during Leg 85 to study Cenozoic environments in the equatorial Pacific was highly successful.

Leg 86 operations are underway at the first site (NW-9). The drilling sampled the red clay sequence in the northwest Pacific.

Leg 87 along the Japanese margin is divided into two parts: 87A will drill the Nankai Trough to study subsidence and subduction processes along the Japanese margin, with particular attention being paid to comparing physical properties (porosity, pore-pressure, sonic velocity) in increasingly deformed sediments along the slope. The second part will continue the work begun on Legs 56 and 57 to study the history and seaward extent of the Oyashio landmass.

The Safety Panel has approved the Leg 87 sites (some with qualifications). The excellent profiler records provided by JAPEX clearly delineate subduction zones and thrust faults along the Japanese margins. These superior records have allowed proponents to target (and secure safety approval for) sites which should produce extremely interesting results.

The Leg 88, leaving from Hakodate, will emplace the DARPA downhole seismometer, and conduct a series of related experiments. The Ocean Paleoenvironment Panel and DARPA have now agreed upon a site which is suitable both for the DARPA experiment and for paleoenvironment studies (Neogene climatic changes). (The pilot hole for the DARPA experiment in the northwest Pacific will be drilled during Leg 86.)

In conjunction with the DARPA leg the PCOM and DSDP have expressed some concern about the deep-water limits of the drill string. The previous

DARPA test was done during Leg 78A in "flat calm" conditions. Considering the limited amount of drill string available the weather could be a serious factor in the success of Leg 88.

The Leg 88 hole will not be logged inasmuch as drilling will penetrate into competent rock just deep enough to emplant the seismic system.

Leg 89 is planned to sample the presumed oldest sediments in the Pacific Ocean. Profiler records show 500-600 meters of pre-Campanian sediments over an acoustic basement at a site in the Mariana Basin. This suggests a high possibility of reaching the Cretaceous and Jurassic deposits deposited in the Mesozoic super-ocean. The Leg 89 team will also hydraulic piston core one site on the Ontong-Java Plateau in fulfillment of a Leg 90 objective. (The Leg 90 team will describe the cores and work up the results.)

The Leg 89 sites will be logged.

Leg 90, the third leg, in the Ocean Paleoenvironment program will extend the study of Neogene climatic history into the tropical and subantarctic (Neogene) water masses. Much of the drilling will be in relatively shallow water along the Lord Howe rise; all sites have passed safety review.

Leg 91, on the East Pacific Rise, will comprise four sites in successively younger crust to study hydrothermal circulation and heat flow as a function of age of crust. A recent survey conducted by SIO and URI has provided seismic, Seabeam, and heat-flow data in the area. Specific sites have yet to be determined.

Atlantic Program

Leg 92 is planned to study in detail the 3-dimensional anatomy of the Mississippi Fan. Drilling is planned from the proximal part in relatively shallow water depths to the distal toe of the fan. A second objective of drilling a hole in the Orca Basin will allow workers to characterize developing environments in an anoxic basin. Conditions there have also favored preservation of planktonic foraminifers. Hydraulic piston coring would provide an excellent opportunity for stratigraphers to develop a highly resolved Pleistocene section.

Leg 93 drilling, at Site ENA-3 (near Hole 105), will provide a complete stratigraphic reference section for the western North Atlantic. The anticipated 1600 meters of section overlying basement should contain a complete Cretaceous and upper Jurassic environmental history and allow extrapolation and correlation of key reflectors in the area.

Planning for Leg 94 in the northeast Atlantic is still evolving. Objectives are to study Neogene climates and drilling will complement that of paleoenvironment program of the Pacific legs 85, 86, and 90.

Leg 95 is the last leg planned for the 1983 Challenger program. Owing to uncertainties concerning the program beyond September 1983, the Planning Committee was not ready to designate a firm objective for Leg 95. Whether

or not Challenger drilling would be halted in October 1983 and contractual obligations to Global Marine (to return a stripped ship) bear on the decision. The PCOM thus defined three alternative targets in the Atlantic and also discussed the possibility of returning to Hole 504B. It will make its final decision at its July meeting in Japan.

Targets in the Atlantic are (a) the New Jersey Transect, (b) Northwest Africa, and (c) return to Caribbean.

- a. The New Jersey Transect, was earlier scheduled as Leg 92 but was postponed to allow drilling the crustal heterogeneity leg in favorable weather. The New Jersey Transect comprises a series of holes on the continental slope and rise off the coast of New Jersey. Major objectives are to calibrate the seismic stratigraphy of the area and to test the Vail model of sea-level changes.
- b. The Northwest Africa, drilling was previously planned as Leg 95 (PCOM October, 1980) to study eolian deposits transported from the Sahara Desert and also perhaps to complete certain previously drilled holes, e.g., 547B.
- c. The Active Margin Panel requests a return to the Caribbean to complete the drilling begun on Leg 78A. On that half-leg the drill was close to penetrating the subduction zone east of Barbados when high down-hole pressures and time constraints forced premature termination of the program.

In addition, proponents from the Inorganic Geochemistry and Ocean Crust panels support deepening Hole 504B on the Costa Rica rift to layer 3(?).

Winterer has asked each interested panel to prepare "advocate" papers on and to prioritize the alternative choices for presentation at the July 1982 Planning Committee meeting.

Leg 95 could be a short leg because 10-14 days may be required to strip the ship on fulfillment of contractual obligations with Global Marine. M. Peterson noted DSDP might be able to negotiate a few day extension with Global Marine, but A Shinn pointed out that any shift of additional funds to the 1983 program would "impact monies budgeted for Explorer conversion."

Winterer noted that because the "end port" must be in the U.S., the Northwest Africa leg might be more expensive for logistical reasons.

The Planning Committee will evaluate actual time constraints, cost, and scientific value per dollar spent in making its final decision.

IV. JOIDES OFFICE MOVE

The Chairmanship of the Planning Committee and JOIDES Office will rotate to the Rosenstiel School of Marine and Atmospheric Sciences (University of Miami) 1 July 1982. J. Honnorez, the incoming Planning Committee chairman (and guest at the EXCOM meeting), reported that he had engaged the

services of Dr. Don Marszalek, currently an assistant professor at Miami to serve as JOIDES Science Coordinator. Marszalek has been involved in researching biological aspects of marine geology -- particularly those involving living foraminifers, calcareous algae, and coral communities. He has worked with the Bureau of Land Management on distribution of coastal and marine habitats and is working with Arabia on the environmental impact of oil in the Arabian Gulf.

Preparation for the office is fairly well underway. Honnorez has secured adequate office space and has submitted an operating budget to JOI. Honnorez and Marszalek will visit the SIO JOIDES Office in early June for general discussions and orientation.

V. SCIENCE NARRATIVE

A. Presentation/Background

E. Winterer submitted the PCOM's 8-year science narrative noting that the Executive Committee took a "preliminary look" at it during its December meeting in San Francisco. At that time, the EXCOM instructed the Planning Committee to move ahead with its preparation but to construct an 8-year proposal, free of any platform constraints. The earlier version comprised a five-year proposal supposing use of Glomar Challenger. Owing to the collapse of the Ocean Margin Drilling Program shortly before the EXCOM meeting, the Explorer had become available as a platform, the EXCOM instructed Winterer to modify the "proposal" accordingly.

At the February 1982 meeting, the Planning Committee suggested changes which Winterer subsequently incorporated (Item 363-II). Thus, the 8-year Science Narrative, originally conceived as the scientific part of the Challenger proposal has evolved through changing political climates. Certain vestigial elements of the proposal remain in the language, but nonetheless the document as now presented embodies the major scientific objectives defined by the JOIDES panels.

B. EXCOM Discussion

During discussion, the Executive Committee emphasized that the proposed drilling plans set forth in the science narrative are "not set in concrete."

Some members expressed serious concern that non-U.S. agencies and/or potential new members would, on the basis of the document, view the scientific planning as completed, and thus be less interested in supporting the program. The sections containing the leg by leg tracks in particular give the impression that the program planning is a "fait accompli."

Other members noted that a working document was nonetheless necessary to focus planning; all agree that the document will be periodically updated as planning moved ahead.

In order to alleviate possibilities of misunderstanding, W. Nierenberg appointed J. Debyser, C. Helsley and E. Winterer to write a preface to appear in the front of the Science Narrative clearly stating that (a) the

"narrative" is a preliminary working document setting forth guidelines to define a broad framework on which to build the program", (b) the ships' tracks are exemplary, demonstrating only that the targeted science can be addressed, and (c) that the specific objectives and actual ship's schedule will evolve as new ideas are brought forth. The EXCOM would not expect the working document to receive a wide, formal distribution, but rather be distributed on "need to know" basis.

On the basis of the discussion and following preparation and acceptance of the "Draft Preface," (Appendix 3), C. Helsley moved (seconded by H. Durbaum) that the Executive Committee thank the Planning Committee for its efforts and accept the "8-year Science Narrative" as a working document to provide guidelines for planning the future scientific drilling.

Vote: 11 for, 0 against, 0 abstain. The motion passed unanimously.

VI. EXPLORER CONVERSION (LABORATORIES)

E. Winterer reported briefly on the Explorer Interface Working Group. (See also PCOM minutes, Item 263-III.) The group comprising representatives from Lockheed, JOI, JOIDES and DSDP has met about once a month during the first months of 1982. Planning for laboratory space is nearly complete. The lab space comprising 10,000 square feet is forward of the derrick and below the water line where it is least subject to vibrations. The very large space available will make extensive laboratory analysis possible including x-ray diffraction, x-ray fluorescence, SEM, and thin-section and polishing capabilities.

Vertical core storage is planned to minimize core disturbance. Cores could even be cut in a vertical position if so desired.

Most office and research space will be aft and sufficient staterooms to accommodate 50 scientists are available.

213 CONFERENCE ON SCIENTIFIC OCEAN DRILLING (COSOD)

R. Larson, Chairman of the Conference on Scientific Ocean Drilling, arrived mid-morning to present the members of the Executive Committee with the newly printed COSOD Report. He summarized the conference and the report as follows.

I. HISTORY

The Executive Committee provided the initiative for the conference, directing the Steering Committee to examine "how ocean drilling and associated scientific programs can be organized to address the important scientific programs in the most organized and productive way." In selecting a COSOD Steering Committee the EXCOM attempted to establish a balance among the geological sciences and ensure an international participation. It asked Larson to chair the Steering Committee -- which he subsequently agreed to do -- and secured funding through JOI for travel and other

expenses.

Larson reported that owing to a combination of good luck, good timing and hard work, the committee was able to achieve more than its original mandate; it provided a forum to identify and prioritize long-term goals in a way that secures support from a broad-based community of scientists and also provided a reasonable expectation that these goals can be met within the next decade.

The conference, held 16-18 November 1981 at the University of Texas at Austin, involved 150 participants from nine countries. The truly international aspect of the conference is reflected in the working-group members in which all were chaired by non-U.S. (per passport) scientists.

II. REPORT-SUMMARY

The conference report is divided into two major sections comprising

1. Summary of the Conference on Scientific Ocean Drilling, containing general recommendations from the Steering Committee, discussion of the scientific top priorities and summaries of the Working Group position papers.

2. Working Group position papers which is organized according to five major topics.

- Origin and Evolution of the Oceanic Crust
- Tectonic Evolution of Continental Margins and Oceanic Crust
- Origin and Evolution of Marine Sedimentary Sequences
- Causes of Long-Term Changes in the Atmosphere, Oceans, Cryosphere, Biosphere, and Magnetic Field
- Tools, Techniques and Associated Studies.

Larson summarized the general recommendations of the Steering Committee appearing in summary section B-1 to B-4 of the COSOD report for the Executive Committee

- A long-term program (of at least 10 years) of world-wide drilling is essential in the earth sciences. The Explorer, because of its longer potential life and extended capabilities is the preferred vessel for the future long-term program. The Explorer's availability is, in part, dependent upon a favorable analysis of conversion and operating costs, but the vessel would almost certainly be operated without a riser and blow-out prevention system for several years.
- A future drilling program must be a part of a larger scientific program in which geophysical surveys and studies, sample analyses and other investigations are identified. Support is needed to ensure that activities which require long lead times are completed before drilling begins as well as to support scientific studies of materials after

each cruise.

- Scientific ocean drilling provides means through which to integrate marine and continental geology.
- International cooperation should be expanded; the cooperation among scientists of many nations has "pollenated" and stimulated scientific thinking, and continued efforts to expand membership will surely be fruitful.
- The Conference chose Explorer as the vessel to address post-1983 drilling, recognizing that costs of building a new vessel would be too high and thus the choice was between Glomar Challenger and Explorer. It deemed Explorer preferable because (a) its increased living and laboratory facilities would permit an increased number of scientists to participate (and thereby allowing increased IPOD membership), (b) of its greater stability owing to greater displacement which would allow drilling in more adverse weather condition, (c) it may be ice-strengthened to allow high-latitude drilling, (d) a longer drill string could be carried and deployed to drill targets in deepest water, (e) its capacity to accommodate a riser system at some later date.

Disadvantages to Explorer are that the ship is too large to pass through the Panama Canal and that ports and drydocking facilities which can accommodate the ship are relatively few.

R. Larson also presented the COSOD report in conjunction with NSF's presentation to the National Science Board last March; the Board appeared to receive the report very favorably.

III. DISCUSSION

In response to a query from J. Knauss, Larson added that well over 50 per cent of the top priority objectives identified by COSOD require some facet of Explorer capability not available on Challenger. The ocean-crust objective to drill to layer 3 requires the longer drill string available on Explorer. Although many ocean paleoenvironment objectives may be realized with the hydraulic piston corer, high-latitude work, requiring Explorer is a first order OPP objective. Hydrothermal work requires numerous shipboard scientists and specialized laboratory facilities, available only on Explorer. In addition, many questions about the active and passive margins must be answered with deep or near-shore drilling requiring well control capabilities.

The EXCOM also discussed ways to effectively coordinate and integrate results of ocean drilling with continental geology. It suggested that JOIDES might find a means to more actively push liaison with continental geologists. One way to do this is by each EXCOM member stimulating interest within his own institution or country. In some countries, e.g., France, the marine geological and continental geological communities are already one and the same -- thus ensuring that the scientific results are closely related.

N.B./
EXCOM,
PCOM

Larson suggested that scientific ocean drilling serves as a focus for geological sciences. The drill sites are modern laboratories in which investigators can observe the processes which have been going on over the past 200 million years.

IV. CONSENSUS

J. Knauss, speaking for the Executive Committee, thanked Larson for the excellent and truly impressive performance of the COSOD Steering Committee and Conference attendees in organizing and developing a cohesive, unified conference and in producing the handsome COSOD report within only six months -- a record in itself. W. Nierenberg also thanked Larson for his transmittal letter of "extraordinary grace." (See Appendix 4.)

C. Helsley moved (seconded by G. Brass) that the Executive Committee accept the Report of the Conference on Scientific Ocean Drilling and thank R. Larson, members of the COSOD Steering Committee, and Working Groups for their efforts on behalf of the ocean drilling community.

Vote: 11 for, 0 against, 0 abstain. The motion passed unanimously.

ACTION/
WORSTELL W. Nierenberg asked the JOIDES Office to identify and send copies of the COSOD report immediately to prospective new members of JOIDES.

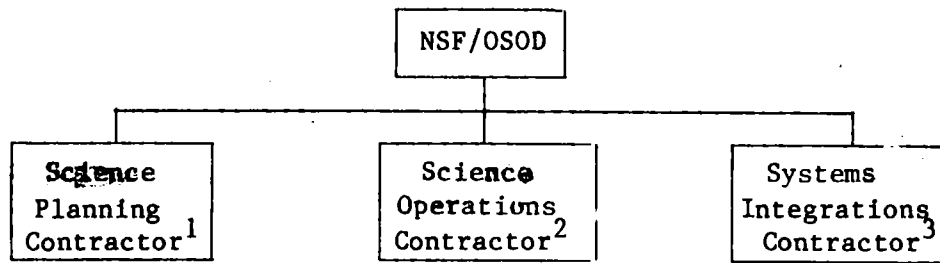
214 ADVANCED OCEAN DRILLING PROGRAM-MANAGEMENT PLAN

I. PROPOSED PLANS

In viewing the greatly expanded concept of the Advanced Ocean Drilling Program, the Executive Committee considered ways to effectively manage such a program. In its discussion the EXCOM presumes a world-wide, long-term (perhaps 10-year) scientific program involving many countries and one using the Explorer as the drilling platform.

A. NSF Proposed AODP Management Plan (Three Prime Contractors)

NSF proposed a plan at the JOI Board of Governors meeting (25-26 March 1982) showing a structure wherein NSF contracted directly with three separate prime contractors.



¹The Science Planning Contractor provides scientific advice and guidance.

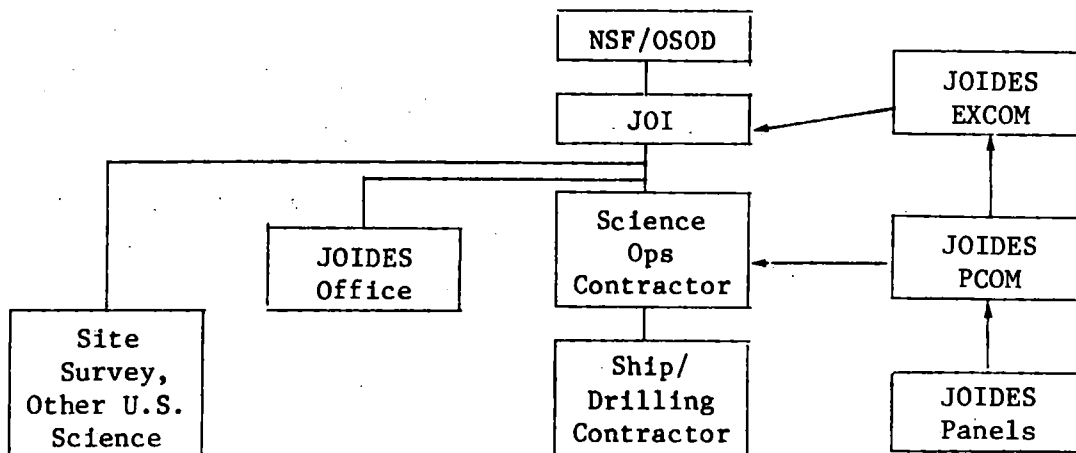
²The Science Operations Contractor manages the logistics of the scientific drilling program.

³The Systems Integration Contractor is the ship's operator and drilling contractor.

NSF favors this configuration as it allows NSF to communicate directly with each decision-making body which NSF views as critical in a program of such magnitude. Further, as Explorer would be owned by NSF, the Foundation believes direct access to the ship and drilling contractor is necessary to expedite all matters concerning ship's repair and operations.

B. Nierenberg Model (Single-Prime Contractor)

In a letter to the Executive Committee (of 9 April 1982), Appendix 5 W. Nierenberg proposed a simpler plan in which NSF contracts (using co-mingled U.S. and non-U.S. funds) with but a single Prime Contractor (JOI) which subcontracts the science operator, which in turn subcontracts the ship/drilling operator. (The Prime Contractor would also support the JOIDES office with co-mingled funds and subcontract U.S. site surveys, and U.S. science in support of the program.)



C. JOI Board of Governors Plan (Single Prime Contractor and IPOD Council)

J. Baker, Chairman, JOI Board of Governors, presented a modified model developed at the JOI BOG meeting (20 May). The Board of Governors had addressed questions of (a) providing a mechanism to ensure direct access

between the non-U.S. participants and the National Science Foundation and (b) reviewing the present JOIDES (EXCOM, PCOM, PANEL) advisory structure. Acting upon a suggestion made by W. Nierenberg, the JOI Board of Governors recommended the creation of an IPOD (oversight) council comprising all non-U.S. members which would link directly to NSF.

II. DISCUSSION

The Executive Committee discussed various ramifications of the management plans at length. Most discussion focused around three aspects of future planning and management plan.

- What sort of advisory structure is appropriate? Is the current Executive Committee-Planning Committee system suited to a long-term Explorer program? Is the current panel organization (major subject panels) the most suitable?
- How can we best ensure that the non-U.S. partners are adequately represented in the overall program at the management level?
- How can we ensure an effective management structure which is responsive first and foremost to the scientific goals of the program?

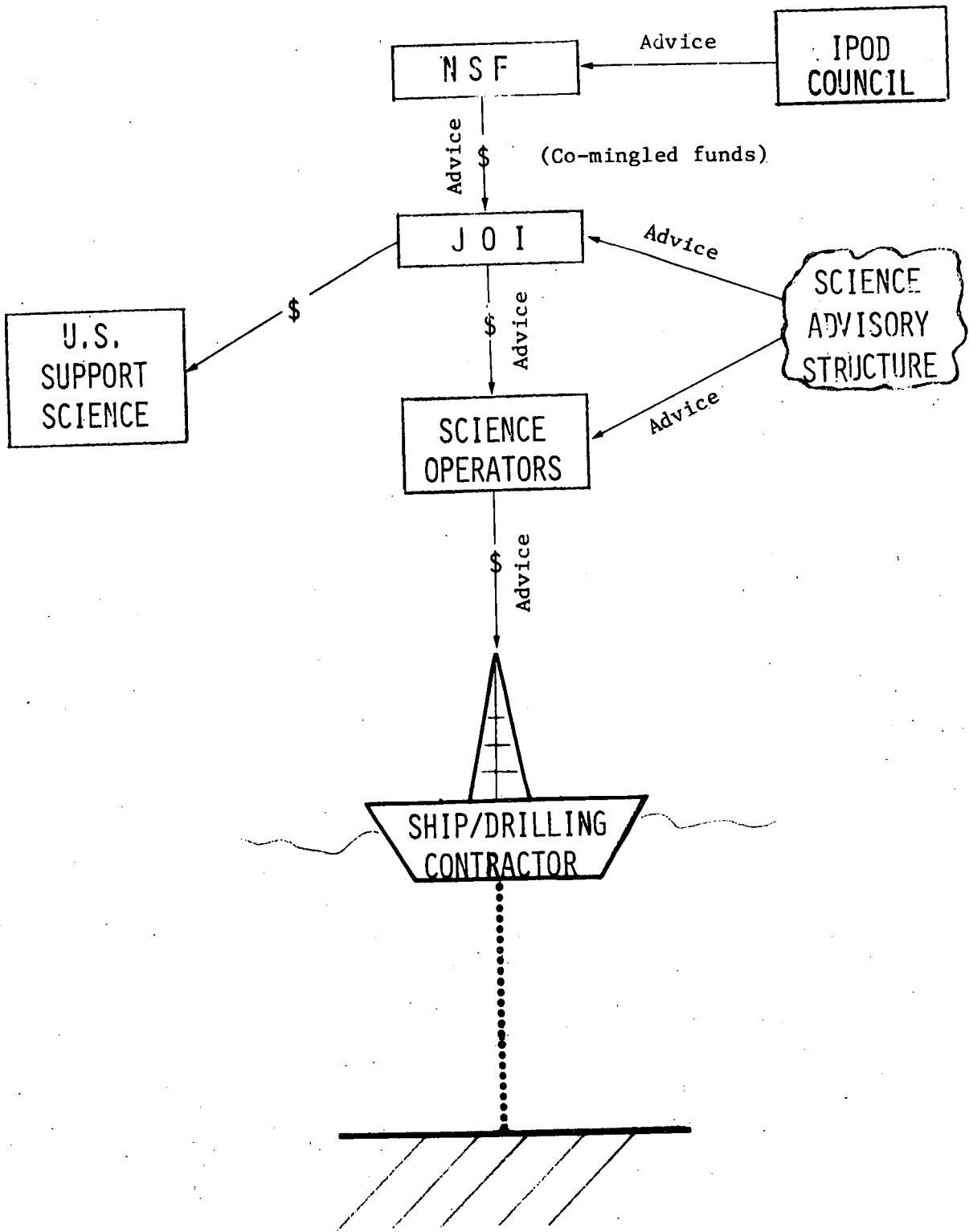
During discussion A. Maxwell outlined the advisory structure created for the OMD program which comprised a Scientific Advisory Committee including representatives from each participating oil company and JOI Institution, plus three members at large. To "pre-digest" items and expediently handle certain matters between meetings, the SAC formed a 6-person Executive Committee of the SAC. Various regional Planning Advisory committees provided direction to the SAC. The system seemed to work well -- particularly in the context of a joint industry/university/government agency program.

Several members of the JOIDES Executive Committee, noted that whereas the definition of responsibilities of the current JOIDES Planning and Executive committees is not always clear and distinct, the system has worked effectively in the past. The particular strength of the system is in the incorporation of two major aspects of the program: definition of scientific goals and developing a means to accomplish them through the Planning Committee, and integration of political and institutional policies through the Executive Committee. The system allows for the scientific planning to benefit from direct institutional involvement and support.

With regard to management structure, most members of the Executive Committee expressed doubts about any management structure which would not place control of the ship's operation directly in the hands of the science operator.

III. EXCOM CONSENSUS

Following the discussion R. Merrell moved (seconded by G. Brass) that the Executive Committee endorse the following position.



The Executive Committee has reviewed a number of possible management structures. It concluded that

1. a committee structure should be established in a manner similar to the present Executive and Planning committees. Membership on these committees is to be related to the financial contribution of individual countries.
2. Further, the Executive Committee asks the Planning Committee to recommend an advisory-panel structure that would be appropriate to the future objectives of the drilling program;
3. It advises that a council consisting of representatives of each contributing non-U.S. member be established for the future program; and
4. Recommends and urges JOI, Inc. to seek and obtain contractual control of the Science Operations Group and through them the Ship's Operator.

Owing to the complexity of the motion and the international character of item 4, the EXCOM accepted J. Debyser's request to split the motion into its four component parts.

The EXCOM adjourned for the day allowing members to discuss the management structure further in informal sessions.

(The EXCOM voted on the motion following further discussion in conjunction with "Member Country Reports," given below under Item 215. We report it here for reasons of clarity and organization. P. W.)

Vote Item 1 (committee structure): 11 for, 0 against, 0 abstain. The motion passed unanimously.

The motion (part one) to establish an advisory structure for AODP similar to the present Executive and Planning committees passed unanimously.

Vote Item 2 (panel structure): 11 for, 0 against, 0 abstain.

The motion (part two) to instruct the Planning Committee to recommend an advisory panel structure passed unanimously.

Vote Item 3 (IPOD Council): 11 for, 0 against, 0 abstain.

The motion (part three) to establish an "oversight" council comprising non-U.S. members passed unanimously.

Owing to the internal (U.S.) aspects of the motion (part four) urging JOI to seek contractual control of the Science Operations and through them, ship's operations, the non-U.S. members suggested that this part of motion be tabled so that it could first be addressed by the JOI Board of Governors.

ACTION/
PCOM

J. Knauss moved (seconded by J. Baker) that the Executive Committee table action on part four of the motion on the floor (to ask JOI to seek and obtain contractual control of the science operations and through them the ship's operation).

Vote (table part four): 11 for, 0 against, 0 abstain.

215 MEMBER-COUNTRY REPORTS

I. SUMMARY

Representatives from the non-U.S. member institutions reported on activities within their respective countries and institutions. All member countries are actively engaged in IPOD-related work: cruise participation, site surveys, sample analyses. Representatives also expressed strong support for a continued scientific ocean drilling program.

Representatives also supported the concept of an IPOD (oversight) committee discussed above in Item 214.

II. MEMBER-COUNTRY COMMENTS

A. France

J. Debyser reported on recent French IPOD activity.

Laboratory Research - French scientists in Universities, CNEOX, and industry are actively conducting IPOD-related research. Money has been made available from the Centre National de la Ocean Recherche INRS so that samples from cruises on which French scientists participate are quickly studied and data made available for future planning.

Site Surveys - The French did not conduct a great number of site-surveys this past year, but in conjunction with other geophysical work, they have completed a post-leg survey on the Goban Spur, refraction and heat-flow surveys along the East Pacific Rise and done some work in the Clarion-Clipperton Fracture zones, near the Blake-Bahama escarpment, and on the Barbados ridge.

Recent events include a French Geological Society Conference held in Lille addressing the topic Oceans and Paleo-oceans. Sixteen papers given at the Conference were related to studies of DSDP/IPOD materials. The French community, especially with the support of J. Aubouin, views ocean drilling as the natural extension of continental geology; continental geologists and marine geologists are, in fact, one and the same community.

The French data handling offices are being partially transferred to BNDO.

Diving activity (mini-submersible) is increasing. The French have recently completed dives (a) along 13°N (East Pacific Rise) in the area of active hydrothermal vents, (b) in the Bay of Biscay where they were able to

study the shelf slope, and (c) on the Gorringe Bank 160 miles southwest of Portugal where the mini-submersible (Cyana) was able to sample a section providing considerable information about the crust, slope, and continental margin.

They have also recently organized a joint diving venture with the Germans off Morocco which will take place in September 1982.

J. Debyser reiterated that a strong support exists in his country for the international ocean drilling program. The French intend to be FULL PARTICIPANTS IN COMING YEARS. The cooperation and participation of an international team of scientists has created an ongoing scientific seminar -- unique within both scientific and political arena. Many new things are "just starting to boil in this scientific stew pot." Debyser "cannot conceive of progress in the geological sciences without ocean drilling and the French are prepared to stay involved for another ten years, if possible."

B. Japan

N. Nasu reported that Japanese scientists strongly support IPOD activities and Glomar Challenger operations. Japanese scientists have benefited from participation on board ship and have produced excellent results. The community is extremely pleased that Challenger will be drilling the Nankai Trough and Japan Trench during Leg 87 to resolve questions of the origin and history of the Japanese margin.

The Japanese scientists are also surprised and excited by the excellent multichannel profiler records of the Nankai Trough kindly supplied by JAPEX. (The records were supplied gratis in response to requests of Japanese scientists. Their purchase would probably have cost about \$0.5 million.)

Japan is planning to acquire a 460-ton vessel equipped with a 6-channel seismic system next year. The vessel will be available to conduct pre-drilling geophysical surveys.

The internal Japanese IPOD structure comprises two principal groups: (a) the Council of the Ministry of Education, Science and Culture and (b) the Research Liaison Committee. The Council prepares and promotes budgetary plans; the Research Liaison Committee, comprising 120 members, implements the plans and coordinates pre-drilling survey work. A "high feeling" for the IPOD work exists in Japan and the Japanese IPOD community is enthusiastic and highly cooperative. They all "eat rice from the same bowl."

C. Germany

Germany has joined IPOD and contributed its dues for the FY 1982 program. The Geoscience Commission is considering a 1983 contribution; the German scientific community strongly supports ocean drilling.¹

¹Durbaum reported immediately after the Executive Committee meeting that the Geoscience Commission (Deutsche Forschungsgemeinschaft) has recommended continuation of the FRG's participation in the future ocean drilling.

The Bundesanstalt für Geowissenschaften und Rohstoffe provides half the annual German contribution. The funds go to (a) IPOD membership dues, (b) study of samples in shore-based research facilities, and (c) geophysical surveys.

Germany has expanded its diving (submersible) program and will soon engage in a joint program with the French.

With regard to site surveys, the Sonne conducted a Seabeam and seismic survey in the equatorial Pacific (Leg 85), and is doing regional surveys in the southeastern part of the south China Sea.

The Weddell Sea geophysical work containing detailed interpretations will be published in June 1982.

Durbaum stressed the need for more cooperation on technological matters; German scientists are prepared to contribute technology for the advanced drilling and need only some mechanism to become involved.

N.B./
PCOM

Durbaum also suggested that perhaps a German scientist could be included in the Hydrogeology Working Group.

D. United Kingdom

J. Bowman reported that interest, contribution, and commitment to the drilling program remains high within the United Kingdom. Twelve U.K. scientists have sailed recently on nine DSDP legs. The legs of greatest interest to U.K. scientists were those on the Goban Spur and Rockall Bank. The impact of the program, however, goes far beyond cruise participation; the Institute of Oceanographic Sciences alone has conducted four site surveys (Rockall Bank, Middle Atlantic, Gulf of Mexico and King's Trough); some of the surveys have included GLORIA work.

In this context, Bowman urged earliest possible forward planning. Requests for ship time in the U.K. require 18-month lead times. The U.K. could contribute more (in geophysical surveys) if targets were identified well in advance of the drilling. Survey planners simply need more time.

Membership in JOIDES Panels has provided an important link between the U.K. scientists and the world ocean drilling community -- a cooperation which the U.K. scientists appreciate, and from which they have benefited.

Discussions concerning post-1983 planning have begun in the U.K. and Bowman noted the discussions in Washington, both in the NSF-sponsored IPOD meetings and at the Executive Committee meeting have been very useful.

The "open house" aboard Glomar Challenger in Southampton following Leg 80 was extensively covered by the press and stimulated considerable interest among U.K. scientists, and industrialists. Bowman thanked DSDP and others who made the "open house" possible. It was a great help in exposing the scientific community and government agencies, as well as layman, to the ocean drilling program.

The NERC Quarterly, Volume 2, no. 11 (July 1981), also featured Glomar

Challenger on its cover and a large feature story about the Deep Sea Drilling Project.

216 JOIDES MEMBERSHIP

I. JOIDES MEMBERSHIP COMMITTEE¹ REPORT

A. Background

The Executive Committee during its August 1981 meeting in Hannover formed a committee comprising A. Shinn (Chairman), J. Debyser, H. Durbaum and one U.S. member (subsequently named Art Maxwell) to consider questions involving ways to encourage new JOIDES membership and establish guidelines on how to bring new members into the existing partnership. The Executive Committee reviewed and expressed some reservation about a draft plan for increasing membership presented at its 2-3 December 1981 meeting (Item 203-III). The plan favored by NSF at that time involved various levels of membership (full membership, 2/3 membership, 1/3 membership, etc., with corresponding reduced privilege).

The ad hoc committee has since met to revise and refine the plan which it presented at the current meeting.

B. Ad Hoc Membership Committee Report

A. Shinn (Chairman membership Committee) distributed copies of the membership committee report which appears as Appendix 6.

In order for Explorer to replace Glomar Challenger as the drilling platform, expanded support from non-U.S. members is requisite. (The Explorer, of course, could accommodate a much larger scientific party making increased membership possible.)

The Membership Committee addressed ways to develop a structure wherein nations with lesser financial resources and ability to contribute (financially) could participate, yet present members and those which could afford full membership would continue, or join, at full membership cost.

The committee found, however, that schemes to establish different levels of membership (with different levels of privilege) while keeping current members involved at full levels were unworkable. The range of contribution requested--from full membership to 1/6 membership would create an overly complex system and could not be employed without loss of current membership. NSF also concluded that making a separate contractual agreement with each member of a consortium joining as a full partner (Plan C, Item 203-II, 2-3 December minutes) would also be too complex and pose legal and contractual problems.

¹Also called "Guidelines Committee" in past minutes.

The ad hoc membership panel thus recommended that regular JOIDES membership comprise either of two categories of full membership:

- single-member full membership, as is the type of membership held by the present non-U.S. members.
- consortia as full members. In this case a memorandum of understanding would be between the NSF and a single body representing the consortium. Division of contribution, responsibility, and privilege is decided internally among the nations forming the consortium.

In addition, the Committee, recognizing the need to stimulate interest and involve potential new partners in the planning phases of the Advanced Drilling Program (i.e., during the two-year drilling hiatus), recommended establishing a new type of membership: candidate membership.

For a negotiated sum, Candidate Members would participate with full voting rights on the Planning and Executive Committees (and on other JOIDES panels in the same manner that non-U.S. members now participate). Candidate membership would begin in 1984 and would extend only during the pre-drilling planning phase. When drilling began, candidate members would have to choose either to terminate their JOIDES association or to join as a regular full member (either as a single-country or as a part of a consortium) and pay full membership dues. Only regular members qualify for shipboard participation, and Candidate Membership is only open to countries not currently members of JOIDES.

C. Consensus

Following discussion, H. Durbaum moved (seconded by J. Knauss) that the Executive Committee accept and endorse the conclusions of the report (of 21 May 1982) of the Membership Committee, and recommends that NSF move forward to secure new members.

Vote: 11 for, 0 against, 0 abstain. The motion passed unanimously. Implicit in the motion is that the Executive Committee endorses

- single-level full membership. A full member maybe either a single country or a consortium comprising several countries.
- candidate membership which extends for about 2 years (beginning in 1984 and extending for the period of the pre-planning phase = drilling hiatus).
- no specific candidate membership fee is implied; that remains to be negotiated between the candidate member and NSF and must be acceptable to the current JOIDES partners.

II. ADMISSION OF THE INSTITUTE OF GEOPHYSICS AT THE UNIVERSITY OF TEXAS

A. Maxwell gave the Executive Committee background on the University of Texas' petition to join JOIDES.

A. Background

The University of Texas has been a member of the Joint Oceanographic Institutions Board of Governors for many years and its representative has, in fact, usually sat as a guest at the JOIDES Executive Committee meetings. The newly founded Institute for Geophysics at The University of Texas now asks that it be granted formal membership status in JOIDES so that it may contribute in a full capacity.

B. History

Maurice Ewing and other scientists, originally from Lamont began developing the Institute in 1971. It later merged with the University of Texas Marine Science Institute at Port Aransas, Texas, to form what is now the Institute of Geophysics. Art Maxwell, previously of Woods Hole, became its director in 1982.

The Institute enjoys considerable support from the University and including both key people who will be moving to the facility in Austin from Galveston and additional new staff. The Institute will shortly have a "critical mass" of high-level scientists. The Institute operates two ships, the Ida Green and Fred Moore, equipped with a 48-channel seismic system and emphasizes seismic profiling, paleomagnetic stratigraphy, as well as other traditional oceanographic work.

The University, one of the best endowed in the country (from west Texas oil field royalties), also plans to build a new oceanographic ship in the late 1980s.

Maxwell noted that the University clearly has the requisites for JOIDES membership and asks that it be admitted to full membership status.

C. Discussion

The Executive Committee viewed favorably The University of Texas Institute for Geophysics request for membership. It considered a potential problem of U.S. membership comprising a 2/3 majority, but in view of probable increased non-U.S. membership (and because the U.S. EXCOM chairman has no vote) it did not view this as an impediment to Texas' membership.

Following discussion, W. Merrell moved (seconded by C. Helsley) that the Executive Committee recommend to the JOI Board of Governors that the Institute for Geophysics of The University of Texas be admitted to JOIDES.

Vote: 11 for, 0 against, 0 abstain. The motion passed unanimously.

217 "OWNERSHIP" OF DSDP-DRILLED HOLES

I. DISCUSSION PAPER

Acting upon a query from the Downhole Measurements Panel, the Executive Committee first considered the question of who controls use of the DSDP-drilled holes at its meeting in Hannover in August 1981 (Item 293-II). J. Knauss subsequently prepared a paper for further EXCOM discussion (Appendix 7). Knauss reviewed the problem at the present meeting. With

the capability to re-enter a DSDP-drilled hole by a wireline system deployable from a variety of oceanographic vessels, the question arises whether or not JOIDES has proprietary rights to control access to the holes. Most important is ensuring that the holes are used in a responsible way.

Knauss noted that the draft convention of the Law of the Sea does not give sovereignty over areas of the seabed at which marine scientific research is conducted. A "safety zone" (not exceeding 500 meters) is, however, a generally accepted maritime concept which JOIDES could perhaps invoke.

Coastal States have jurisdiction into the sea off their shores, but the boundaries of this jurisdiction are not yet precisely defined. Use of the holes drilled near-shore on the continental shelf would probably fall under the jurisdiction of the adjacent state. The International Seabed Authority has no jurisdictional authority over the conduct of marine scientific research seaward of the coastal states' jurisdiction. JOIDES then cannot legally control use of the holes in the open sea; it could perhaps influence use of the holes near-shore through the authority enjoyed by the coastal states.

Knauss suggested that JOIDES might best look toward developing informal agreements among the international scientific community which would then be endorsed by the International Union of Geodesy and Geophysicists.

II. EXCOM CONSENSUS

The Executive Committee generally agreed that it was unwise to pose the question of ownership of the JOIDES-drilled holes to governmental agencies. The problem to be addressed was rather one of coordinating the use of the holes internally within the international marine geological and geophysical community. JOIDES could perhaps establish a mechanism to internally coordinate the responsible use of the holes.

N.B./
PCOM

218 FUTURE MEETINGS

The Executive Committee will next meet

1-2 September 1982
Kyoto, Japan
Noriyuki Nasu -- Coordinator

(The JOI Board of Governors will meet on 31 August 1982.)

Noriyuki Nasu has also invited members of the Executive Committee and guests to participate in a study tour of the region on 3 September 1982.)

The Executive Committee accepted A. Maxwell's invitation to meet 10-11 November, 1982, at the University of Texas at Austin.

The EXCOM also was pleased to accept John Bowman's invitation to hold its summer 1983 meeting in the United Kingdom. Specific dates are yet to

be determined, but members agreed they would best fall in latest August or early September.

219 CLOSING REMARKS

W. Nierenberg, on behalf of the Executive Committee, acclaimed E. Winterer's remarkable contribution during his term as Planning Committee Chairman. Nierenberg cited Winterer's key role in driving the development of the high-quality scientific program documented by the 8-year science narrative.

E. Winterer thanked the SIO JOIDES Office Staff, P. Worstell (Science Coordinator), and Michiko Hitchcox (Administrative Assistant) for their excellent efforts in coordinating the JOIDES operations. He also thanked the Panel Chairmen and panel members and many others who have contributed to forward thrust of the scientific ocean drilling programs to solve earth science questions. W. Nierenberg also thanked C. Helsley for the informative slide show, and description of HIG's new Sea Marc system.

J. Knauss thanked W. Nierenberg, on behalf of the Committee, for charting the Executive Committee through a most difficult and interesting two years.

W. Nierenberg adjourned the meeting at 1200 noon on 22 May 1982.

RESOLUTION ON ADVANCED OCEAN DRILLING PROGRAM
UNANIMOUSLY APPROVED BY THE NATIONAL SCIENCE BOARD
ON MARCH 19, 1982

RESOLVED, that the National Science Board believes that a program of scientific ocean drilling is and will continue for an extended period to be an essential component of basic research in the earth and ocean sciences.

In recognition of that fact, the Board approves the establishment of the Advanced Ocean Drilling Program; further, the Board authorizes the application to this program of the general authority of the Director, under the resolution approved by the Board at its 189th meeting on April 21-22, 1977, to take final action on grants, contracts, or other arrangements without prior approval of the Board.

Further, the Board endorses the efforts of the Director to secure commitment of the Government-owned ship EXPLORER to this program, to seek resources to complete design and planning efforts for Advanced Ocean Drilling during FY 1983, and to undertake negotiations with current and potential future international partners for scientific participation and financial support of the Advanced Ocean Drilling Program.

FEDERAL ANSTALT für
GEOWISSENSCHAFTEN und
ROHSTOFFE, FEDERAL
REPUBLIC OF GERMANY

UNIVERSITY of CALIFORNIA at
SAN DIEGO, SCRIPPS INSTITUTION
of OCEANOGRAPHY

CENTRE NATIONAL pour
L'EXPLOITATION des OCEANS,
PARIS

COLUMBIA UNIVERSITY, LAMONT-
DOHERTY GEOLOGICAL
OBSERVATORY

UNIVERSITY of HAWAII, HAWAII
INSTITUTE of GEOPHYSICS

UNIVERSITY of MIAMI, ROSENSTIEL
SCHOOL of MARINE and
ATMOSPHERIC SCIENCE

NATURAL ENVIRONMENT RESEARCH
COUNCIL, LONDON

OREGON STATE UNIVERSITY,
SCHOOL of OCEANOGRAPHY

UNIVERSITY of RHODE ISLAND,
GRADUATE SCHOOL of
OCEANOGRAPHY

TEXAS A&M UNIVERSITY,
DEPARTMENT of OCEANOGRAPHY

UNIVERSITY of TOKYO, OCEAN
RESEARCH INSTITUTE

USSR ACADEMY OF SCIENCES

UNIVERSITY of WASHINGTON
DEPARTMENT of OCEANOGRAPHY

WOODS HOLE OCEANOGRAPHIC
INSTITUTION

JOIDES OFFICE (A-012)
Scripps Institution of Oceanography
La Jolla, California 92093
(714) 452-2360

May 24, 1982

Dr. John Slaughter
Director
National Science Foundation
1800 G Street, NW
Washington, DC 20550

Dear John:

The Executive Committee of JOIDES, representing the U.S. and international participation in deep-sea drilling, wants to reaffirm its support for a continued program of ocean drilling.

The scientific justification for a continued program is firmly based. Past achievements of the program have been a major contribution to our understanding of the earth. The access to levels deep beneath the sea floor, available only by deep-sea drilling, has led to major breakthroughs and holds promise for continued new discoveries about the structure of the earth. These have been most recently documented in the Conference on Scientific Ocean Drilling (COSOD) report. The general plans and approach of a continued program also hold promise in related fields of climatology, evolutionary biology and physical oceanography.

The continued program will also require the best available technology. Technological advances such as multichannel reflection seismology, downhole logging, and ocean-bottom seismometry have opened new vistas for drilling, while the availability of the drill ship acts as a directing force in orienting these tools. The scientific case for transferring this program from GLOMAR CHALLENGER to the EXPLORER is strong. The ability to operate in high latitudes and higher sea states and the potential for deeper penetration of both sediments and igneous crust will allow work on important problems of geology beyond the ability of CHALLENGER. Moreover, EXPLORER can carry more scientists and can be expected to have a much longer productive life.

PREFACE

Although this document is written in the style of a proposal it should be considered to be a guideline document intended to serve as a broad framework for the detailed scientific and logistical planning that will be required to carry out the basic scientific objectives of the program. The areas of investigation and ships' schedules and routes shown at the end of the narrative are meant only as examples, to show the feasibility of carrying out the program. The real schedule and itinerary of the ship, and the places where drilling will actually take place will be worked out as the detailed planning process moves forward, and as new JOIDES members bring their ideas to the planning structure.

Dr. John Slaughter

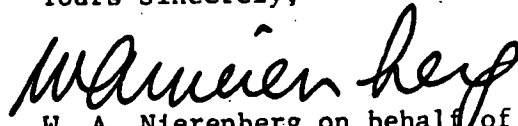
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May 24, 1982

The Deep Sea Drilling Program is one of the most successful ventures in international cooperation ever carried out. The program has received a significant fraction of financial support from countries outside the U.S., and the scientific and technological exchange has been a vital and productive link. We expect that the continuation of this program on EXPLORER will receive significantly increased financial support from countries outside the U. S.

In short, we support the COSOD recommendations. The scientific drilling program must be continued and the best technology must be made available to the program. We are grateful for the past support of the Foundation for the program, and we urge the strongest support for a continued program of ocean drilling.

Yours sincerely,



W. A. Nierenberg on behalf of the
JOIDES Executive Committee

cc: JOIDES Executive Committee members
E. L. Winterer, JOIDES PCOM Chairman



May 21, 1982

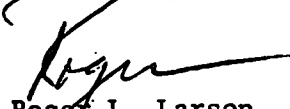
Dr. William Nierenberg, Chairman
JOIDES Executive Committee
Scripps Institution of Oceanography, A-010
University of California, San Diego
La Jolla, CA 92093

Dear Bill:

On behalf of the COSOD Steering Committee and the COSOD Working Groups, it is my pleasure to present to you and the JOIDES Executive Committee the enclosed final report of the Conference on Scientific Ocean Drilling held at the Joe C. Thompson Conference Center at the University of Texas at Austin on November 16-18, 1981. We believe that a combination of good luck, good timing, and hard work allowed us to achieve considerably more than our original mandate which was to examine the question "how can ocean drilling and associated scientific programs be organized and coordinated to attack the most important scientific programs in the most organized and productive way?". We believe that COSOD was the turning point that not only gave us a forum to jointly state our long-range goals, but also to prioritize them in light of the present political realities so that we now have the reasonable expectation that many of these goals will be met before the majority of us retire.

It has been a privilege and a unique experience for me to serve as the Chairman of the COSOD Steering Committee and as the moderator of the conference. I thank you and the JOIDES Executive Committee for your support during the past year and for the confidence that you placed in me. It has been an opportunity for me to grow with the responsibility and simultaneously to serve the international oceanographic community.

Sincerely yours,


Roger L. Larson
Chairman, COSOD Steering Committee and
Professor of Marine Geophysics

RLL:cs

Encl.

JOINT OCEANOGRAPHIC INSTITUTIONS DEEP EARTH SAMPLING

JOIDES OFFICE (A-012)
Scripps Institution of Oceanography
La Jolla, California 92093
(714) 452-2360

April 9, 1982

TO: JOIDES Executive Committee Members
FROM: W. A. Nierenberg, Chairman
SUBJECT: Management of Future Drilling Program

Following the recent meeting of the JOI Board of Governors, Jerry Winterer reported to me on the Board's discussion of a model management plan offered by Al Shinn for NSF. This model, in essence, featured three separate prime contracts from NSF: One to JOI (JOIDES) for scientific advice, one to a Science Logistics Contractor, and one to the Ship Operations and Drilling Contractor. I not only share the concerns of many members of the JOI Board about the inherent weaknesses and dangers in such a plan, but I also believe the management of the Program is a matter of greatest concern to all the members of JOIDES. I will therefore include this as an agenda item for our scheduled meetings in Washington, D.C., on May 21-22, 1982.

I would like to propose a far simpler model, one that I believe not only avoids the problems of the NSF plan, but improves on the present arrangements. As shown in the diagram, the essence of the model is that there is but a single prime contractor for the comingled U.S. and Partner-country monies, from NSF to JOI, which then subcontracts for Science/Logistics, which in turn subcontracts for Ship/Drilling.

JOI, of course, would continue to fund the JOIDES Office from comingled funds, and would subcontract to U.S. institutions for U.S. scientific tasks, e.g., site surveys. JOIDES remains as it is now, as the main vehicle for rendering scientific advice to the Program.

By making JOI the prime contractor, we assure governance of the whole project by the scientific community, as represented by JOIDES.

Enclosure

cc. Dr. William Hay

William A. Nierenberg

Appendix 5

May 1982 EXCOM meeting

BUNDESANSTALT FÜR
GEOWISSENSCHAFTEN UND
ROHMSTOFFE, FEDERAL
REPUBLIC OF GERMANY

UNIVERSITY OF CALIFORNIA AT
SAN DIEGO, SCRIPPS INSTITUTION
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YAM UNIVERSITY
MENT OF OCEANOGRAPHY

UNIVERSITY OF TEXAS, OCEAN
RESEARCH INSTITUTE

USSR ACADEMY OF SCIENCES

UNIVERSITY OF WASHINGTON,
DEPARTMENT OF OCEANOGRAPHY

WOODS HOLE OCEANOGRAPHIC
INSTITUTION

May 21, 1982

MEMORANDUM

TO: JOIDES EXECUTIVE COMMITTEE

FROM: Ad Hoc Committee on New Members in JOIDES

SUBJECT: Suggested Membership Structure for JOIDES.

The Ad Hoc Committee was appointed by the Chairman of EXCOM at The August 1981 meeting in Hannover, and charged with making recommendations to the EXCOM concerning ways in which the JOIDES membership could be expanded. Implicit in this charge was the understanding that if Explorer replaces Challenger as the drillship, there will be both space to accommodate a larger scientific party on board and the need to seek additional members to provide support.

The Ad Hoc Committee consists of Allen Shinn (Chairman), Jacques Debyser, Hans Durbaum, and Art Maxwell. Because of the distances involved, the Committee has met infrequently as a formal group. Extensive discussions have been held among all the members, however, and these proposals represent a consensus of the Committee members' judgments. They also reflect discussion among the current and prospective members of IPOD at the IPOD meeting on May 19-20, 1982.

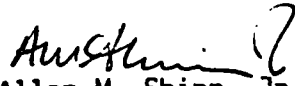
The Committee has considered various alternatives involving different levels of membership, and concludes that there is no such arrangement which could meet several important requirements simultaneously:

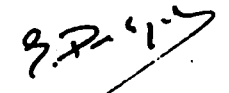
1. Alternative membership levels would have to be set to reflect in some way the size of science budgets and scientific communities in prospective countries;
2. Alternative levels would have to be such that current partners would not find a lower level membership attractive.
3. Any membership structure must be simple enough so as not to overly complicate participation arrangements.

The Committee concludes that the best approach, at least for the time being, is to maintain the principle of a single level of membership, with membership open either to single countries or to consortia of countries acting through a single organization able to enter into a Memorandum of Understanding.

The Committee recognizes that the organization of consortium and the process of making a decision to apply for membership will take substantial time in each prospective country. It recognizes also that several countries are moving towards at least a tentative decision to participate. It therefore recommends that JOIDES agree to admit single countries or consortia to Candidate Membership status, at a contribution level of \$200,000 per year during the period 1984-1985. This membership would allow participation in JOIDES meetings throughout the hiatus period of planning. At the end of such period, such Candidate Members would have to elect full membership either singly or in consortia, or would have to resign from the program.

If adopted, the National Science Foundation should be asked to negotiate such arrangements with prospective members.


Allen M. Shinn, Jr.
Chairman


Jacques Debyser


Hans Durbaum


Arthur Maxwell

"Who Owns the Holes"

The increasing possibilities for reentering drilled holes in the deep seabed, either for further drilling or for replacing instrumentation for "down hole measurements" has raised the question as to what rights JOIDES has to control access to the holes. Presently no one else has the capability to do either in deep water, but it appears likely that the technology for placing unattended instruments in previously drilled holes may soon be widespread.

International ocean law is presently in flux because of negotiations for a comprehensive Law of the Sea Treaty, the present version of which is a "draft convention." However, at least a few of the Draft Convention provisions which apply to this question are sufficiently recognized that I believe they will apply with or without a treaty. The first is "Marine scientific research activities shall not constitute the legal basis for any claims to any part of the marine environment or its resources" (Article 241). Whatever else JOIDES may do we cannot deny access to the hole because the U.S. or anyone else claims sovereignty to the hole because of JOIDES activities. "Safety zones" are another generally accepted concept in maritime law. Although I am sure Article 260 was not written for holes in the bottom of the sea, JOIDES might possibly evoke this provision since the concept is to minimize interference. "Safety zones of a reasonable width not exceeding a distance of 500 metres may be created around scientific research installations in accordance with the relevant provisions of this Convention. All States shall ensure that such safety zones are respected by their vessels." I am not sure how we would enforce the honoring of safety zones around our holes.

The deep seabed of the ocean can generally be divided into that part where coastal States have jurisdiction and that part where they do not. The Draft Convention aims to determine those boundaries with more precision than is presently the case. Putting aside the question of the seaward extent of coastal State jurisdiction, the coastal State can control the circumstances of drilling on that part of the continental shelf under its jurisdiction and, although some may question it, the coastal State probably has jurisdiction over any later down hole experiment in those holes. (It certainly does, if the Draft Convention is in place.) Thus for those holes drilled with permission of a coastal State, JOIDES can negotiate arrangements with that coastal State for any further experimental use of the holes by itself or others.

For the seabed areas seaward of coastal State jurisdiction, however defined, there will be an International Seabed Authority under the Draft Convention with wide ranging jurisdiction. However, the Authority has no jurisdiction over the conduct of marine scientific research by others, including deep sea drilling for scientific research purposes. The power of the Authority over marine scientific research is limited to "carry out marine scientific research," "promote and encourage the conduct of marine scientific research" and "coordinate and disseminate the results of such research" (Article 143). I suppose if JOIDES so wished, the Authority could play a role in coordinating the further use of JOIDES drilled holes, but I see no reason for encouraging them to do so. In the absence of a treaty there will be no international body with any jurisdiction over the deep seabed beyond national jurisdiction.

In summary: JOIDES cannot legally control the reuse of its holes

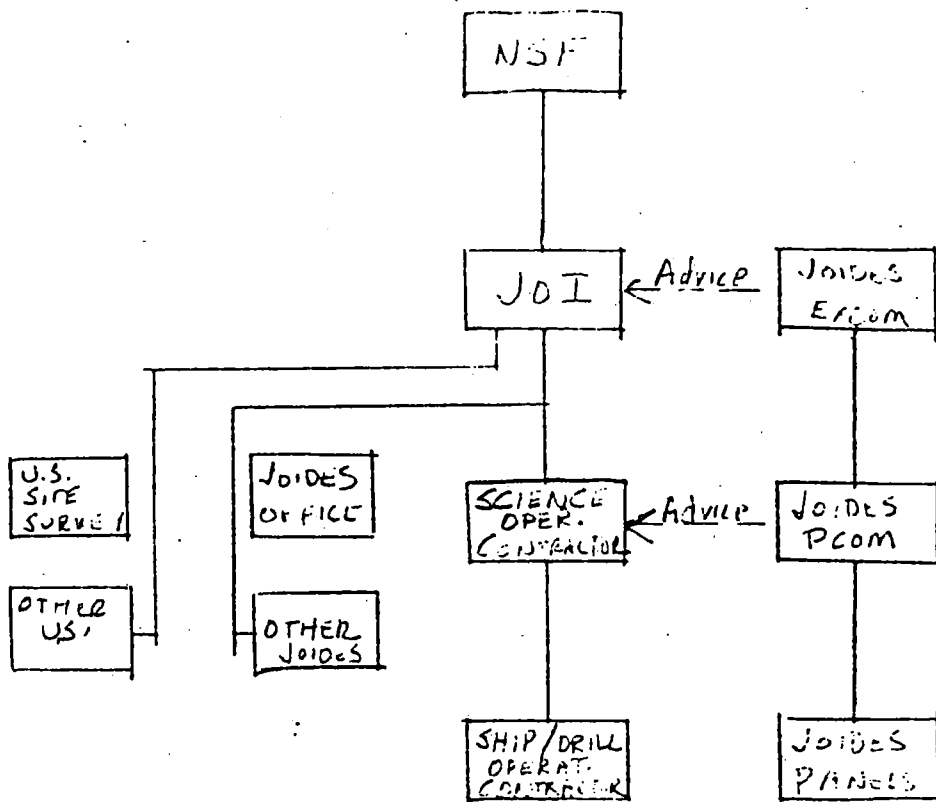
on the deep seabed. For those holes drilled within coastal State jurisdiction, the coastal State can exercise that authority insofar as it exercises control over marine scientific research done within areas over which it claims jurisdiction. No similar authority can be exercised on the deep seabed beyond national jurisdiction at present. Even if an LOS Treaty is adopted, the International Deep Seabed Authority could not exercise such jurisdiction unless encouraged by those nations concerned. Since the governments of JOIDES members wish to minimize the delegation of power to the Authority, this is unlikely to occur.

Since JOIDES can exercise only very limited legal control over the reuse of its holes, it might look to developing protocols on use of holes which could be generally agreed to by the international scientific community. Such protocols approved by the IUGG and widely published might be as effective as legal sanctions.

John A. Knauss

JAK:abb

9/10/81



MODEL MANAGEMENT PLAN FOR DRILLING PROGRAM

W A MURPHY
9 APR 1982