

**AGENDA FOR MEETINGS
ODP COUNCIL
and
JOIDES EXECUTIVE COMMITTEE
Lamont-Doherty Geological Observatory
Palisades, New York
31 May - 2 June 1989**

Wednesday, 31 May 1989 9:00 AM

**Joint Session of ODP Council and JOIDES EXCOM
(Co-Chairmen: D. Heinrichs and C. Helsley)**

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005

- J1. Initial Business
 - A. Introduction and Opening Remarks
 - B. Adoption of Agenda

- J2. Future of the Ocean Drilling Program
 - A. Timeline for a Post-1993 Program (NSF)
 - B. Status of Scientific Recommendations to JOIDES (PCOM)
 - COSOD
 - White Papers of Thematic Panels
 - Proposals
 - *break 10:15 -10:30 AM* ---
 - C. The Long Range Plan (N. Pisias) 006
 - D. PEC II and NSB Reports, Relative to a Post-1993 Program 006
 - Publications (PCOM)
 - Technology and Engineering Development (PCOM)
 - Modified JOIDES Advisory Structure (PCOM)
 - Additional Modifications to JOIDES Structure (JOI)
 - E. Identify Issues for EXCOM Action 011
 - The Proper Mix of Drilling Objectives in the 1990s
 - Adopt Long Range Plan
 - Publications Policy
 - Consortium Membership
 - Other Advisory-structure Issues
 - Other
 - *lunch 12 Noon - 1:15 PM* ---

- J3. Near-term Planning: The Next Three Years
 - A. Program Plan for FY90 011
 - Scientific Objectives (PCOM)
 - Resources Needed (JOI)
 - Budget (BCOM)
 - Resource Constraints (NSF)
 - B. Remainder of the FY89-FY93 Extended Program Plan 013
 - Scientific Objectives (PCOM)
 - Status of Near-term Technological Developments
(Science Operator; Wireline Logging Operator)
 - Resources (NSF)
 - Clearances, Day-rates, and other Operational Constraints (JOI)

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- C. Identify Issues for EXCOM Action 018
- Adopt FY90 Program Plan, Including its Budget
 - Thematic Scientific Advice for Pacific Drilling versus Atlantic Drilling
 - Pace of Technological and Engineering Development
 - Preparation for Renewal of Subcontracts (Institutional Operators. Vessel and Logging)
 - Other

Thursday, 1 June 1989 9:00 AM
Joint Session: EXCOM and ODP Council)

- J4. Present Status of the Ocean Drilling Program 018
- A. Operations: Problems and Progress
- Science Operator (ODP-TAMU)
 - Wireline Logging (BRG-LDGO)
- B. Resource Issues and Budget Status (JOI)
- C. Status of Planning (PCOM)

--- break 10:15 - 10:30 AM ---

- J5. The Recent Past of the Program 019
- A. Evaluation by Committees
- Performance Evaluation Committee II (C.L. Drake)
 - Response to PEC II and National Science Board, beyond issues in J2-D above (JOI)
- B. Recent Achievements Measured Against Goals (PCOM and:)
- Science Operations in the Indian Ocean and Western Pacific (ODP-TAMU)
 - Logging Operations in the Indian Ocean and Western Pacific (BRG-LDGO)
 - Engineering Leg(s) and Engineering Development (ODP-TAMU)
 - Publications (ODP-TAMU)
 - Public Relations (JOI)

C. J4 and J5 Issues for EXCOM Action

- J6. Membership Report 020
- A. Present Members
- Canada-Australia Consortium
 - European Science Foundation Consortium
 - Federal Republic of Germany
 - France
 - Japan
 - United Kingdom
 - United States

B. Future (USSR, South Korea, etc.) (NSF)

J7. Future Meetings

--- Lunch 12:00 Noon - 1:15 PM ---

EXCOM Business Session
(Chairman, C. Helsley)

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- E1. Approval of Minutes of Previous Meeting
- E2. Adoption of Agenda
- E3. Long-term Planning: EXCOM Actions
 - A. Mix of Drilling Objectives
 - B. Long Range Plan
 - C. Publications
 - D. Advisory Structure, Including Consortium Membership
 - E. Other

--- break 3:00 - 3:15 PM ---

- E4. Near-term Planning: EXCOM Actions
 - A. FY90 Program Plan, Including Budget
 - B. Political Constraints on Drilling
 - C. Engineering Development
 - D. Contract Renewal
 - E. Other
- E5. Present Status of Drilling Program: EXCOM Actions
- E6. Decisions at the End of Last Year
 - A. Membership
 - B. Lesser-developed Country Participation: Report

--- adjourn 5:00 PM ---

Reception and Dinner 6:30 PM.
Hosted by Barry Raleigh, Director, Lamont-Doherty Geological Observatory

Friday, 2 June 1989 9:00 AM - 1:00 PM

ODP Council Meeting

JOI Board of Governors Meeting

In the afternoon LDGO may wish to schedule a field trip or a visit to the Borehole Research Group.

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**Agenda Notes for Meetings
ODP Council
and
JOIDES Executive Committee**

Lamont-Doherty Geological Observatory
Palisades, New York
31 May-2 June 1989

J1 Initial Business

A. Introduction

Welcoming remarks, introductions of members and guests at the Joint Session, and comments about logistics.

B. Adoption of Agenda

The general order of business is to consider first the long-range future of ODP, followed by the immediate future, the present status, and the immediate past. Each section of the agenda will allow for presentation of information, discussion of important issues, and identification of items for EXCOM action.

J2 Future of the Ocean Drilling Program

A. Timeline for a post-1993 Program (NSF)

Over the next several months, the consensus of scientists and decisions of funding agencies in many countries will decide whether or not the Ocean Drilling Program will be continued, and if so, in what direction of science and at what level of support. This morning's joint meeting will include first a presentation of the stages in the preparation for a post-1993 drilling program, including probable dates of decision points.

B. Status of Scientific Recommendations to JOIDES (PCOM)

Much of the past success of the ODP and its DSDP predecessor stems from the proposal-driven basis for determining the actual drilling program. Individual proposals, which may be received from any scientist or groups of scientists in the world, are evaluated and ranked in priority by the thematic panels of the JOIDES advisory structure. Such aspects as the suitability of the site surveys, safety, and the planned logging programs are considered by other JOIDES panels. Thematic panels evaluate a proposal in terms of their "White Paper" statements of important research objectives.

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These in turn are based on the reports of the two major international conferences on scientific ocean drilling that met in the 1980s. The status of these recommendations will be presented and opened for discussion. For reference, summary tables are attached of the scientific drilling objectives determined at COSOD I and II and in the most recent White Papers, and also of the drilling proposals received since the beginning of ODP.

C. The Long Range Plan (N. Pias)

The final draft form of the long-range planning document that will present the scientific basis for the future of the Ocean Drilling Program has been distributed to you. A copy of its Table of Contents is attached. It will be presented by its principal author, former PCOM Chairman Pias. He and the various contributors have drawn on the COSOD reports and White Papers, as well as on current and planned technological developments by the Science Operator and the Wireline Logging Operator. Earlier drafts have progressed through the JOIDES advisory structure and the operating subcontractors. The Planning Committee has endorsed the present draft and has forwarded it here for discussion by the Council and adoption by the Executive Committee. It will then be polished and published by JOI.

D. PEC II and NSB Reports, Relative to a Post-1993 Program

Within the past year the various elements of the Ocean Drilling Program have attempted to take corrective action on points of major criticism of the Program. The second Program Evaluation Committee report (PEC II; C. L. Drake et al.) and the report of an ad hoc committee of the National Science Board (NSB; W. W. Hay et al.) were favorable overall, but viewed certain deficiencies as being so severe that unless they were changed the future of the program will be in jeopardy. These had to do with (1) delays in publication of the results of ODP drilling, and sparse early or thematic publication outside the ODP structure, (2) the status of planning and actual development of technology to be able to achieve future drilling objectives, and (3) the nature of the advisory structure. The Council and EXCOM are advised of corrective actions taken or proposed, with regard to these three areas that were identified as having put the future of ODP in doubt. Other areas will be discussed tomorrow.

• Publications (PCOM). Why aren't ODP publications more timely? Where are publications in the open reviewed literature? Where are the thematic publications? Where are publications that might extend ODP's base of support beyond the earth-science, marine-science community?

PCOM has endorsed a publication policy and forwards it to EXCOM for adoption by ODP. This revision is based upon PCOM's discussions with the panel chairmen, with colleagues, and among themselves, as well as upon the reports of its various committees and in particular its Information Handling Committee. Advances in shipboard and shorebased procedures are expected to reduce the time between the end of a leg and the appearance of the Initial Reports. In addition to the ODP Publication Policy (given below), PCOM and the thematic advisory panels, as well as JOI, are considering a number of ways of fostering thematic and synthesis-type publications of ODP results. JOI is developing a publication that will highlight ODP achievements, to appeal beyond the community of earth and marine scientists.

PCOM Motion

PCOM endorses the publication policy outlined below and forwards it to EXCOM for adoption by ODP. (Motion Brass, second Eldholm; vote: for 14; against 0; abstain 2)

ODP Publication Policy

In order to provide a framework for more timely publication, both in the ODP literature and in the open literature, while maintaining the integrity of the Scientific Results volumes, PCOM recommends the following policies for publications.

- A. The Initial Reports volume will be scheduled to appear within one year of the end of a drilling leg. A small meeting of the co-chief scientists and key personnel, about 3 or 4 months post-cruise, will refine, edit, and complete the Initial Reports volume, which essentially will be what had been written onboard ship.**
- B. The Scientific Results volume will be scheduled to appear 30 months from the end of a drilling leg. The volume can be composed of contributions directly to the volume, as well as reprints and preprints of publications submitted to the open**

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reviewed literature. These latter two options are subject to the following restrictions:

1. Any submission for publication within 12 months post-cruise must have had its authorship and theme agreed to by a consensus of the scientific party before the end of the cruise. The co-chief scientists will examine the manuscript to ensure that the agreement about theme and authorship has been fulfilled.
 2. Any submission for publication between 12 months post-cruise and the fulfillment of the author's obligation to the Scientific Results volume must have had its theme and authorship agreed to by a consensus of the scientific party at the main post-cruise meeting. The co-chief scientists will examine the manuscript to ensure that the agreement about theme and authorship has been fulfilled.
 3. After the author's contribution to the Scientific Results volume has been accepted, authors may publish at will in the open literature.
- C. Within this policy framework PCOM will direct its Information Handling Panel to advise it of more detailed guidelines. They will include for example, issues regarding copyright, site-survey publications, lead times to meet publication dates, and editorial policy including the need for an editorial review board.

• Technology and Engineering Development (PCOM). What technical developments are needed for efficient and productive use of the drill ship? To obtain high thematic objectives, what are the estimates, in time and cost, for the development of methods to core and collect data in adverse environments, as well as to improve routine operations? Is ODP trying to develop too many engineering projects?

In light of high thematic objectives, panels have identified the probable kinds of adverse drilling environments [the Hay report itself listed, for example, alternating hard and soft sediments, unlithified sands, limestones, young ocean crust, and deep drilling objectives]. In light of high thematic objectives, the probable kinds of sampling and measuring instruments are being identified, but this will have to be an iterative process as drilling continues. Adoption of the three-phased approach advocated in the Long Range Plan for

future drilling will provide a general framework for the planning and priorities of technical developments to advance drilling, recovery, instrumentation, and logging. More specific prioritization within phases will be based on the advice of the Technology and Engineering Development Committee and PCOM's decisions about the thematic objectives and specific proposals that will determine the general route of the ship 4 years in advance of drilling. PCOM affirms the use of the ship's time for testing of engineering developments in joint science-engineering legs or within a scientific leg, as opportunities and the stage of developments allow. Although Special Operating Funds may facilitate timely development of some critical developments, EXCOM and the ODP Council are reminded of their recommendations of last year that the FY91 and FY92 budgets be increased above the target figures provided by NSF.

With the assistance of the operators and the JOIDES structure, JOI and PCOM are well advanced in the identification of adverse drilling environments and their requirements for measurements and sampling. Plans for the priority ranking, development, and ship time to test technical advances are in place, and will be modified as needed. Without increased funding in FY91 and FY92, however, and the subsequent levels proposed in the Long Range Plan, it will not be possible to counter fully the criticism of the evaluation reports regarding technology and engineering development.

- Modified JOIDES Structure (PCOM). How should the JOIDES structure be modified in the change from a regional to a thematic approach? How should lines of communication and authority be better clarified and better defined? Are panels used as advocacy bodies by the operators? What is the mandate of the Budget Committee? Is care being taken not to switch thematic objectives to those posed in COSOD II before those of COSOD I are adequately evaluated? Talent for many COSOD initiatives lies beyond JOIDES institutions alone: are these talented persons disenfranchised?

The following is known by EXCOM, but is here brought to the attention of the ODP Council. The initial ODP advisory structure of thematic and regional panels having equal access to PCOM (for PCOM's setting of priorities and a drilling plan), with regional panels to "advise on the best use of the ship for secondary targets enroute between high-ranking thematic targets", did not in fact evolve as ODP began. Regional panels did "provide a group of experts

to assist in final site selection", but also began to offer region-wide drilling plans to PCOM, and thus placed themselves into a hierarchy above thematic panels, and were so accepted by PCOM. This changed role of the regional panels drew criticism from the community as well as the evaluation committees.

Criticism has been met by the deletion of the five regional panels and the split of one of the thematic panels into two. Assistance in final site selection will come from short-lived and focused detailed planning groups. At present, PCOM receives its advice on drilling targets from the four thematic panels (Lithosphere, Ocean History, Sedimentary and Geochemical Processes, and Tectonics), which review and rank the proposals that JOIDES receives (also, Downhole Measurements Panel has a thematic role regarding natural-laboratory experiments, in addition to its primary role as a service panel). White papers of thematic panels consider both COSOD I and COSOD II objectives.

Criticism of unclear responsibilities and lines of communications has been met by revisions and additions to mandates, which EXCOM approved last September. Copies of mandates are attached, for the benefit of members of the ODP Council. BCOM now has a clear mandate, and panels know they report to PCOM rather than providing advice directly to the operators. Attached tables show the breadth and balance of institutions represented in the JOIDES advisory structure at present.

PCOM and EXCOM have acted to modify much of the JOIDES structure. Some remaining concerns of the evaluating committees about JOIDES structure are given as follows:

- **Additional Modifications to JOIDES Structure (JOI).** The PCOM deferred to EXCOM such concerns by the evaluating committees as: Should the leadership roles, as embodied in EXCOM and PCOM, be expanded to include non-JOIDES institutions? Should the Chairman of EXCOM and the Chairman of PCOM come from the same institution? If not, should the PCOM Chairman have a longer term or the EXCOM Chairman a shorter one?

[Related to this topic of JOIDES structure and mandates, two points in the terms of reference for PCOM (section 3.4 Membership) may need discussion and clarification, and are introduced here. The first concerns the rights and responsibilities of PCOM members in

consortium membership, not only at the present but also in a continuation of ODP. The wording currently is *Each member of the Executive Committee shall designate one member of the Planning Committee and an alternate to serve in the absence of the designated member.* The second has to do with the normal term of PCOM membership. Current wording is *One quarter of the Planning Committee members shall rotate off the Committee annually, so that its membership is replaced every four years.* A generally negative response was received from EXCOM members asked to respond to the proposition that, because it is normally 5 years from the identification of a specific drillable proposal to learning the preliminary results of that drilling, the present 4-year term of a PCOM member should be increased to 5 years to allow for improved corporate memory particularly with reference to evaluating outcomes of drilling in terms of objectives.]

E. Identify Issues for EXCOM Action

- The Proper Mix of Drilling Objectives in the 1990s
- Adopt Long Range Plan
- Adopt Publications Policy
- Consortium Membership
- Other Advisory-structure Issues
- Other

J3. Near-term Planning: The Next Three Years

A. Program Plan for FY90

- Scientific Objectives (PCOM) For FY90, PCOM approved a drilling plan that is predominantly thematic but also includes one leg of combined engineering and scientific drilling, in the western North and South Pacific. The FY90 plan presented here differs from the plan from the December Annual Meeting in two ways (1) substitution of the theme "Old Pacific" for the one "Geochemical Reference", because of higher thematic ranking, when it became apparent that the ship's total time in the western Pacific may become restricted, and (2) changed order of the first three legs, to allow fuller preparation for the "Nankai Geotechnical Experiment" and "Science-Engineering Test" legs.

The actual fiscal year begins 1 October 1989 with the last few days of Leg 128 in the Japan Sea. After a dry-docking scheduled for part of October the vessel will commence the plan

listed below. Specific dates are not yet fixed, and will depend on ports selected and the specific drilling strategy for some legs. Although the fiscal year ends 30 September 1990 with the vessel projected as being in the middle of the Vanuatu leg, two additional legs are scheduled to aid the Science Operator in planning engineering operations and staffing (PCOM is charged with maintaining a 12 to 18 month science plan). That will bring the ship to the eastern equatorial Pacific in early 1991.

Approximate Schedule for FY90 (4 May 1989 PCOM decision)

Oct 1989 complete Leg 128; dry dock; commence Leg 129

129 Nov-Dec 89 Old Pacific

Jurassic paleoceanography from sediments and faunas in an oceanic environment; dating of Mesozoic magnetic anomalies; sampling old, altered oceanic crust that formed during fast spreading; Mesozoic plate kinematics and paleolatitudes.

130 Jan-Feb 90 Ontong Java Plateau

High-resolution paleoceanographic history of surface and bottom waters in the Neogene; relation to preservation of calcareous sediment; Cretaceous and Paleogene paleoceanography; crustal nature, geochemistry, and origin of oceanic plateaus.

131 Mar-Apr 90 Nankai Geotechnical Experiment

Structural and diagenetic processes in the accretionary prism at the margin of convergent plates; commencement of horizontal and vertical traverses of in situ and down-hole measurements of physical properties and sampling of fluids.

132 May-Jun 90 Science-Engineering Tests

Tests of methods to drill and recover (a) sequences of alternating hard and soft lithologies: chert and chalk at Shatsky Rise, (b) weakly lithified to rubbly limestone: reef rocks at MIT Guyot, and (c) young and brittle basalt: crust at the Mariana Trough, the active part of the back-arc basin.

133 Jul-Aug 90 Northeast Australian Margin

Effects of control by sea level and climate on a mixed carbonate-detrital section of a subsiding and equatorward-drifting passive margin; depositional and diagenetic environment of carbonates presumed comparable to host rocks of a major class of lead-zinc ore bodies.

134 Sep-Oct 90 Vanuatu Collision Tectonics

Collision of an aseismic ridge and a guyot with an island arc; back-arc rifting; polarity reversal; formation of intra-arc basins; rates of uplift of an island-arc accretionary margin.

135 Nov-Dec 90 Lau Basin - Tonga Arc

Temporal variation in composition of back-arc basement basalts; pre-basin volcanic basement; volcanic stratigraphy of the arc and forearc; relation of volcanism to basin origin, rift propagation, and vertical movements.

136 Jan-Feb 91 Transit and Engineering Operations

Transit to eastern Pacific; clear junk from hole 504B in preparation for deepening for lower-crustal objectives; set two guidebases on bare rock of East Pacific Rise in preparation for later drilling of the ridge crest.

• Resources Needed (JOI) The 6 February 1989 draft budget outlines for accomplishing this Program Plan are attached. A summary table of the FY90 requests is:

TAMU	\$33,239,000	including SOE of 1,073,500
LDGO	3,303,761	161,088
JOI/JOIDES	1,740,359	73,000
MRCs	<u>45,142</u>	<u>0</u>
	38,328,262	1,307,588

• Budget (BCOM) The BCOM report is attached. A summary table of the BCOM recommendations is:

TAMU	\$33,078,182	1,285,600
LDGO	3,196,819	161,088
JOI/JOIDES	1,724,999	73,000
MRCs	<u>0</u>	<u>0</u>
	\$38,000,000	1,519,688

Some of the principal concerns of BCOM included: (a) potential increases in the SEDCO day-rate for the vessel have not been budgeted, (b) there appears to be little attempt to constrain payroll costs, and (c) the initial SOE was short of 4%.

• Resource Constraints (NSF) The target figure for FY90 is \$38,000,000. Constraints are likely to be severe during the next two years.

B. Remainder of the FY89-93 Extended Program Plan

• Scientific Objectives (PCOM) Summary: The Pacific will be the area of operations through calendar year 1991. PCOM is committed to a minimum of 18 months of scientific drilling in the

central and eastern Pacific (without a specific time limit but presumably within current ODP), and the current recommendations by the thematic panels are to schedule programs with Pacific targets. Thematically reviewed proposals in any ocean will guide the general direction of the vessel after 1991. Arriving proposals are mainly Pacific ones, with some Atlantic and a few Arctic and Indian ones. We will again advertise for proposals for thematic review and ranking during the next year. At its spring 1990 meeting PCOM will determine the general direction of the vessel for the 4 years to spring 1994.

Background: The PCOM is charged with determining a general science plan and track of the drilling vessel 4 years (formerly 3 to 4 years) in advance of drilling. The reason is so the site surveys, engineering developments, and other actions can be planned for areas targeted by high thematic interest. PCOM's only long range track plan has been based on the motion passed unanimously that:

For the purpose of long-range planning, the Planning Committee adopts the following general track of the drilling vessel after the Weddell Sea drilling of early 1987: Into the Indian Ocean, to the Kerguelen region in early 1988, thence to the northwest Pacific Ocean in mid-1989 and the northeast Pacific Ocean in mid-1990, arriving in the vicinity of Panama on about 1 January 1991.

Insertion of extra legs in the Indian and western Pacific oceans, however, has disrupted this plan, but PCOM has not prepared another.

ODP currently is within its approved FY89-93 program plan, which calls for drilling in the western, central, and eastern Pacific through FY 92. The early part of this Plan is leg-specific, whereas the part for FY91 and FY92 merely lists the highest priority drilling programs of the thematic panels in the central and eastern Pacific and the proposals associated with those programs. No area is specified for FY93.

PCOM has twice voted to allot 18 months for scientific drilling in the central and eastern Pacific. The current statement, by 13 to 2 vote, is:

PCOM should draw up a plan for approximately 18 months of drilling in the central and eastern Pacific and send it back to the thematic panels for justification, with the understanding that the program could be expanded if important themes emerge.

This restriction of about 9 legs to their drilling recommendations was met with protests by the thematic panels, first because the attack on many important themes requiring a Pacific venue would be delayed for an unknown period, and second because the time spent for Pacific drilling was mentioned as a concern especially related to the renewal of the MOUs. Brief quotes from each of the three thematic panels in 1988:

...in response [to PCOM's tentative allocation of 2 of 9 CEPAC legs to TECP thematic objectives] ... we strongly urge that PCOM plan a drilling program that addresses all of the following themes [5 are listed] ... Rather than follow [PCOM's] line of thinking, TECP prefers to restate the reasons for continuing to regard the above 5 themes as being of the highest tectonic priority for CEPAC drilling...

LITHP is deeply disturbed by efforts to limit CEPAC drilling to 9 legs, especially since this totally arbitrary time limit has no scientific justification, but appears to be motivated entirely by political considerations. LITHP, perhaps more than any other panel has identified the Pacific as the area where our most important global drilling objectives can be best addressed. LITHP has patiently "waited its turn" while SOHP and TECP drilling at high latitudes and in the Western Pacific was completed. In our view it is now time for ODP to address the drilling objectives of the lithospheric community.

While [SOHP] realizes that planning must be done within some sort of time frame, we are quite disappointed to see that POLITICS and not SCIENCE appears to be determining these time constraints. The Panel could find no scientific justification presented by PCOM for limiting CEPAC drilling to 18 months. In fact, the 18-month limit was imposed before any science was presented. It was our understanding that PCOM was responsible for SCIENTIFIC planning and not POLITICAL decisions (these should be made by EXCOM). These arbitrary time limits only serve to propagate the circumnavigation philosophy that has so frustrated us in the past. We implore the PCOM members to place national interests behind scientific merit in making their decisions and thus allow the planning process to function as it should. [emphasis as in original]

In August 1988 PCOM reached consensus on the following points:

At the annual PCOM meeting in November 1989[sic], PCOM will choose a firm schedule for FY91, consisting of drilling in the Pacific.

At subsequent Annual Meetings, schedules [of FY Program Plans] will be chosen based on the thematic proposals that have reached the mature stage by that time.

PCOM will actively solicit proposals, responsive to the themes of the White Papers, for drilling in any ocean basin.

Thematic panels will reconsider those proposals already submitted for drilling in regions outside the central and eastern Pacific area.

Once there is an opportunity for proposals to be received from any area, PCOM can proceed with realistic 4-year planning.

The PCOM motion in support of this consensus was, however, not well worded. It was reworded and passed unanimously by EXCOM at its last (September 1988) meeting:

At the November 1989 Annual PCOM Meeting, and at subsequent meetings, PCOM will examine thematically reviewed proposals in any ocean, in order to plan a general direction of the vessel in the period after 1991.

Recent developments: Since the last EXCOM meeting, the JOIDES Panel Chairmen met, and in order to make it clear to PCOM that the proper amount of time be taken to address scientific problems without arbitrary time limits being set, adopted unanimously the following carefully worded resolution:

The Panel Chairmen agreed that the planning of the ODP, and therefore the movement of the JOIDES Resolution, should be driven by the science that is proposed. Every effort should be made to drill the sites that address the most important scientific problems in the most appropriate locations, without regard to parochial or political considerations that impose an arbitrary time frame or push to have the ship visit a particular area.

At its most recent (May 1989) meeting, PCOM planned the direction through calendar 1991, somewhat less than three years in advance of the vessel, namely the specific legs for FY90 (as already presented this afternoon), plus identifying a general eastern Pacific area to follow, in the motion:

PCOM will schedule the general ship track for calendar year 1991 from among the following list of programs given high priority by the thematic panels: Cascadia Accretionary Prism, Chile Triple Junction, Eastern Equatorial Pacific Neogene Transect, East Pacific Rise Bare-rock Drilling, Hydrothermal Processes at Sedimented Ridge Crests, Lower Crust at Site 504B. (Motion Brass, second Langseth; vote for 12; against 0; abstain 2; absent 2 proposal proponents)

By the end of calendar year 1991 there probably will have been about 14 months of drilling in the region of the former CEPAC Panel. Between 1 January 1988 and EXCOM's September statement, proposals received by the JOIDES Office mainly targeted objectives in the Pacific (22 Pacific, to 5 Atlantic and 2 Indian). From September to the present, the totals are 14 Pacific to 4 Atlantic (one each may also be considered as "Arctic"). Both new proposals and refinements of existing ones are involved. More Pacific than Atlantic proposals are mature or almost so, in terms of site surveys and clear definition of objectives within reach of the JOIDES Resolution. If advance planning were to be based solely on the advice of the thematic panels and what proposals are in hand at the present time, the vessel would work mainly in the Pacific, with perhaps a modest trip into the Atlantic, for one or two years beyond 1991.

Having issued a call for proposals, PCOM is reluctant to plan the general position of the vessel beyond 1991 until there is reasonably sufficient opportunity for new and revised proposals to be submitted for thematic evaluation and ranking. Thematic panels will meet twice (early fall 1989, late winter 1990) before spring 1990, when PCOM will determine the general direction of the vessel through spring 1994.

- Status of Near-term Technological Developments (Science Operator; Wireline Logging Operator)
- Resources (NSF)
- Clearances; Day-rates; Other Operational Constraints (JOI)

C. Identify Issues for EXCOM Action

- Adopt FY90 Program Plan, Including its Budget
- Thematic Scientific Advice for Pacific Drilling versus Atlantic Drilling
- Pace of Technological and Engineering Development
- Preparation for Renewal of Subcontracts (Institutional Operators. Vessel and Logging)

J4. Present Status of the Ocean Drilling Program

A. Operations: Problems and Progress

- Science Operator (ODP-TAMU)
- Wireline Logging (BRG-LDGO)

B. Resource Issues and Budget Status (JOI)

C. Status of Planning (PCOM)

A list of motions and consensus items from the 2-4 May PCOM meeting is attached, in advance of the draft minutes. Items needing EXCOM's attention or approval are (1) FY90 Program Plan, (2) Long Range Plan, and (3) Publications Policy, all of which have been presented, and (4) recommendations about selection of co-chief scientists and the scientific party, and (5) rewording of mandates.

- PCOM recommends to EXCOM for forwarding to the ODP Council **a change in emphasis for choosing the co-chief scientists on drilling legs away from maintaining a political balance and more towards encouraging the participation of the primary science proponents without regard to nationality.** The same recommendation holds for the staffing of the remainder of the scientific party. The wording of MOUs allows this flexibility.

- PCOM recommends and forwards to EXCOM for approval **certain rewording of mandates for the Technology and Engineering Development Committee, the Shipboard Measurements Panel, and the Ocean History Panel.**

- Incidentally, the terms of reference of EXCOM need revision in section 3 on membership (... is now composed of one representative of each of the four non-U.S. countries or consortia with an active Memorandum of Understanding ...). Should read *either ... six non-U.S. countries or consortia ... or ... four non-U.S. countries and two non-U.S. consortia*

J5. The Recent Past of the Program

This portion of the Joint Session may be accompanied by materials distributed at the meeting. The order of the agenda may be adjusted slightly to accommodate the appearance of Dr. Drake, who chaired the internationally based PEC II.

A. Evaluation by Committees

- Performance Evaluation Committee II (C.L. Drake)
- Response to PEC II and National Science Board, beyond the issues in J2-D above (JOI)

B. Recent Achievements Measured Against Goals (PCOM and:)

- Science Operations in the Indian Ocean and Western Pacific (ODP-TAMU)
- Logging Operations in the Indian Ocean and Western Pacific (BRG-LDGO)
- Engineering Leg(s) and Engineering Development (ODP-TAMU)
- Publications (ODP-TAMU)
- Public Relations (JOI)

C. J4 and J5 Issues for EXCOM Action

J6. Membership Report**A. Present Members**

- Canada-Australia Consortium
- European Science Foundation Consortium
- Federal Republic of Germany
- France
- Japan
- United Kingdom
- United States

B. Future (USSR, South Korea, etc.) (NSF)**J7. Future Meetings**

- Autumn 1989 EXCOM (ESF Host)
- Spring 1990 EXCOM and ODP Council

EHCOC Business Session

- E1. Approval of Minutes of Previous Meeting**
- E2. Adoption of Agenda**
- E3. Long-term Planning: EHCOC Actions**
 - A. Mix of Drilling Objectives**
 - B. Long Range Plan**
 - C. Publications**
 - D. Advisory Structure, Including Consortium Membership**
 - E. Other**
- E4. Near-term Planning: EHCOC Actions**
 - A. FY90 Program Plan, Including Budget**
 - B. Political Constraints on Drilling**
 - C. Engineering Development**
 - D. Contract Renewal**
 - E. Other**
- E5. Present Status of Drilling Program: EHCOC Actions**
- E6. Decisions at the End of Last Year**
 - A. Membership**
 - B. Lesser-developed Country Participation: Report**

COSOD-I

OBJECTIVES

1. Processes of magma generation and crustal construction at mid-ocean ridges.
2. Configuration, chemistry and dynamics of hydrothermal systems.
3. Early rifting history of passive margins.
4. Dynamics of forearc evolution.
5. Structure & volcanic history of island arcs.
6. Response of marine sedimentation to fluctuations in sea level.
7. Sedimentation in oxygen-deficient oceans.
8. Global mass balancing of sediments.
9. History of ocean circulation.
10. Response of atmosphere and oceans to variations in planetary orbits.
11. Patterns of evolution of microorganisms.
12. History of the earth's magnetic field.

Peru Margin	Weddell Sea	South Atlantic	Mascarene Plateau	Intraplate Deform.	Neogene	SWIR	Kerguelen Prydz Bay	Central Kerguelen	Broken/90E Ridg.	Exmouth Plateau
LEG 112	113	114	115	116	117	118	119	120	121	122
						Deep crust Sampling				
	Passive Margin									Multiple Rifting
Tectonic Erosion										
Peru Margin										Passive Margin
Anox. Sed.					Oxy. Min.					
Peru Current	Antarctic Glacial	Paleo-Gateways	Neogene Deep Ind.		Monsoon	Antarctic Glacial	Antarctic Paleogene			
Peru Current			Indian Oc. Carb. Syst		Monsoon	Circum-Polar Circ.			S. Hemisp. Westerlies	
	High Lat. Biota						High Lat. Biota	High Lat. Biota		
			Hotspot Plate Kin.						Hotspot Plate Kin.	

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Argo Abyssal	SE Asian Basin	Bon/Mar	Bonin II	Japan Sea I	Japan Sea II	Old Pacific	Ontong Java Plat.	Nankai	NE Austr. Margin	Vanuatu	Lau-Tonga
LEG 123	124	125	126	127	128	129	130	131	132* 133	134	135
Old Crust						Old Pacific Crust					
				Circulation Backarc	During Spreading						Backarc
Indian Ocean											
		Diapirs Forearc	Forearc Evolution					Accretion. Prism		DEZ Collision	
	Stress in Backarc		Bonin Volc. History	Backarc Basin	Backarc Basin					Coriolis & Aoba Basin	Lau Basin Volc.
					Passive Margin				Carbonate Siliciclastic		
	Anoxic Sed										
						Mesozoic					
Old Ocean						Mesozoic					
				Marginal Basin			Neogene Paleoccean.		Neogene Paleoccean.		
Jurassic Sediments						Mesozoic	Mesozoic Cenozoic				
Mesozoic Timescale		Tectonic Evolution				Jurassic Quiet Zone					

* Leg 132 is an Engineering Development Leg

COSOD II - SUMMARY OF SPECIFIC RECOMMENDATIONS

WG 1 (Global Environmental Changes):**** Paleoclimate:**

1. **Neogene HPC/XCB arrays:**
Global arrays, covering crucial oceanographic areas, high-resolution; ideally 20 transects totalling 400-500 drilling days (20-25 days each):
 - Pacific: 8 transects (examples: Arctic gyre - Sounders Ridge, transect across W-wind drift - Hess Rise., depth transects and transects across other oceanographic features)
 - Indian Ocean: 6 transects (e.g. Maldives, 90°ER, Seychelles Bank)
 - Atlantic Ocean: 6 transects (e.g. Norwegian margin, Demarara R., Sierra Leone R., Rio Grande R.)
2. **Paleogene HPC/XCB arrays:**
Global arrays, paleodepth transects; minimum of 12 sites totalling 72 days on site plus deepening many of above mentioned Neogene sites (adds ca. 100-125 days).

**** Sealevel:**

3. **Atoll transects:**
Array of three transects along length of a major atoll chain including pairs of living/drowned atolls (like Bikini Atoll/Sylvania Guyot); each transect consisting of 4 types of sites:
 - apron (2 sites), - atoll rim, - lagoon, - drowned atoll (2 sites)
 (2nd and 3rd type be drilled with other platforms, e.g. land rig). Total time for JOIDES Resolution 96 days - 32 days per transect (plus 120 days for other platforms).
4. **Passive margin transects:**
About three transects, each consisting of at least 4 sites in water depth from 200 - 4000 m; each site with operational characteristics as
 - double HPC & XCB/RCB, - 800-1000 m penetration, - standard logging (occasionally deeper penetration - multiple reentry). 45-90 days per transect. A total of 245 days is estimated for three transects including two deeper RCB sites and two multiple reentry sites.

**** Exploratory drilling:**

5. **Arctic Ocean drilling:**
Details are presently under study by several groups in Canada, Europe and USA.
-
6. **Exploratory drilling along Continental margins (priority two):**
5-10 sites to sample critical stratigraphic/lithologic intervals for understanding (tectonic) evolution of passive margins; ca. 80 days.
 7. **Exploratory drilling into Older Sediments (priority two):**
Drilling the Jurassic of Panthalassa; ca. 120 days .

WG 2 (Mantle - Crust Interaction):**** Top Priority:**

1. Develop capability to drill complete crustal sections; this requires:
 - (1) a planning process that can encompass such a long-term objective;
 - (2) an engineering development program that is insulated from the distractions of leg-by-leg operations;
 - (3) an inclusion of site surveys as essential prerequisites for selection of the optimal drilling targets;
 - (4) an allocation of substantial blocks of ship time for development of capability of ultradeep crustal penetration.

To proceed in this process interim goals should be:

By 1992: >75% recovery in drillholes of 1000 m basement penetration;

By 1996: Drilling to 3000 m, well within layer 3;

By 2000: Drilling to Moho.

2 to 3 holes of 2000-3000 m basement penetration (ca. 10 months drilling time) are desirable, with the hope of extending one of them to Moho by end of the ten-year-period (additional 12 months drilling).

*** Second Priority:****2. Mantle Composition and Dynamics:**

Geochemical mapping: Large number (several hundred) of globally distributed holes with <50 m basement penetration covering diversity of crustal targets (e.g. seamounts, plateaus, hot spots, old crust, etc.).
Ca. 1 year of drilling

3. Creation of Ocean Crust at Spreading Centers:

Integrated approach over several years including:

- (1) extensive mapping and sampling of ridge-crests ..;
 - (2) focused (shallow) drilling efforts on carefully selected sites helping to characterize active volcanic system;
 - (3) set up of natural laboratory (instruments on sea floor, in holes and in water column);
 - (4) selected deep drill holes on well-characterized old crust to obtain complete lava stratigraphy and net effects of hydrothermal processes.
- Ca. 1 year of drilling

4. Crust-Mantle Interactions at Convergent Plate Margins:

Holes on incoming plate, and fore-arc and back-arc environment of overriding plate to establish parameters of 'solid crust circulation'. Start with several holes (ca. 300 m basement penetration) in downgoing plate in a variety of settings.
Ca. 1 year of drilling.

WG 3 (Fluid Circulation & Global Geochemical Budget):

It is recommended to initially concentrate on one example for active margin and mid-ocean ridge axis each plus one 3000 m hole on a ridge flank; total on-site time estimate for such a program: 3 years. Time estimates are based on slimline riser usage.

**** First Priority:****1. Active Margins:**

Ideally three arrays each consisting of 7 holes, one for a starved margin, fine terrigenous and coarse-grained sediment margin each: One deep hole (ca. 4000 m penetration) through wedge into oceanic basement and six shallow holes (1100 m) to get horizontal variations; several holes to be instrumented; ca. 268 days on site. Total on-site time for 3 arrays ca. 804 days.

2. Mid-Ocean Ridge Axis:

Two arrays each consisting of 6 holes, one at a sedimented ridge and one at an unsedimented ridge: Two deep holes (>3000 m penetr.), one in the axial rift (some distance to fluid discharge zone) and one in the distal off-axis recharge zone; four shallow holes (700 m) in different features of discharge zone; 343 days on site. Total time estimate for 2 arrays: 686 days.

*** Lower Priority:****3. Mid-Ocean Ridge Flanks:**

Three arrays for different environments and spreading rates (highest priority in relative old system), each consisting of 5 holes: One deep hole (>3000 m) and four shallow holes (700 m); ca. 219 days. Total for 3 arrays ca. 657 days.

4. (Ocean Basins):

Heat flow and shallow sampling studies needed before drilling can be recommended (deeper parts of ridge flank hole also might help).

5. (Passive Margins):

Two holes, each ca. 1500 m penetration, totalling 72 days on site. But surveys and theoretical studies needed first. (e.g. Florida escarpment).

There are critical new technologies for future hydrogeological investigations such as: - stabilization of re-entry holes in unstable sedimentary sections; - high temp. drilling technology; - ultra deep drilling capability; - improved hole isolation techniques; - narrow kerf drilling and in-situ measuring ahead of drill bit; - non-drillship reentry of boreholes; - techniques to measure flux through unsedimented sea floor.

WG 4 (Stress & Deformation of the Lithosphere):**** Global state of stress of oceanic lithosphere****1. Develop global stress map:**

Three-phase approach recommended (only phase two is considered to predominantly cover WG4 topics):

1. deepen appropriate holes of opportunity > 100 m into basement;
2. drill numerous holes along and across plates, establish ocean-bottom geophys. observatories at 25 sites (minimum 11); each hole 100-200 m basement penetr.; 7-10 days per site.
3. use deep holes in crust for stress measurements (1 week per hole).

*** Deformation history of plate margins/edges:****2. Passive Continental Margins:**

Typical margin requires 3-4 sites. Three margin types identified (non-volcanic, volcanic, rift-transform); conjugate margins of previously drilled examples preferable. It is recommended to first do the shallower sites, and deeper sites when technology becomes available.

Minimum program:

- Select a non-volcanic and a volcanic margin; a total of (a) two 4-km sediment penetr. sites (240 days); (b) two 1 km sediment plus 2-km crystalline-rock penetr. sites (120 days).
- One 60 day leg on rift-transform margin; - one to two legs for a deep hole addressing major fault or crustal boundaries.

3. Convergent Margins:

Integrated approach, with elements undertaken in appropriate sequence (extensive geophysical investigations first); two phases:

1. Phase: Five forearc transects, each consisting of 5 sites across toe of forearc (0.5-1 km deep holes; some sites with arrays of HPC holes); estimated total time: 12 months.
2. Phase: Four sets of 2-3 deep holes (2-4 km) in forearcs of interest to investigate deep seated deformational mechanisms (requires up to 9 km drillstring, control of fluid pressures in hole). 2 months per forearc, totalling 8 months on-site.

4. Mid-Ocean Ridges:

Two phases recommended;

1. Phase: Series of shallow holes (100-200 m), located in closely-spaced arrays (<1 to tens of km) along and across the strike of ridge at diagnostic localities (e.g. ridge/transform intersect. etc.); total of 2-3 legs required !
2. Phase: Several deep holes (2-3 km) within some of the arrays of shallow holes (selection following 1.Phase, linked to WG 2); absolute minimum: One 3000 m hole at fast and slow spreading ridge each.

WG 5 (Evolution and Extinction of Oceanic Biota):

Defined the EPOC program (evolutionary processes in oceanic communities) with three main objectives to be achieved/addressed by drilling:

1. Evolutionary global ocean drilling array; spanning all oceans and all biogeographic provinces;
2. End Cretaceous extinction and early Cenozoic recovery;
3. Origins and early radiations of modern microfossil groups.

All sites recommended have to be multiple-drilled, continuously recovered. Total number of sites recommended: 230 (see below); total time estimate: 4 years. [Note, that ca. 50 % of sites will also match requirements of WG 1.] For implementation, the following priorities have been defined:

1st Priority:

1. Late Cenozoic HPC/XCB array (plankton):

Global array of holes, high geographic resolution, continuously recovered sections, addressing evolution of planktonic biota.

Ca. 100 (additional) holes (at the end of currently planned Indian and Pacific drilling program) needed.

(Covers EPOC objective 1 and 3)

2. Cretaceous and Jurassic sequences:

Wide-spaced global array, continuously recovered sections, addressing evolution of all groups.

Ca. 30 holes down/back into Cretaceous and Jurassic sediment sections. (Covers EPOC objective 2 and 3)

2nd Priority:

3. Late Cenozoic HPC/XCB array (benthos):

Global array of holes, high geographic resolution, continuously recovered sections, addressing evolution of benthic biota.

Ca. 100 (additional) holes needed.

(Covers EPOC objective 1 and 3)

THEMATIC OBJECTIVES EXPRESSED BY JOIDES PANELS

Lithosphere Panel White Paper High Priority Drilling Objectives Highest Priority Goals (But not attainable with present technology)

- Deep Crustal Drilling Through Oceanic Layer 3
- Magmatic and Hydrothermal Processes at Mid-Ocean Ridges

High Priority Goals (No ranking order)

- Young Oceanic Rifts
- Fast and Slow Spreading Ridges
- Hydrothermal System at Sedimented Ridge Crest
- Deep Crustal Hole Into Layer 3
- Fracture Zone Drilling
- Near-Axis Seamounts; Hotspot Drilling
- Flexural Moat Drilling
- Oceanic Plateau Drilling
- Old Ocean Crust Drilling
- Intraoceanic Convergent Margin Transects

Tectonics Panel White Paper (Draft) High Priority Drilling Objectives

Sublithospheric Structure and Processes

- Ocean-Bottom Seismic Observatories

Plate Kinematics, Past and Present

- Hotspot Tracks
- Mesozoic Plate-Motion and Anomalies
- Global Tectonic Framework from Paleomagnetic Field

Dynamics of Lithosphere

- Stress Orientation
- Lithospheric Flexure
- Intraplate Stress and Deformation

Divergent-Margin Processes

- Early Rifting

Convergent-Margin Processes

- Natural Laboratories at Accretionary Prisms
- Collisional Processes

Sediments and Ocean History Panel White Paper High Priority Drilling Objectives (OHP and SGPP may revise their parts)

Neogene Paleoceanography

- Reconstruction of Spatial and Temporal Variability of Oceanic Heat Budget
- Reconstruction of Record of Variability in Chemical Composition of the Ocean and Its Influence on Atmospheric Carbon Dioxide, and Calibration of Climatic Significance
- Evolution of Marine Organisms

History of Sealevel

- Determination of the Timing and Global Correlation of Sealevel Cycles
- Determination of Amplitude of Sealevel Cycles

Evaluation of Mechanisms Responsible for Global Sealevel Cycles
 Extraction of Regional Sealevel Signals from a Composite and Global
 Sealevel Curve and Understanding of Mechanisms Responsible for
 the Regional Signals

Determination of the Effect of Sealevel Fluctuation on Basin
 Sedimentation and the Deep Sea Record

Pre-Neogene Paleoceanography

Understanding Circulation Patterns in a Warm Ocean

Study Mechanisms of Climatic Change in a Predominantly Ice-Free System

Study Productivity and Biogenic Sedimentation Patterns in a Low-
 Oxygen Ocean

Determine the Environmental Conditions that led to the Transitions
 from Silica-Rich to Carbonate-Rich Sedimentation and the Increase
 in Deep-Sea Carbonate During the Mesozoic

Understanding Whether Evolution is More Strongly Dominated by
 Environmental Change and Stability, or by Internal (Biological)
 Mechanisms

Determine the Conditions that led to Major and Minor Extinction Events

Investigate Biotic Radiation Events

Study Rhythmic Sedimentation Patterns in Oceanic Sediments and to
 Develop a Coherent Cyclostratigraphy

Carbon Cycle and Paleoproductivity

Reconstruction of Atmospheric Carbon Dioxide

The Role of High Productivity Zones

History of Upwelling Systems and Relationships to Global Climate

Sedimentary Geochemical Processes

Fluids and Circulation Patterns

Diagenesis

Facies Evolution and Depositional Environments

Stratigraphic Objectives

Sediment Mass Balance for the World Ocean

Continental Margin Expression of Major Oceanographic Events

Carbon Budgets

Glacial History

Record of Volcanic Eruptions and Large Earthquakes in Sequences

Basin Evolution

Alloctyclic Controls

Autocyclic Controls

Physical Properties Evolution in Basin Sequences

Facies Evolution and Depositional Processes

Turbidite Facies

Volcanic Sedimentary Facies

Ice Margin Deposits

Sediment Drifts

Mass-Movement Facies

Resedimentation Products from Carbonate-Producing Margins

LISTING OF PROPOSALS

Revised 5/15/89

JOIDES No	Title	Proponents	Country	Date
63	[idea proposal]	-	-	
71	[idea proposal]	-	-	
1/A	Pre-m. Cretac. history of SE Gulf of Mexico	Phair & al.	US	12/82
2/E	Middle America trench and Costa Rica margin	Crowe & al.	US	12/82
4/E	Tuamotu Archipelago (French Polynesia)	Okal & al.	US	6/83
5/A	Struc. & sedim. carbonate platforms	Mullins & al.	US	7/83
7/A	Gulf of Mexico & Yucatan	Buffler & al.	US	8/83
8/E	Southern Chile trench	Cande	US	9/83
9/A	Pre-Messinian hist. of the Mediterranean	Hsu & al.	ESF	1/84
11/A	Porto & Virgo seamounts, Iberian margin	Kidd & al.	UK/FR	1/84
12/A	Tyrrhenian back-arc basin transect	Cita & al.	ESF	1/84
13/F	Water column research lab	Wiebe	US	1/84
14/E	Zero age drilling: EPR 13°N	Bougault	FR	1/84
15/A	Formation of the Atlantic Ocean	Herbin	FR	1/84
16/A	Atlantic-Mediterranean relationship	Faugeres	FR	1/84
17/A	Gorringe Bank, deep crust & mantle	Mevel	FR	1/84
19/A	Eleuthera fan, Bahamas	Ravenne & al.	FR	1/84
20/A	Subduction collision: Outher Hellenic Arc	J.Masclé	FR	1/84
22/A	Rhone deep sea fan	Bellaiche & al.	FR	1/84
23/A	Caribbean basins	A.Masclé & al.	FR	1/84
24/A	Barbados transects	A.Masclé & al.	FR	1/84
25/D	New Hebrides arc	ORSTOM team	FR	1/84
28/D	South China Sea	Letouzey & al.	FR	1/84
29/D	Ryukyu Island & Okinawa backarc basin	Letouzey	FR	1/84
31/B	Red Sea, paleoenvironmental history	Guennoc	FR	1/84
32/A	Yucatan basin	Rosencrantz & al.	US	1/84
33/A	Mediterranean drilling [same as 9/A]	Hsu	ESF	1/84
35/A	Barbados ridge accretionary complex	Westbrook	UK	2/84
38/A	Gulf of Mexico (DeSoto Canyon)	Kennett & al.	US	2/84
39/A	Cape Verde drilling	Hill	UK	2/84
40/A	Logging of site 534 (Blake-Bahamas basins)	Sheridan & al.	US	2/84
34/E	Pacific-Aleutian-Bering Sea (Pac-A-Bers)	D.W. Scholl & al.	US	3/84
41/A	N Barbados forearc: Struc. & hydrology	C.Moore	FR/US	3/84
42/D	Sunda Straits area	Huchon	FR	3/84
43/D	SW Pacific drilling outline	Falvey	AUS	3/84
44/B	Andaman Sea: Tectonic evolution	Peltzer & al.	FR	3/84
45/A	Equatorial Atlantic: Paleoenvironment	Ruddiman	US	3/84
47/D	Manila trench, S.China Sea	Lewis & al.	US	3/84
49/D	Eastern Banda arc/Arafura Sea	Schlueter & al.	G	3/84
52/D	Solomon Sea	Milsom	AUS	3/84
53/F	Vertical Seismic Profiling	Phillips & al.	US	3/84
54/C	Sub-Antarctic & Weddell Sea sites	Kennett	US	3/84
55/B	Makran forearc, Pakistan	Leggett	UK	3/84
57/B	Deformation of African-Arabian margin	Stein	US	3/84
58/A	West Baffin Bay	Grant & al.	CAN	3/84
59/A	Continental margin instability testing	Weaver & al.	UK	3/84
60/A	Newfoundland basin: E. Canadian margin	Masson	UK	4/84
6/A	Labrador Sea, ocean crust & paleoceanogr.	Gradstein & al.	CAN	5/84
36/A	Norwegian Sea	Hinz & al.	G	5/84
18/A	Off Galicia Bank	Mauffret & al.	FR	6/84
64/A	Site NJ-6	Poag	US	6/84
67/D	Tonga-Lord Howe Rise transect	Falvey & al.	AUS	7/84
68/A	Deep basins of the Mediterranean	L.Montadert	FR	7/84

JOIDES No	Title	Proponents	Country	Date
69/F	Rock stress meas. in part of Norwegian Sea	Stephansson	ESF	7/84
70/F	Borehole seismic experim. at 417 & 603	Stephen & al.	US	7/84
72/A	Two-leg transect on Lesser Antilles forearc	Speed & al.	CONSOR.	7/84
37/E	Costa Rica, test of duplex model	Shipley & al.	US	8/84
74/A	Continental margin of Morocco, NW Africa	Winterer & al.	US	8/84
75/E	Gulf of California	K.Becker & al.	US	8/84
77/B	Seychelles bank & Amirante trough	Mart	US	8/84
78/B	Indus fan	Kolla	US	8/84
79/B	Tethyan stratigraphy & oceanic crust	Coffin & al.	US	8/84
81/A	Ionian Sea transect, Mediterranean	Hieke & al.	G	9/84
82/D	Sulu Sea	Thunell	US	9/84
84/E	Peru margin	Kulm & al.	US	9/84
85/A	Margin of Morocco, NW Africa	D.Hayes & al.	US	9/84
56/B	Intraplate deformation	Weissel et al.	US	10/84
61/B	Madagascar & E Africa conjugate margins	Coffin & al.	US	10/84
65/B	S. Australian margin: Magnetic quiet zone	Mutter & al.	US	10/84
80/D	Sunda & Banda arc	Karig & al.	US	10/84
87/B	Carlsberg Ridge, Arabian Sea: Basalt obj.	J.Natland	US	10/84
90/B	SE Indian Ocean Ridge transect	Duncan	US	10/84
91/B	SE Indian Ocean Oceanic Crust	Langmuir	US	10/84
93/B	W Arabian Sea: upwelling, salinity etc.	Prell	US	10/84
94/B	Owen Ridge: History of upwelling	Prell	US	10/84
95/B	Asian monsoon, Bay of Bengal	D.Cullen & al.	US	10/84
96/B	Bengal Fan (Indus & Ganges Fans)	Klein	US	10/84
98/B	History of atmosph. circ. (Austral. desert)	D.Rea	US	10/84
99/B	Agulhas Basin paleoceanogr. clim. dynamics	W.Coulbourn	US	10/84
100/B	SE Indian Ridge transect: Stratigr. section	J.Hays & al.	US	10/84
101/B	Ridge crest hydrothermal activity	Owen & al.	US	10/84
102/B	Somali Basin	Mathias	US	10/84
103/B	Laxmi Ridge, NW Indian Ocean	Heirtzler	US	10/84
104/B	90° E Ridge transect	Curry & al.	US	10/84
105/B	Timor, arc-continent collision	Karig	US	10/84
106/B	Broken Ridge, Indian Ocean	Curry & al.	US	10/84
107/B	SE Indian Ridge: Stress in ocean lithosph.	Forsyth	US	10/84
108/C	E. Antarctic continental margin (Prydz Bay)	SOP-Kennett	US	10/84
109/C	Kerguelen - Heard Plateau	SOP-Kennett	US	10/84
110/C	Wilkesland - Adelie continental margin	SOP-Kennett	US/FR	10/84
111/C	SE Indian Ocean Ridge transect (subantarctic.)	SOP-Kennett	US	10/84
112/B	Lithosphere targets	SOP-Kennett	US	10/84
113/B	Agulhas Plateau	SOP-Kennett	?	10/84
114/C	Crozet Plateau	SOP-Kennett	FR	10/84
117/B	Northern Red Sea	Cochran	US	10/84
118/B	Cenozoic history of E. Africa	Kennett & al.	US	11/84
76/E	Proposal for axial drilling on the EPR at 13°N	R. Hekinian & al	FR	11/84
62/B	Davie Fracture Zone	Coffin & al.	CONSOR.	12/84
119/B	Early opening of Gulf of Aden	Stein	US	12/84
120/B	Red Sea, Atlantis II deep	Zierenberg & al.	US	12/84
122/A	Kane fracture zone	Karson	US	12/84
123/E	Studies at site 501/504	Mottl	US	12/84
124/E	To deepen Hole 504B	LITHP-K.Becker	US	1/85
125/A	Bare-rock drilling at the Mid-Atl. Ridge	Bryan & al.	US	1/85
126/D	Drilling in the Australasian region	Crook & al.	AUS	1/85
127/D	E Sunda arc & NW Austral. collision	Reed & al.	US	1/85

LISTING OF PROPOSALS

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JOIDES No	Title	Proponents	Country	Date
128/F	Phys.props. in accretionary prisms	Karig	US	1/85
130/D	Evolution of the SW Pacific (N of New Zeal.)	J.Eade	NZ	1/85
131/D	Banda Sea basin: Trapped ocean crust etc.	Silver	US	3/85
132/D	TTT-Type triple junction off Bosco,Japan	Ogawa & al.	J	3/85
133/F	In-situ sampling of pore fluids	McDuff & al.	US	3/85
135/B	Broken Ridge: Thermo-Mechanical Models	Weissel & al.	US/UK	3/85
10/A	Cenozoic circulation off NW Afric	Sarnthein & al.	G/US	4/85
115/B	Agulhas Plateau and adj. basins	Herb & al.	ESF	4/85
116/B	E & Chagos-Laccadive Ridge drilling	Oberhansli & al.	ESF	4/85
142/E	Ontong-Java Pl.:Equat. Pacific depth trans.	L.Mayer & al.	CAN/US	4/85
88/B	Chagos-Laccadive-Mascarene volc. lineament	Duncan & al.	US	5/85
147/D	South China Sea	Wang & al.	CHINA	6/85
179/D	Daito ridges region: NW Philippines Sea	Tokuyama & al.	J	6/85
21/A	Thyrrhenian Basin: Rifting, stretching,accr.	Rehault & al.	FR	7/85
51/D	Sea of Japan	Tamaki & al.	J	7/85
97/B	Equatorial Indian Ocean:Fertil.& carb.comp.	Peterson	US	7/85
136/C	Kerguelen - Heard Plateau	Schlich & al.	FR	7/85
146/D	Toyamu fan, E Japan Sea	Klein	US	7/85
150/B	90°E Ridge & Kerg.-Gaussb. Ridge: hard rock	Frey & al.	US	7/85
151/D	Japan Sea: Mantle plume origin	Wakita	J	7/85
152/F	Borehole seismic experim., Tyrrhenian Sea	Avedik & al.	FR/US	7/85
153/E	Three sites in the SE Pacific	J.Hays	US	7/85
154/D	Banda-Celebes-Sulu basin entrapment	Hilde	US	7/85
156/D	Kita-Yamam. trough, Japan Sea: Massive sulf.	Urabe	J	7/85
157/D	Japan Sea paleoceanography	Koizumi & al.	J	7/85
158/D	Japan Sea & trench: Geochem & sedimentol.	Matsumoto & al.	J	7/85
159/F	Phys.cond. across trench: Izu-Mariana-...	Kinoshita & al.	J	7/85
160/F	Geophys. cond. of lithosp. plate, Weddell Sea	Kinoshita & al.	J	7/85
161/F	Magn.field & water flow measurement	Kinoshita & al.	J	7/85
162/F	Offset VSP on the SW IO Ridge fract.zones	Stephen	US	7/85
164/D	Japan trench & Japan-Kuril trenches juntion	Jolivet & al.	FR	7/85
165/D	Shikoku basin ocean crust	Chamot-Rooke & al.	FR	7/85
166/D	Japan Sea: Evolution of the mantle wedge	Tatsumi & al.	J	7/85
168/D	Japan Sea: Sedim. of siliceous sediments	Iijima & al.	J	7/85
169/C	South Tasman Rise	Hinz & al.	G	7/85
170/D	Valu Fa Ridge, Lau Basin: Back-arc spread.	Morton & al.	US	7/85
30/B	Davie Ridge & Malagasy margin, Indian Ocean	Clocchiatti & al.	FR	8/85
50/D	Nankai trough & Shikoku forearc	Kagami & al.	J	8/85
73/C	Antarctic margin off Adelie coast	Wannesson & al.	FR	8/85
92/B	Crozet Basin, seismic observatory	Butler & al.	US	8/85
137/B	Fossil ridges in the Indian Ocean	Schlich & al.	FR	8/85
138/B	Rodrigues triple junction, Indian Ocean	Schlich & al.	FR	8/85
139/B	Agulhas Plateau, SW Indian Ocean	Jacquart & al.	FR	8/85
140/B	Central & N. Red Sea axial areas	Pautot & al.	FR	8/85
141/B	Indus Fan	Jacquart & al.	FR	8/85
172/D	Mariana forearc, arc & back-arc basin	P.Fryer	US	8/85
173/B	Seychelles, Mascarene Pl., NW Indian Ocean	Patriat & al.	FR	8/85
174/D	Japan Sea: Forearc tectonics	Otsuki	J	8/85
175/D	Japan Trench: Origin of Inner Wall	Niitsuma & al.	J	8/85
176/D	S.Japan Trench: Migration of Triple Junction	Niitsuma	J	8/85
178/D	Nankai trough forearc	Shiki & al.	J	8/85
180/D	N.Philippines Sea: Kita-Amami basin & plat.	Shiki	J	8/85
181/D	Izu-Ogasaw.-Mariana forearc:Crust & mantle	Ishii	J	8/85

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182/E	Sounder Ridge, Bering Sea: Stratigraphy	A. Taira	J	8/85
184/D	Papua New Guinea/Bismark Sea Region	N. Exon & al.	AUS/US	8/85
185/C	Kerguelen Plateau: Origin, evol. & paleo.	Coffin & al.	AUS	8/85
186/F	SW Ind. Ocean fracture zones hydrology etc.	von Herzen	US	8/85
86/B	Red Sea	Bonatti	US	9/85
187/D	New Hebrides arc region, SW Pacific	F. Taylor & al.	US	9/85
188/F	395A boreh. geophys. & 418A drill. & geophysics	M. Salisbury	CAN	9/85
189/D	Tonga Ridge and Lau Ridge Region	A. Stevenson & al.	US	10/85
191/D	Solomon Isl.: Arc-plateau coll. & intra arc	Vedder & al.	US	10/85
192/E	Baranoff fan, SE Gulf of Alaska	Stevenson & al.	US	10/85
193/F	Upper ocean partic. fluxes in Weddell Sea	Biggs	US	11/85
3/E Rev/1	Flexural moat, Hawaiian Islands	A. B. Watts & al.	US	11/85
143/F	In-situ magnet. susc. measurements	Krammer & al.	G	12/85
195/E	Paleoenv. & Paleoclim. in the Bering Sea	C. Sancetta & al.	US	12/85
196/B	90°E Ridge: Impact of India on Asia	J. Peirce	CAN	12/85
197/B	Otway Basin/W. Tasman region	Wilcox & al.	AUS	12/85
198/D	Ulleung Basin: Neogene tectonics & sedim.	Chough & al.	COREA	12/85
199/E	Pelagic sediments in the sub Arctic gyre (N. Pacific)	T. R. Janecek & al.	US	12/85
200/F	Borehole magnet. logging on leg 109 (MARK)	Bosum	G	12/85
201/F	High-precision borehole temp. measurements	Kopietz	G	12/85
205/A	Bahamas: Carb. fans, escarpment erosion & roots	Schlager & al.	ESF	12/85
202/E	N. Marshall Isl. carbonate banks	S. O. Schlanger	US	1/86
203/E	Guyots in the central Pacific	E. L. Winterer & al.	US	1/86
207/E	Bering Sea basin & Aleutian ridge tectonics	Rubenstein	US	1/86
208/B	Ancestral triple junction, Indian Ocean	Natland & al.	US	1/86
209/C	Eltanin fracture zone	Dunn	US	1/86
210/E	NE Gulf of Alaska: Yakutat cont. margin	Lagoe & al.	US	1/86
211/B	Deep stratigraphic tests	SOHP - Arthur	US	1/86
212/E	Off northern & central California	Greene	US	1/86
213/E	Aleutian subduction: accret. controlling p.	McCarthy & al.	US	1/86
214/E	Central Aleutian forearc: Trench-slope break	Ryan & al.	US	1/86
215/B	Red Sea: Sedim. & paleoceanogr. history	Richardson & al.	US	2/86
216/D	South China Sea	Rangin & al.	FR	2/86
217/D	Lord Howe Rise	Mauffret & al.	FR	2/86
218/D	Manila trench & Taiwan collis. zone, SCS	Lewis & al.	US	2/86
219/B	Gulf of Aden evolution	Simpson	US	3/86
220/D	Three sites in the Lau Basin	J. Hawkins	US	3/86
222/E	Ontong-Java Pl.: Origin, sedim. & tectonics	Kroenke & al.	US	3/86
221/E	Equatorial Pacific: late Cenoz. Paleoenv.	N. G. Pias	US	3/86
83/D	Izu-Ogasawara (Bonin) arc transect	Okada & al.	J	4/86
134/B	Gulf of Aden	Girdler	UK	4/86
171/D	Bonin region: Intra-oceanic arc-trench dev.	B. Taylor	US	4/86
223/B	Central Indian Ocean fracture zone	Natland & al.	US	4/86
225/E	Aleutian Basin, Bering Sea	A. K. Cooper & al.	US	4/86
224/E	Escanaba Trough (Gorda Ridge), NE Pacific	M. Lyle & al.	US	4/86
89/B	SWIR, mantle heterogeneity	Dick & al.	US	5/86
121/B	Exmouth & Wallaby Pl. & Argo Abys. Plain	U. von Rad & al.	US	5/86
129/C	Bounty trough	Davy	NZ	5/86
227/E	Aleutian Ridge, subsidence and fragment.	Vallier & al.	US	5/86
228/C	Weddell Sea (E Antarctic contin. margin)	Hinz & al.	G	5/86
229/E	Bering sea, Beringian conti. slope & rise	A. K. Cooper & al.	US	5/86
230/C	Wilkes Land margin, E Antarctica	Eitrem & al.	US/J	5/86
231/E	North Pacific magnetic quiet zone	Mammerickx & al.	US	5/86

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232/E	N.Juan de Fuca R.: High temp.zero age crust	E.Davis & al.	CAN	5/86
26/D	Tonga-Kermadec arc	Pelletier & al.	FR	6/86
144/D	Kuril forearc off Hokkaido: Arc-arc collis.	Seno & al.	J	6/86
145/D	Ryukyu arc: Left-lateral dislocation	Ujiie	J	6/86
148/D	Near TTT-type triple junction off Japan	Ogawa et al.	J	6/86
149/D	Yamato Basin,Sea of Japan: Active Spreading	Kimura & al.	J	6/86
167/D	Okinawa trough & Ryukyu trench	Uyeda & al.	J	6/86
234/E	Aleutian trench: Kinematics of plate cover.	von Huene & al.	US	6/86
235/D	Solomon Sea: Arc-trench dev., back-arc...	Honza & al.	CONSOR.	6/86
236/E	N.Gulf of Alaska	Bruns & al.	US	6/86
237/E	Active margin off Vancouver Isl., NE Pac.	Brandon & al.	CAN/US	6/86
238/F	Pore pressure in the Makran subduction z.	Wang & al.	US	6/86
239/D	Two sites in the Lau Basin	D.Cronan	UK	6/86
214/E	Gulf of Alaska (Yakutat block) & Zodiak fan	Heller	US	6/86
243/D	Outer Tonga trench	Bloomer & al.	US	6/86
240/B	Argo abyssal Plain	Gradstein	CONSOR.	7/86
245/E	Transform margin of California	Howell & al.	US	7/86
246/B	Mesozoic upwelling off the S.Arabian margin	Jansa	CAN	7/86
247/E	NE Pacific: Oceanogr.,climatic & volc. evol.	D. Rea & al.	US/CAN	7/86
226/B	Equat.Indian Ocean: carb. system & circul.	Prell & al.	US	8/86
244/C	Western Ross Sea	Cooper & al.	US/NZ	8/86
248/E	Ontong-Java Plateau	Ben-Avraham & al.	US	8/86
249/E	Sedimentation in the Aleutian trench	Underwood	US	8/86
250/E	Navy fan, California borderland	M..B. Underwood	US	8/86
251/B	Seychelles-Mascarene-Saya de Mayha region	S.N. Khanna	SEYCH.	8/86
253/E	Shatsky Rise:Black shales in ancestr. Pac.	S.O. Schlanger & al.	US	8/86
254/A	NW Africa: Black shales in pelagic realm	Parrish & al.	US	8/86
255/A	Black shales in the Gulf of Guinea	Herbin & al.	FR/US	8/86
256/E	Queen Charlotte Transform fault	Hyndman & al.	CAN	9/86
257/E	Farallon Basin, Gulf of California	L. Lawver & al.	US	9/86
204/A	Florida escarpment transect	Paull & al.	US	10/86
252/E Rev.	Loihi Seamount, Hawaii	H. Staudigel & al.	US	10/86
258/E	Stockwork zone on Galapagos Ridge	R. Embley & al	US	10/86
260/D	Ogasawara Plateau, near Bonin arc	T. Saito & al.	J	10/86
261/E	Mesozoic Pacific Ocean	R.L. Larson & al.	US/FR	10/86
262/B	Mid Indus Fan	B.Haq	US	11/86
263/E	S.Explorer Ridge, NE Pacific	R.L. Chase & al.	CAN	11/86
206/D	Great Barrier R.: Mixed carb/epiclast.shelf	Davies & al.	AUS	12/86
264/A	Montagnais impact struct.,Scotia Sh.	Grieve & al.	US	12/86
265/D	Western Woodlark Basin	S.D. Scott & al.	CAN/AUS/PNG	12/86
266/D	Lau Basin	Lau Group	CONSOR.	12/86
267/F	Old crust at converg. margins: Argo & W.Pac	C.H. Langmuir & al	US	12/86
268/D	Hydrothermal ore deposition, Queensland Pl.	Jansa et al.	CAN	12/86
269/E	Aleutian pyroclastic flows in marine envir.	Stix	CAN	12/86
27/D Rev.	Sulu Sea marginal basin	Cl. Rangin & al	FR	1/87
48/D Add.	Sulu Sea transect	Cl. Rangin	G/FR	1/87
270/F	Tomographic imaging of hydrotherm. circul.	Nobes	CAN	1/87
271/E	Paleoceanogr. trans. of California current	Barron & al.	US	2/87
272/F	Long-term downh. measurem.in seas a. Japan	Kinoshita	J	2/87
183/D	Periplatform ooze, Maldives, Indian Ocean	Droxler & al.	US	3/87
259/E Rev.	Meiji sediment drift, NE Pacific	L.D. Keigwin	US	3/87
274/D	South China Sea	Zaoshu & al.	CHINA	3/87
275/E	Gulf of California (composite proposal)	Simoneit & al.	US	3/87

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232/E Add.	Clay miner. & geoch.: Juan de Fuca Ridge	B. Blaise & al.	CAN/FR	3/87
276/A	Equat. Atlantic transform margins	J.Masclé	FR	4/87
277/E	Aseismic slip in the Cascadia margin	Brandon	US	4/87
278/E	Blanco transf. fault: Alter., layer three.	R. Hart & al	US	5/87
279/E	Anatomy of a seamount: Seamount 6 near EPR	R.Batiza	US	5/87
280/E	Cretac.Geisha Seamounts & guyots, W-Pac	P.R. Vogt et al.	US	6/87
281/D	Accret.prisms at Kuril/Japan trench&Nankai Tr.	Y. Okumura & al.	J	6/87
282/E	Tracing the Hawaiian hotspot.	N. Niitsuma & al.	J	6/87
283/E	Kuroshio current and plate motion history	R.D.Jacobi & al.	US	6/87
284/E	Escanaba Trough,S-Gorda Ridge Hydrothermalism	Zierenberg & al.	US	7/87
285/E	Jurassic quiet zone ,Western Pacific	Handschumacher & al.	US	7/87
286/E	Return to 504/B to core & log layer 2/3 trans.	K.Becker	US	7/87
287/E	Deep drilling in the M-Series,Western Pacific	D. Handschumacher & al.	US	8/87
288/B	Repositioning of EP2 to EP12,Exmouth Plateau	Mutter & al.	US	8/87
289/E	Mass budget in Japan Arc-10Be Geochemical Ref.	S. Sacks & al.	US/J	8/87
66/F Rev.	Laboratory rock studies to reveal stress	N.R. Brereton	UK	9/87
76/E Rev.	EPR: oceanic crust at the axis	R. Hekinian	FR	9/87
177/D Rev.	Zenisu Ridge: Intra-oceanic plate shortening	A. Taira & al.	J/FR	9/87
224/E Rev.	Escanaba trough (Gorda Ridge), NE Pacific	M. Lyle & al	US	9/87
242/D	Backthrusting & back arc thrust., Sunda arc	Silver & al.	US	9/87
290/E	Axial Seamount, Juan de Fuca Ridge	P.Johnson & al.	US	9/87
291/E	Drilling in the Marquesas Islands chain.	J.H. Natland & al.	US	9/87
292/D	Drilling in the SE Sulu Sea	Hinz & al.	G	9/87
293/D	Drilling in the Celebes Sea	K. Hinz & al.	G	9/87
155/F Rev/1	Downhole measurt.in the Japan Sea	T. Suyehiro & al	J	9/87
294/D	Ophiolite analogues in the Aoba Basin, Vanuatu	J.W.Shervais	US	10/87
46/D	South China Sea margin history	D.Hayes & al.	US	11/87
273/C	Southern Kerguelen Plateau	Schlich et al.	FR/AUS	11/87
295/D	Hydrogeol.& structure,Nankai accr.complex	J.M. Gieskes & al.	US	12/87
296/C	Ross Sea, Antarctica	Cooper & al.	US/NZ/G	12/87
297/C	Pacific Margin of Antarctic Peninsula	P.Parker & al.	UK	12/87
247/E Rev.	NE Pacific: Oceanogr.,climatic & volc.evol.	B.D. Bornhold	CAN/US	1/88
298/F	Vertical seismic prof. in Nankai Tr. ODP Sites	G.F. Moore	US	1/88
299/F	Self-bor. p-meter: study deform.in accr. sed.	M.Brandon & al.	US/CAN	2/88
300/B	Return to site 735B-SW Indian Ridge	H. Dick & al.	US/CAN	2/88
301/D	Integrated proposal: Nankai forearc	J.Gieskes & al.	US/J	3/88
302/F	Electrical conductivity structure,E-Japan Sea	Y.Hamano & al.	J	3/88
194/D Rev/2	South China Sea	K.J. Hsü & al.	CHINA	4/88
303/E	Fracturing /volcanism on Hawaiian swell	B.Keating	US	4/88
190/D Add.	New Hebrides (Vanuatu) arc-ridge collision	Fisher & al.	US/FR	5/88
163/D Rev.	Zenisu Ridge: Intraplate deformation	S. Lallemand & al	FR	6/88
221/E Suppl.	Equatorial Pacific: L.Cenozoic paleoenviron.	N. Pias & al.	US	6/88
304/F	ODP Nankai downhole observatory	H.Kinoshita & al.	J	6/88
305/F	Arctic Ocean drilling	P.J. Mudie & al.	CAN	6/88
306/E	Old Pacific History	Y.Lancelot & al.	FR/US	6/88
233/E Rev.	Oregon accr. complex: fluid proc. & struct.	L.D. Kulm & al.	US	7/88
307/E	Cross Seamount, Hawaiian swell	B. Keating	US	7/88
308/E	Reactivated Seamounts,Line Island chain.	B.Keating	US	7/88
3/E Add.	Drilling in vicinity of Hawaiian Islands	R.S.Detrick & al	US USA	7/88
222/E Rev.	Ontong Java Pl.: origin, sedim. & tectonics.	J. Mahoney & al.	US	7/88
155/F Rev/2	Downhole measurement in the Japan Sea	T. Suyehiro & al	J	8/88
309/F	VSP Program at sites Bon-2 and Bon-1	P.Cooper	US	9/88
310/A	Geochemical sampling ,dippings ,E-Groenland	A.Morton & al.	UK	9/88

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311/A	Sedim. equivalent of dippings ,Rockall	D.Masson & al.	UK	9/88
312/A	Potential of drilling on Reykjanes Ridge	J.Cann & al.	UK	9/88
313/A	Evolution of oceanog. pathway: The Equat. Atlan.	E.Jones & al.	UK	9/88
314/D	Fluid flow & mechan. response, Nankai	D.Karig & al.	US	9/88
316/E	To drill a gaz-hydrate hole (West Pacific)	R. Hesse & al.	CONSOR.	9/88
59/A Rev.	Continental margin sediment instability	P.P.E.Weaver & al	UK/NETH/CAN	9/88
3/E Rev/2	Flexural moats, Hawaiian Islands	A.B. Watts & al.	US	10/88
315/F	Network of perm. ocean floor broad band seism.	G.M. Purdy & al.	US	10/88
275/E Rev.	Drilling the Gulf of California	Simoneit (ed.) & al	US	10/88
271/E Rev.	Paleocean. transect of California current	J.A. Barron & al	US	10/88
195/E Suppl.	Paleoenviro. and paleoclim. in the Bering Sea	D.W. Scholl & al	US	10/88
199/E Suppl.	High latitude paleoceanography	D.W. Scholl & al	US	10/88
231/E Suppl.	Plate reconstr. & Hawaiian hotspot fixity.	D.W. Scholl	US	10/88
225/E Suppl.	Plate-Reconstr.: Bering Sea	D.W. Scholl & al.	US	10/88
317/E Rev.	Northern Cascadian Subduction Zone	R.D.Hyndman & al.	CAN	12/88
318/E Rev.	Chile Margin Triple Junction	S.C.Cande & al	US	1/89
319/E Rev.	An extinct hydrotherm. syst., East Galapagos	M.R. Perfit & al	US/CAN	2/89
320/A	High Northern latitude paleocean. & paleoclim.	E. Jansen & al	NOR/SWED.	3/89
321/E	The EPR ridge crest near 9°40' N	D.J. Fornari & al	US	3/89
322/E	Ontong Java Plateau-pipelike structures.	P.H. Nixon	UK	3/89
323/A	Gibraltar Arc	M.C. Comas & al	CONSOR	4/89
324/A	Tecton. evol. of W. & E. Mediterr. since Mesozoic	P. Casero & al.	IT/GER	4/89
325/E	High temp. hydrother. site N. Juan de Fuca Ridge	H.P. Johnson & al	US/CAN/UK	5/89
326/A	Continental margin of Northwest Morocco	K. Hinz & al	G	5/89

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EPILOGUE

TERMS OF REFERENCE FOR**JOIDES Executive Committee
for the Ocean Drilling Program (ODP)**

1. This committee shall formulate scientific and policy recommendations with respect to the Ocean Drilling Program (ODP). It shall conduct the ODP planning, as well as evaluation and assessment of the Program as to its accomplishments as compared to the goals and objectives which have been established. It may be assigned managerial and operational responsibilities for appropriate tasks.
2. The members of this committee shall be representatives of oceanographic and marine research institutions or other organizations which have a major interest in the study of the sea floor and an adequate capability in terms of scientific manpower and facilities to carry out such studies.
3. The membership of this committee is now comprised of one representative of each of the four non-U.S. countries or consortia with an active Memoranda of Understanding (MOU) with the National Science Foundation (NSF) [Canada, European Science Foundation, France, Federal Republic of Germany, Japan, and the United Kingdom] and one representative of each of the ten existing U.S. institutions [University of Miami, University of Washington, Oregon State University, University of Hawaii, University of Rhode Island, University of Texas at Austin, University of California at San Diego, Texas A&M University, Woods Hole Oceanographic Institution and Columbia University]. The appointment of additional members will be determined by the JOI Board of Governors on the recommendation of the JOIDES Executive Committee. In the case of representatives of non-U.S. country participants, the existence of a valid MOU with NSF is a prerequisite to membership.

Membership of any member may be cancelled by the Board of Governors on the recommendation of the JOIDES Executive Committee or in the event of a non-U.S. country participant ceasing to have a valid MOU in existence.

4. Each institution or organization designated for participation on this committee by the Board of Governors shall provide one voting member, normally the director or senior deputy thereto.
5. The Executive Committee shall reach all its decisions by the affirmative vote of at least two-thirds of all members, including members from at least three non-U.S. members. A quorum shall constitute two-thirds of the Executive Committee. If a member of the Executive Committee is absent from a duly called meeting of the Executive Committee, he or she may designate an alternate with full authority to act for him or her in his or her absence.
6. The Executive Committee may establish subcommittees for cognizance of certain components of the Ocean Drilling Program. Areas of cognizance and the terms of reference for each subcommittee shall be defined by the Executive Committee. In particular a Planning Committee and a Budget Committee shall be established.
7. The Executive Committee, and all subcommittees thereto, shall keep written records of their proceedings.

8. Members of the Executive Committee, and members of subcommittees duly appointed thereby, while acting within the terms of reference, shall be indemnified, and held harmless by JOI, Inc. from and against any and all liabilities, damages and demands, losses, costs and expenses arising from acts or omission related to performance as committee members.
9. These Terms of Reference, upon ratification by members of the existing JOIDES Executive Committee and adoption by JOI, Inc. will supersede all previous JOIDES agreements.

Ratified by EXCOM: 15 September 1988

Adopted by JOI Board of Governors: 15 September 1988

TERMS OF REFERENCE FOR

JOIDES Budget Committee for the Ocean Drilling Program (ODP)

1. **General Purpose.** The Budget Committee (BCOM) provides JOIDES overview and first review of the ODP Program Plan and budgets therein.

The ODP Program Plan is compiled by JOI, Inc., the ODP prime contractor. In it, a one-year Science Plan, developed by PCOM and the JOIDES advisory structure, is presented. Budgets in the Program Plan include those of the Science Operator and Wireline Logging Contractor. The Program Plan also includes a list of scientific and technological development needs, including estimated costs, which have been reviewed by the JOIDES Science Advisory Structure and which are required for successful completion of the Plan.

The ODP Program Plan (including budgets) is then submitted in draft form to the National Science Foundation (NSF). BCOM meets as occasion demands, according to a program plan and budget timetable, in order to provide continuous guidance in developing the final version of the budget in the program plan. The committee consults with JOI, Inc. and the subcontractors if budget questions or problems arise. BCOM reports to EXCOM at its spring meeting (the joint EXCOM/ODP Council meeting). At that time the full EXCOM approves the final ODP Program Plan and a detailed budget for the upcoming fiscal year. BCOM's written reports are also submitted to PCOM.

2. **Mandate.** The Budget Committee is to review the ODP Program Plan and budgets therein and evaluate how well the program plan and budget address the priorities which have been defined by EXCOM and PCOM. This review is to be reported to EXCOM and PCOM.

BCOM also acts on behalf of EXCOM on budget matters that EXCOM delegates to it. BCOM can request that liaisons from the ODP subcontractors, JOI or NSF attend its meetings.

3. **Meetings.** BCOM meets in accordance with a schedule for developing the ODP Program Plan (Appendix 1). Up to three meetings per fiscal year may be necessary to provide input on the ODP Program Plan and Budget. Meetings may be required in the entire phase of developing the budget and program plan.
4. **Membership.** BCOM consists of five members: three EXCOM members (2 non-U.S. and 1 U.S.) and two PCOM members, one of whom is the present PCOM Chairman. The second PCOM member is a U.S. member, ideally the immediate past PCOM Chairman. A quorum shall consist of two of the EXCOM members and one of the PCOM members. BCOM members are appointed by EXCOM. EXCOM or PCOM members representing JOIDES institutions with major ODP subcontracts will not be appointed.

Ratified by EXCOM: 15 September 1988

Adopted by JOI Board of Governors: 15 September 1988

- * Appendix 1 is a timetable for development of the annual Budget and Program Plan

TERMS OF REFERENCE

Science Advisory Structure of JOIDES for the Ocean Drilling Program (ODP)

The purpose of the ODP Science Advisory Structure of JOIDES is to enable the formulation of the most productive scientific plan for the program. JOIDES is open to suggestions and proposals from the entire scientific community, and its plans shall be open to continued review and revision.

1. Science Advisory Structure

The Science Advisory Structure of JOIDES will consist of a Planning Committee, a Technology and Engineering Development Committee, four thematic panels and five service panels. Ad hoc Detailed Planning Groups (DPGs) may be approved by the Planning Committee as requested by the panels or by the Planning Committee itself.

2. Committees, Panels, and Detailed Planning Groups

Each committee, panel and detailed planning group will operate under a mandate, along with guidelines as to membership and frequency of meetings. Mandates, guidelines, and amendments to them, for the standing panels, shall be proposed by the Planning Committee for approval by the Executive Committee. Mandates, guidelines and duration of operation for the short-lived Detailed Planning Groups will be specified by PCOM as required.

3. Planning Committee

3.1 General Purpose. The Planning Committee reports to the Executive Committee and advises JOI, Inc., the Science Operator and Wireline Services Operator, plans designated to optimize the scientific productivity and operational efficiency of the drilling program.

More specifically, the Planning Committee is responsible (a) for long term planning on the order of 5 to 10 years utilizing input from COSOD-type conferences and thematic panel input; (b) for developing a general science plan and general track of the drilling vessel about four years in advance of drilling; (c) for fostering communications among and between the general community, the panels, the Science Operator, the Wireline Logging Contractor and itself; (d) for soliciting, monitoring, and coordinating the evaluation of drilling proposals; and (e) for maintaining a 12 to 18 month scientific plan and for drafting a scientific drilling program at the Planning Committee Annual Meeting to be incorporated into the Program Plan for the next fiscal year.

3.2 Mandate. The Planning Committee is responsible for the mandates of the various panels and planning groups and their membership. It approves their meetings and agendas and may assign special tasks to them. The Planning Committee sponsors and convenes COSOD-type conferences at intervals determined by long-term science plans for ODP. PCOM, through the JOIDES Office, assigns proposals to thematic panels, DPGs and, if relevant, to service panels, for review. PCOM sets the scientific objectives of the proposals into final priority after they are

reviewed by the panels. The Planning Committee nominates chief scientists to the Science Operator, who ultimately chooses them.

PCOM periodically reviews the JOIDES advisory structure in the light of developments in science and technology and recommends amendment of its panel structure and mandates. Much of the working of the Planning Committee is carried out by the commissioning of reports from the panels, the detailed planning groups, ad hoc subcommittees of its own membership, and by its chairman at the JOIDES Office.

- 3.3 **Structure.** The Planning Committee is empowered to establish an infrastructure appropriate to the definition and accomplishment of tasks described in its annual program plan as approved by the Executive Committee and the National Science Foundation.

Communication with the panels and active DPGs is maintained by having their chairmen meet with the Committee annually, and by assigning committee members as non-voting liaison members to its panels and working groups. Where counsel and communication are deemed important, other individuals may be asked ad hoc to meet with the Committee or a panel.

- 3.4 **Membership.** Each member of the Executive Committee shall designate one member of the Planning Committee and an alternate to serve in the absence of the designated member. One quarter of the Planning Committee members shall rotate off the Committee annually, so that its membership is replaced every four years. Reappointment shall be made only in exceptional circumstances. All appointees to the Planning Committee shall satisfy the fundamental criteria of having the ability and commitment to provide mature and expert scientific direction to the program. Balance of fields of specialization on the Planning Committee shall be maintained as far as possible. The chief scientists of the Science Operator and Wireline Logging Services Contractor, the JOI program director and an appointee of the NSF are non-voting, liaison observers.

- 3.5 **Organization.** The Planning Committee meets at least three times a year, normally in November, April and August, based on the timetable for producing the ODP Program Plan. Robert's Rules of Order govern its meetings.

- 3.6 **Vote and Quorum.** Within the framework of the Memoranda of Understanding with each non-U.S. participating country (or consortium designee), it is intended that the U.S. members shall constitute at all times at least a majority of members. Substantive issues decided by formal vote require the vote of a majority of all members. A quorum shall consist of at least two-thirds of the non-U.S. members and at least two-thirds of the U.S. members.

- 3.7 **Chairmanship.** The Chair of PCOM shall rotate with the JOIDES Office among the U.S. JOIDES institutions, excluding the Science Operator and Wireline Logging Services Contractor institutions. The term of office is normally two years.

4. **Thematic Panels**

- 4.1 **General Purpose.** Thematic Panels are mainly, but not exclusively, process orientated. They are established by the Planning Committee to develop scientific

drilling objectives based on COSOD-type conferences. The Thematic Panels play an important role in defining the long-term scientific objectives of ocean drilling.

Thematic Panels are composed of a number of members from U.S. institutions and one member from each non-U.S. participant. PCOM approves the panel membership including size and balance of expertise. Panelists will serve three years, with one-third of the panelists being replaced each year. The chairmen are appointed by PCOM. Thematic panels meet at least twice a year, but may meet more frequently as requested by PCOM. PCOM convenes the panel meetings and approves their meeting dates, locations, and agendas. The mandates are guidelines and do not restrict panels. Considerable overlap in thematic coverage has evolved and is expected to continue to evolve. The Planning Committee may ask Panels to take up topics not in their original mandates.

4.2 Specific Responsibilities. Each thematic panel will be responsible for planning the drilling of sites at the following levels:

- (a) Long-range identification of objectives and problems that are best solved by ocean drilling;
- (b) Review proposals submitted to JOIDES, followed by written evaluations to PCOM for each proposal reviewed;
- (c) Make recommendations for necessary site surveys needed to achieve the scientific objectives of a target area;
- (d) Make recommendations to PCOM for establishing Detailed Planning Groups for further developing drilling plans for specific target themes and/or regions;
- (e) Advise the Planning Committee on the selection of possible co-chief scientists;
- (f) Provide advice to PCOM on requirements for technical drilling operations, downhole measurements, and shipboard/shore-based sample handling (in consultation with the appropriate service panel, if necessary);
- (g) Provide advice to PCOM on technical development needs required to achieve long-range scientific objectives.

4.2.1 In the course of the work specified in paragraph 4.2, the Thematic Panels will maintain the close contact with the appropriate DPGs and provide PCOM with written evaluations of the recommendations made by these planning groups.

4.2.2 Each Thematic Panel is responsible to the Planning Committee, and will respond directly to requests from it, as well as reporting to it on a regular basis.

4.2.3 The Thematic Panels will act as a means of disseminating and correlating information in the appropriate problem areas by:

- (a) Monitoring the progress made by ODP cruise participants and other scientists on the results from shorebased research on samples;

encouraging shore-based laboratory work on samples recovered through ODP drilling;

- (b) Encouraging its members to contribute to symposia at which the results of drilling will be discussed;
- (c) Publishing progress reports in the open literature to inform and encourage participation in the project;
- (d) Generating "White Papers" as requested by PCOM;
- (e) Providing input to PCOM for the summary of scientific achievements of ODP for inclusion in the ODP Program Plan.

4.3 Lithosphere Panel: Mandate

The Lithosphere Panel is concerned with the origin and evolution of oceanic crust and mantle. In particular, important areas of investigation are volcanic, metamorphic, hydrothermal, structural and alteration processes occurring in the ocean crust. Also of importance to the Lithosphere Panel are mantle-crust interactions, mantle dynamics and composition, and solid-earth geochemical cycles.

- (a) Processes of submarine volcanology, intrusion and plutonism; crustal construction at spreading axes; petrology, geochemistry, mineralogy, and magnetic and other physical properties of igneous and metamorphic rocks from the ocean floor, from seamounts, from oceanic plateaus, from volcanic arcs and from basins adjacent to volcanic arcs.
- (b) Processes of submarine hydrothermal circulation; petrology, geochemistry and mineralogy of hydrothermally altered rocks and hydrothermal deposits from the ocean floor; geochemistry and physical properties of hydrothermal solutions; aging of ocean lithosphere.
- (c) Processes of mantle convection and melting and their relationship to basaltic rocks of the ocean basins. Mapping of mantle (geochemical) reservoirs and domains. Implications of solid earth geochemical cycles and fluxes of the global plate tectonic cycle. Mass balance problems.

4.4 Tectonics Panel: Mandate

Tectonics Panel is concerned with large-scale structural features and processes of deformation, including those active today at plate boundaries and those recorded in structures and sediments of former plate boundaries.

The Panel is also interested in the origin and evolution of large-scale constructional crustal features. The drilling-based tectonic studies that are evaluated and promoted by the Tectonics Panel fall into six groups, each listed below with some specific (but not exclusionary) examples:

- (a) Passive (extensional) margins - rifting history, rift-drift evolution and associated igneous activity, structure and origin of continent-ocean boundary zones; structural symmetry/asymmetry of conjugate margins; passive

margins in back-arc basins; structural variability along-strike; thermal and mechanical evolution; history of vertical crustal movements; post-rift subsidence, tectonism and sea-level history, their interrelations, and their effects on the sedimentary record; tectonic synchronicity.

- (b) Sheared (translational) margins - deformational history including crustal extension, shortening and vertical movements; structure and evolution of continent-ocean boundary zones; effect of tectonics on syn-rift and post-rift sedimentary record.
- (c) Active (convergent) margins - mechanics, kinematics, and mechanisms of deformation within accretionary wedges; thermal evolution and fluid flow; history of island-arc magmatism; sedimentation and deformation in fore-arc and back-arc basins; collision-associated deformation.
- (d) Divergent oceanic plate margins - structural evolution of mid-ocean ridge axes along "normal" spreading segments; origin and evolution of ridge-axis discontinuities (small offsets, overlapping spreading centers, transform faults, etc.); tectonic segmentation along mid-ocean ridges; origin of structural/tectonic asymmetries across spreading centers and ridge-axis discontinuities.
- (e) Origin and history of submarine plateaus, microcontinents, aseismic ridges, seamount chains, and other large-scale features constructed, fragmented, or deformed during ocean-basin evolution; history of vertical motion of these features and its relation to eustasy.
- (f) Plate driving forces and sub-lithospheric structures and processes: Global stress measurements to evaluate plate-driving forces; global seismic network to monitor stress accumulation and release and; measurements of rates and magnitudes of strain at active plate margins and at deforming zones within plates.

4.5 Ocean History Panel: Mandate

The Ocean History Panel is concerned with the historical aspects of the sedimentary record in the oceans. Specifically included are:

- (a) Long-term history and driving mechanisms of the evolution of the ocean, atmosphere and biosphere. Central to this theme are relations among plate tectonics and ocean paleocirculation, sedimentation patterns, global paleoclimates, glacial and ice-sheet evolution, sea level change and its effect on marine sedimentation and evolution of marine life.
- (b) Short-term variability of the earth's ocean circulation and climate and their relationship to boundary conditions and external forcing.
- (c) The processes and mechanisms of evolution of the marine biota.
- (d) The biostratigraphic record and its relationship to chronostratigraphy including radiometric dating, magnetostratigraphy, isotope and chemostratigraphy, lithostratigraphy and sequence stratigraphy.

4.6 Sedimentary and Geochemical Processes Panel: Mandate

This panel is concerned with marine sedimentation and diagenetic processes, origin and evolution of marine sediments and seawater chemistry, global sediment and geochemical mass balances, hydrothermal processes in sedimented regions. Specifically included are:

- (a) Sedimentary processes, facies and physical properties - The sedimentary processes of terrigenous, biogenic, volcanogenic and chemical sediments; sedimentation and tectonics, e.g. evolution of submarine fans, and evolution of basins; factors controlling the nature of sedimentary facies; the origin of unconformities, disconformities, hiatuses and sedimentary cycles; slope stability and redeposition and; physical properties of sediments.
- (b) Organic and inorganic sedimentary geochemistry and diagenesis - The rates and nature of early to late diagenetic processes; the evolution of sediment to rocks; geochemistry of interstitial and formation waters; petrology, mineralogy, magnetic and other physical properties, and geochemistry of diagenetic phases of bulk sediments; and chemical paleoceanography.
- (c) Temporal and spatial global mass balances of sediments and cycling of elements - How much and what types of sediments being subducted; relationship of sediments to tectonic and paleoceanographic processes such as sea level fluctuations and anoxic events; unconformities and disconformities; the carbon, sulfur and phosphorus cycles; marine evaporites in early rifting systems and evaporite giants.
- (d) Fluid circulation and geochemical budgets - Magnitudes and rates and plumbing systems of gravity and tectonically driven circulation in passive and active continental margins; chemical fluxes, biological activity, physical, mineralogical and geochemical alteration of margin sediments induced by fluid flow; interaction between submarine hydrothermal fluids and sediments, mineralogy, petrology, physical and geochemical properties of the hydrothermally altered sediments, and the geochemical evolution of the hydrothermal fluids; the origin and distribution of base metal deposits in continental margins and sedimented hydrothermal systems.
- (e) The aging of the oceanic crusts - Low to moderate temperature alteration of oceanic crust; rates and types of reactions and associated chemical fluxes; changes in physical properties and fluid circulation with age.

5. Technology and Engineering Development Committee: Mandate

The Technology and Engineering Development Committee (TEDCOM) is responsible for ensuring that the proper drilling tools/techniques are available to meet the objectives of ODP drilling targets, especially those for achieving highly-ranked objectives identified in ODP long-range planning.

TEDCOM identifies, within a proper time frame and within budgetary constraints, the new drilling tools/techniques to be developed, helps JOI and the Science Operator write RFPs for engineering firms which lead to the development of the tools/techniques, and monitors the progress of their development.

Members of the TEDCOM are engineers nominated by PCOM. Liaison should be maintained between TEDCOM and the Downhole Measurements Panel. An ODP/TAMU engineer is assigned to act as Science Operator liaison with TEDCOM.

6. Detailed Planning Groups: Mandate

6.1 General Purpose. Detailed Planning Groups are short-lived planning groups which may be created by the Planning Committee, in response to requests by the Thematic Panels or by the Planning Committee itself, for more intensive study of certain aspects of planning that may arise. The Detailed Planning Groups will be held to the minimum necessary membership and travel expenses. DPGs provide written documents to those thematic panel(s) specified by PCOM. The DPG documents are transmitted to PCOM with the written evaluation of the appropriate thematic panel.

6.2 Structure of Detailed Planning Groups.

The Detailed Planning Groups are responsible for:

- (a) Helping Thematic Panels to translate their broad thematic programs and highly-ranked ODP proposals into concrete drilling plans;
- (b) Recommending integrated drilling programs for their assigned topics and regions of interest;
- (c) Advising on regional and site surveys needed for future drilling;
- (d) Preparing drilling prospectuses which synthesize all thematic and site survey input.

6.3 Membership. PCOM chooses DPG members for their expertise and experience with respect to the assigned thematic topics and in regions where these topics can be addressed. Members are recommended by the thematic panels and by PCOM and are appointed by PCOM or by the PCOM Chairman if necessary. The chairmen are appointed by PCOM.

The DPGs are composed of a number of members from U.S. institutions, and should maintain full representation, if possible, from the non-U.S. JOIDES institutions. A maximum number of 16 members is suggested.

Active DPGs meet at the request of PCOM as frequently as required by ship scheduling and routing. PCOM establishes liaison between standing DPGs and Thematic Panels by the appointment of non-voting liaisons.

7. Service Panels

7.1 General Purpose. Service Panels provide advice and services to the JOIDES Advisory Structure, and to the various entities responsible for the processing, curation and distribution of samples, data and information (including publications) to the scientific community. The Service Panels can respond to specific requests from the Science Operator, the Wireline Logging Contractor, or JOIDES panels, but in all cases, must report their findings to the Planning Committee as well. When recommendations from the service panels involve fiscal decisions or major programmatic changes, these must be channeled through PCOM.

The Service Panels, beyond their help to the JOIDES Advisory Structure, are not directly involved with selection of drilling targets or definition of cruise objectives.

Service Panels have specific mandates. Service panels meet at least once a year or as requested by PCOM. PCOM appoints the chairman and panelists and keeps membership, including representation from the non-U.S. JOIDES institutions, under review.

7.2 Site Survey Panel: Mandate

7.2.1 General Purpose. The general purpose of the Site Survey Panel is to provide information and advice to the Planning Committee on the adequacy of and need for site surveys in relation to proposed drilling targets.

7.2.2 Mandate. The Site Survey Panel is mandated to:

- (a) Review site survey data packages prepared by the ODP Site Survey Databank and to make recommendations as to their adequacy to the Planning Committee in light of the needs defined in mature proposals of the Detailed Planning Groups and thematic panels;
- (b) Identify data gaps in proposed future drilling areas and to recommend appropriate action to ensure that either 1) sufficient site survey information is available for pinpointing specific drilling targets and for interpretation of drilling results, or 2) that sites not be drilled;
- (c) Provide guidelines for proponents and panels as to required site survey data and to examine the opportunities and requirements for the use of new technologies for surveying potential drill sites;
- (d) Promote international cooperation and coordination of site surveys for the benefit of the Ocean Drilling Program, particularly between participating ODP nations' survey activities;
- (e) Promote the lodging of all data used for planning drilling targets with the ODP Databank.

7.2.3 Liaison. The Panel maintains liaison with the ODP Site Survey Data Bank Manager and the non-U.S. liaison at the JOIDES Office, who both attend SSP meetings.

7.3 Pollution Prevention and Safety Panel: Mandate

7.3.1 General Purpose. The general purpose of the Pollution Prevention and Safety Panel is to provide independent advice to the Planning Committee and to the Ocean Drilling Program with regard to safety and pollution hazards that may exist because of general and specific geologic circumstances of proposed drill sites.

7.3.2 Mandate. All drilling operations involve the chance of accident or pollution. The principal geologic safety and pollution hazard in ocean drilling is the

possible release of substantial quantities of hydrocarbons from subsurface reservoir strata. In most deep sea regions, the risk of hydrocarbon release can be reduced or eliminated by careful planning and proper site surveys. Additionally, safety problems may arise in drilling hot hydrothermal systems for lithosphere targets.

Those who plan each Ocean Drilling Program cruise and select its drilling sites are initially responsible to propose only sites that are considered reasonably safe. The JOIDES Pollution Prevention and Safety Panel independently reviews each site to determine if drilling operations can be conducted safely.

The preliminary site survey information and the operational plan are reviewed for each site. Advice is communicated in the form of: (1) site approval, (2) lack of approval, or (3) approval on condition of minor site relocation or amendment of the operational plan. Approval is based on the judgment of the Panel that a proposed site can be safely drilled in light of the available information and planning.

- 7.3.3 Liaison. The Pollution Prevention and Safety Panel maintains liaison with the Site Survey Panel, and a designated SSP member attends its meetings. A representative from the Science Operator also attends the meetings. The Planning Committee Chairman is a non-voting member of the Panel and normally attends meetings.

7.4 Information Handling Panel: Mandate

- 7.4.1 General Purpose. The general purpose of the Information Handling Panel is to provide information and advice to the Planning Committee and the Ocean Drilling Program with regard to satisfying the needs of the scientific community for timely access to data, samples and publication and to assist program managers in setting priorities.
- 7.4.2 Mandate. The Information Handling Panel is mandated to advise PCOM on:
- (a) Types of publications to be produced; publication formats; schedules and deadlines; publications policy and goals of the ODP publications program;
 - (b) The operation of the core repositories; curatorial policy; filling of sample requests; curatorial data management; long-term goals for the preservation of the core materials and other physical samples obtained by ODP and DSDP; and establishment and operation of the various micropaleontology reference centers;
 - (c) The types and contents of the databases to be maintained by ODP; treatment of raw data; establishment of uniform procedures and standards for data handling and processing; structure, philosophy and goals of the information systems produced by the program; and management of databases, information systems and data centers. This last topic also includes coordination between various data centers established by ODP and those for DSDP archives;

- (d) The minimum standards of quality and completeness necessary for data to be included in the various data bases and information systems, including data recording, transcribing and checking procedures;
- (e) Shipboard and shore-based computer facilities, equipment and procedures; software development; data collection techniques; and meeting the computational needs of shipboard and shore-based scientists, as well as providing access to data bases for all interested parties. Input from the Shipboard Measurements Panel on these issues, if necessary, should be reviewed;
- (f) Long-term preservation of the raw data generated by ODP and DSDP; preservation of all past records bearing on sample history; and preservation of any other records of the program which might benefit future workers;
- (g) The relationship between the ODP and DSDP data centers and national depositories such as the National Geophysical Data Center, World Data Center A for Marine Geology and Geophysics, etc., and the fulfillment of statutory obligations for data transfer. It also includes transfer of data to data centers established by ODP member countries, such as the one in France, and to the Micropaleo Reference Centers.

7.5 Downhole Measurements Panel: Mandate

7.5.1 General Purpose. The general purpose of the Downhole Measurements Panel is to advise JOIDES on methods and techniques for determining the physical state, chemical composition, and dynamic processes in ocean crust and its sediment cover from downhole measurements and experiments. Areas of responsibility include: routine logging (including industry standard and special tools widely used in ODP); routine data processing and interpretation; new and adapted logging tools, techniques, and data processing; downhole experiments and data acquisition (including downhole recording).

7.5.2 Mandate. The Downhole Measurements Panel is mandated to:

- (a) Report to and advise PCOM on logging and downhole measurement programs of ODP;
- (b) Advise on and recommend to the ODP Wireline Service Contractor the required logging facilities;
- (c) Advise PCOM on the the scientific desirability and technical feasibility of proposed programs;
- (d) Monitor progress reports, results, tools and techniques from U.S. and international downhole instrumentation development groups;
- (e) Solicit and expedite new logging capabilities and experiments;
- (f) Evaluate new technology and recommend future measurement directions.

7.5.3 **Membership.** Membership consists of a well-balanced representation with approximately half being logging and other downhole technologists and half having scientific backgrounds and interests. The Wireline Services Operator and Science Operator of ODP shall each be represented by non-voting members on the Panel.

7.6 Shipboard Measurements Panel: Mandate

7.6.1 **General Purpose.** The Shipboard Measurements Panel is concerned with the inventory, operation, condition of scientific instrumentation on board the JOIDES RESOLUTION and data handling for onboard measurements.

7.6.2 **Mandate.** The objectives of the panel are:

- (a) To provide expert advice and make recommendations to the Planning Committee regarding the inventory and utilization of scientific equipment on the drillship;
- (b) To represent the interests of the ODP user community with respect to the scientific procedures and equipment on the RESOLUTION;
- (c) To direct panel activities, via PCOM, toward acquiring and maintaining the best possible shipboard scientific capability within the constraints of the ODP budget.

The panel is concerned with general types of instrumentation and issues:

- (a) Underway geophysical equipment;
- (b) Equipment for handling core samples;
- (c) Physical properties, paleomagnetism and geotechnical measurements;
- (d) Petrological, mineralogical, sedimentological, biological, organic and inorganic geochemistry analysis and equipment for performing these measurements such as microscopes;
- (e) Computers managing data from shipboard equipment (in consultation, if necessary, with the Information Handling Panel);
- (f) Utilization of laboratory space on the RESOLUTION.

7.6.3 **Membership.** The panel will consist of members from U.S. institutions and from non-U.S. JOIDES members or consortiums. Representation from all non-U.S. members should be maintained, if possible. The number of members should not exceed 15 and these should be appointed so as to represent the range of disciplines within the scope of the panel's activities.

Ideally, a majority of those serving on the panel should have participated on a cruise of the RESOLUTION.

7.6.4 **Liaison.** The SMP must maintain continuing liaison with the Planning Committee, the Science Operations of ODP/TAMU (in consultation with

ODP/TAMU marine technicians and engineers), the Information Handling Panel, and the Downhole Measurements Panel. Ex-officio liaison representatives of these panels and organizations should attend each meeting.

- 7.6.5 Scheduling. As the SMP will normally not deal with time-critical issues, two meetings per year should suffice. Meetings at ODP/TAMU in College Station at regular intervals is recommended and occasional meetings that include a visit to the RESOLUTION would be valuable.

Ratified by EXCOM: 15 September 1988

Adopted by JOI Board of Governors: 15 September 1988

A. US Representation in JOIDES Advisory Structure

JOIDES Institutions	37 positions	3 Chairmen
Non-JOIDES Institutions	25 positions	2 Chairmen
Industry	12 positions	1 Chairman
<u>Government Labs</u>	<u>12 positions</u>	<u>1 Chairman</u>
Total US	86 positions	7 Chairmen

Non-US Representation in JOIDES Advisory Structure

Non-US Partners	90 positions	7 Chairmen
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B. US JOIDES Institution Representation on Panels

	THEMATIC	SERVICE	DPG, etc.	TOTAL	comments
Lamont				7	
	1 LITHP	0	1 CEPAC-DPG		
	1 OHP				
	2 SGPP				
	2 TECP				
OSU				4	
	1 OHP	0	2 SR-DPG		
	1 SGPP				
TAMU				1	(ODP)
	0	0	1 SR-DPG		
Scripps				4	(3 persons)
	1 OHP	1 DMP	2 FPAP-WG		
HIG				8	(7 persons)
	1 LITHP(Chr)	1 DMP	1 CEPAC-DPG		
		1 SMP	2 WPAC-DPG		
		1 SSP	1 SR-DPG		
Miami				3	(1 person)
	1 LITHP	0	1 SR-DPG		
			1 FPAP-WG		
URI				2	
	0	1 SMP	1 SR-DPG(Chr)		
Texas				3	
	1 TECP (Chr)	1 TEDCOM (Dept Pet Eng)	1 FWAP-WG		
Washington				1	
	0	0	1 SR-DPG		
Woods Hole				4	
	1 LITHP	0	2 SR-DPG		
	1 OHP				

C. US Non-JOIDES Institutions Representation on Panels

- 3 Cornell Univ. - DMP, FPAPWG, LITHP (2 persons)
- 1 Lehigh Univ. - DMP
- 1 Massachusetts Inst. of Technology - LITHP
- 1 Northwestern Univ. - CEPDPG
- 1 Pennsylvania State Univ. - OHP
- 1 Rice University - OHP
- 1 St. Louis Univ. - LITHP
- 1 State Univ. of New York, Stony Brook - TECP
- 1 Univ. of California, Los Angeles - IHP
- 1 Univ. of California, Santa Barbara - SRDPG
- 4 Univ. of California, Santa Cruz - 2 Thematic Panels OHP & SGPP;
2 DPGs FPAPWG & WPDPG(Chm)
- 2 Univ. of Florida - LITHP, SRDPG (1 person)
- 1 Univ. of Illinois, Chicago - CEPDPG
- 1 Univ. of Massachusetts - SMP
- 1 Univ. of Michigan - CEPDPG(Chm)
- 1 Univ. of Utah - SRDPG
- 1 Utah State Univ. - SRDPG
- 1 Wesleyan Univ. - SMP
- 1 Western Washington State Univ. - TECP

D. US Government Laboratories Representation on Panels

- 1 Los Alamos - TEDCOM
- 1 National Geophysical Data Center - IHP
- 1 Sandia - DMP
- 9 USGS - 1 Thematic Panel SGPP(2); 4 Service Panels DMP, IHP,
PPSP(Chm), SSP; 3 DPGs CEPDPG, FPAPWG, SRDPG

E. US Industry Representation on Panels

- 2 AMOCO - DMP, TEDCOM
- 1 ARCO - DMP
- 1 Chevron - TEDCOM
- 3 EXXON - IHP(Chm), PPSP, TEDCOM
- 3 Independents - PPSP, TEDCOM(2)
- 1 Longyear - TEDCOM
- 1 Mobil - PPSP

BCOM Report
7 and 8 March 1989
Washington D.C.

1. BCOM met in Washington D.C. on 7 and 8 March 1989. Members present were Brian Lewis in the chair, Jim Briden, Ralph Moberly and Nick Pisas; Jan Stel was ill and unable to attend. Also present were Xenia Golovchenko (LDGO), Phil Rabinowitz (morning of 7 March) and Sylvia DeVoge (TAMU), and Tom Pyle and Ellen Kappel (JOI).

2. Proposals presented to BCOM. Excellent presentations were made to the committee which provided the BCOM with an overview of the budget requests. In the discussions that developed problems that needed attention from the BCOM were identified.

The proposed draft budget totals presented to BCOM were compared to the initial targets set in the FY89 four year plan as follows:

	Presented	Target
TAMU	\$33,239,000	\$33,239,000
LDGO	3,303,761	3,029,000
JOI/JOIDES	1,740,359	1,664,000
MRC (*)	45,142	0
Total	\$38,328,262	\$38,000,000

(*) Micropaleontology Reference Center.

3. Major Factors. In the late afternoon of 7 March the BCOM reviewed, in executive session, the budget in terms of the FY90 program plan, the long range outlook for ODP, recommendations by recent reviews of ODP, and the necessity to balance the budget. It was recognized that:

- (3.1) There were two elements of the budget that are non-negotiable by JOI Inc, namely the SEDCO and Schlumberger contracts.
- (3.2) Such items as fuel, port call costs, and travel costs are difficult to predict but TAMU has made realistic estimates of probable costs.
- (3.3) Potential increases in the SEDCO day-rate have not been budgeted. As in previous years, day-rate increases and deductibles for insurance claims will have to be dealt with by management if they occur.
- (3.4) The containment of payroll costs is critical not only for FY90, which has a \$2M total increase over the previous

year, but even more so in future years when comparable increases are not assured.

- (3.5) The target of 4% Special Operating Expenses (SOE), which is based on the total budget (\$38M) minus the JOI/JOIDES budget, is \$1,447,600. It must be achieved and utilized for the purposes originally intended by JOIDES. The total SOE included in the presented budget drafts was \$1,073,500, which was short of the 4% by \$374,100.
- (3.6) An unexpected fourfold increase in the insurance for Schlumberger tools significantly impacted the FY90 budget.
- (3.7) The costs for publishing the Long Range Plan of ODP and the brochure highlighting significant achievements of ODP were not included in the 4 year program plan prepared last year but must be allowed for now.
- (3.8) The availability of the digital bore-hole televiewer at a significantly reduced cost needed to be considered in terms of the FY90 program plan.
- (3.9) Concern for the long range future of ODP has raised the question of timely publication of ODP results.

The BCOM discussed the budget in these terms placing special emphasis on the publication and engineering issues. Specifically the BCOM recognized the concerns expressed to JOIDES about editorial support for the "Results" volume and that the use of a small diameter diamond coring system could preclude the use of specialty logging tools.

On the morning of 8 March BCOM obtained comments from the sub-contractors about consequences to their programs of smaller increases than they had proposed. During the remainder of the day BCOM, in executive session, developed the following recommendations.

4. Special Operating Expenses. To ensure the "innovation content" of the Ocean Drilling Program and to address the issues mentioned above the BCOM makes the following recommendations for SOE funds:

- | | | |
|-------|----------|---|
| | TAMU | |
| (4.1) | \$16,000 | for publications equipment as specified in the TAMU draft budget to improve capability in graphics. |
| (4.2) | \$70,000 | to be added to the publications budget specifically for hiring two temporary copy editors to assist the preparation of "Results" volume papers submitted to ODP. In the view of the BCOM these funds are necessary independent of any change in |

publication policy proposed by JOIDES. This recommendation is made based on the concern over timely publication of ODP results expressed by review panels and the concern over the lack of adequate copy editing expressed through JOIDES.

- (4.3) \$364,600 for drilling supplies (casing, guide bases and hard-rock supplies) associated with hard-rock drilling operations as specified in the TAMU draft budget.
- (4.4) \$45,000 for the development of the smaller hard-rock guide base as specified in the TAMU draft budget.
- (4.5) \$400,000 for further development of the diamond coring system (DCS). The BCOM anticipates that the specific use of these funds will be defined after the evaluation of the results of Leg 124E.
- (4.6) \$95,000 for testing on land of the DCS and such other systems as necessary following the evaluation of Leg 124E.
- (4.7) \$125,000 for the feasibility study of drilling to 7500m with the DCS and the feasibility of reaming the hole for use of specialized downhole tools.
- (4.8) \$170,000 for upgrading shipboard equipment. BCOM added \$20,000 to the TAMU request for shipboard equipment so as to include upgrading the seismic computer system. The BCOM recognizes that the Shipboard Measurements Panel will make recommendations to PCOM to set the priorities for use of these funds.

Items 4.6 and 4.7 were indicated in the back-up information of the TAMU submission but not included in their budget request. The BCOM recommends that the \$81,900 request by TAMU for additional computer equipment for computer services be rejected. As a result of these recommendations the SOE for TAMU is \$1,285,600.

- (4.9) \$103,488 LDGO to cover the unexpected additional insurance costs.
- (4.10) \$57,600 for the lease-purchase of the digital borehole televiewer as specified in the LDGO draft budget.

The total SOE for LDGO is thus recommended to be \$161,088.

(4.11) \$73,000 JOI/JOIDES
for publication by JOI Inc. of the Long Range
Plan and dissemination of a brochure on
scientific accomplishments of ODP.

The total SOE for JOI/JOIDES is thus recommended to be \$73,000.

BCOM rejected the request for funds to provide radiolarian reference slides to existing micropaleontology reference centers. It was felt that the specific request had not been reviewed by JOIDES and that, in general, an RFP should be issued for any such requests.

It is viewed by the BCOM that, within the total budget of \$38,000,000 for FY90 and the above SOE distribution, it is possible to attain the following revised budget targets:

	Total	Included SOE	
TAMU	\$33,078,182	1,285,600	
LDGO	3,196,819	161,088	
JOI/JOIDES	1,724,999	73,000	
Total	38,000,000	1,519,688	(recommended SOE equals 4.18%)

5. Consequences for Base Budget. While making these recommendations the BCOM recognized that TAMU had done an admirable job in presenting a budget within the target total. Issues that occurred after these targets were defined, however, required a reduction of about \$160,000. The BCOM also notes that the budget presented by TAMU contained payroll increases of 12%, which is well beyond the overall level of increase in the ODP budget and beyond the increase (4%) projected in the four-year program plan written in FY89. Given the projected increases for FY91 and FY92 (either by JOIDES or NSF), failure to contain payroll costs now will result in very difficult budget decisions in these years.

The revised target for TAMU increased their SOE by \$212,000 while reducing their total budget request by \$161,000. BCOM reaffirms that it deems these revisions as essential to enable the total SOE for the whole Ocean Drilling Program to be revised from \$1,073,000 to at least \$1,447,600, including major SOE elements that are attributed to LDGO and JOI.

The consequences of the revised allocations for LDGO are that the borehole televiewer and insurance costs can be covered but only about one third of the labor needed to meet the increased workload is provided for in this target budget.

The JOI/JOIDES base budget was reduced from the initial target figure by about 2% in line with that of the Science Operator, but a \$73,000 SOE was assigned to JOI/JOIDES to address what BCOM considered to be a very high priority issue.

6. These financial constraints will impact upon the performance of the program immediately in FY90. This situation will occur in a year in which the budget will be \$2,000,000 higher than in the previous year. It indicates clearly that even with the most optimistic predictions for inflation, the program will be in crisis in 1991 and 1992 if the further \$2,000,000 per annum budget increases called for last year by BCOM and strongly endorsed by EXCOM are not forthcoming.

BCOM passed these recommendations to JOI Inc. for discussions with the subcontractors.

JOIDES PLANNING COMMITTEE ANNUAL MEETING
 28 November - 2 December 1988
 Rosentiel School of Marine and Atmospheric Science
 Miami, Florida

MINUTES

Members:

R. Moberly (Chairman) - Hawaii Institute of Geophysics
 K. Becker - University of Miami (for G. Brass)
 D. Cowan - University of Washington
 O. Eldholm - University of Oslo, ESF Consortium
 T. Francis - Inst. of Oceanographic Sciences, United Kingdom
 M. Kastner - Scripps Institution of Oceanography
 Y. Lancelot - University Pierre et Marie Curie, France
 M. Langseth - Lamont-Doherty Geological Observatory
 M. Leinen - University of Rhode Island
 (replaced by alternate R. Larson 30 Nov.- 2 Dec.)
 J. Malpas - Memorial University, Canada
 N. Pias - Oregon State University
 T. Shipley - University of Texas at Austin
 A. Taira - Ocean Research Institute, Japan
 B. Tucholke - Woods Hole Oceanographic Institution
 U. von Rad - BGR, Federal Republic of Germany
 J. Watkins - Texas A&M University

Liaisons:

R. Anderson - Wireline Logging Services (ODP-LDGO; for R. Jarrard)
 L. Garrison - Science Operator (ODP-TAMU)
 B. Malfait - National Science Foundation
 T. Pyle - Joint Oceanographic Institutions, Inc.

Panel and Committee Chairmen:

J. Austin - Atlantic Regional Panel
 M. Ball - Pollution Prevention & Safety Panel
 I. Dalziel - Tectonics Panel
 R. Detrick - Lithosphere Panel
 L. Mayer - Sediments & Ocean History Panel
 T. Moore - Information Handling Panel
 K. Moran - Shipboard Measurements Panel
 G. Mountain - Site Survey Panel
 D. Rea - Central & Eastern Pacific Panel
 R. Schlich - Indian Ocean Panel
 C. Sparks - Technology & Engineering Development Committee
 B. Taylor - Western Pacific Panel
 P. Worthington - Downhole Measurements Panel

Guests and Observers:

D. Falvey - BMR, Australia
 R. Ginsburg - University of Miami (2 December)

B. Haq - National Science Foundation (30 Nov.- 1 Dec.)
 B. Harding - ODP-TAMU Engineering
 H. Jenkyns - Oxford, United Kingdom
 E. Kappel - Joint Oceanographic Institutions, Inc.
 S. McGregor - National Science Foundation
 N. Shackleton - Ocean History Panel
 M. Storms - ODP-TAMU Engineering
 E. Suess - Sedimentary and Geochemical Processes Panel

JOIDES Planning Office:

P. Cooper - Science Coordinator
 L. d'Ozouville - Executive Assistant and Non-U.S. Liaison
 H. Iwamura - Secretary
 G. Waggoner - Science Coordinator

Monday, 28 November 1988

741 Introduction

New PCOM Chairman Ralph Moberly called the 1988 Annual Meeting of the JOIDES Planning Committee to order. Chris Harrison welcomed everyone to RSMAS and the University of Miami and expressed his gratitude for both the involvement of new blood and the continuity represented by old familiar faces. Moberly commented that Chris Harrison was an effective former member of PCOM. Keir Becker, who was acting as host for this meeting, extended his welcome and explained logistics including two dinner parties. An informal field trip led by Bob Ginsburg was planned for Wednesday noon to visit local outcrops of an oolitic limestone.

Moberly stated that the new staff of the JOIDES Planning Office at the Hawaii Institute of Geophysics hopes to be as useful and accommodating as was Nick Piasias's office at Oregon State University. Introductions were then made starting with the JOIDES Planning Office, PCOM members, panel chairmen, liaisons, invited guests and observers.

742 Minutes of PCOM Oxford Meeting 23-25 August 1988

Moberly called for comments, corrections and approval of the previous minutes.

J. Malpas asked for a correction to p.14 of the minutes (p.16 of agenda book) changing the second sentence of the second to the last paragraph to read as follows (changes in **bold**):

With a 10% increase, the Moho objective would **probably be lost**, and more emphasis would be placed **on science that can be carried out with existing technologies**.

U. von Rad asked for a correction to p.16 of the minutes (p.28 of agenda book) with the second sentence under Leg 123 reading as follows (changes in **bold**):

L. Garrison reviewed the changes in Leg 123 due to the exchange of **Leg 123 site EP9E for Leg 122 site EP2A**.

B. Harding asked for a correction to p.6 of the minutes (p.18 of agenda book) with the first sentence of the third paragraph under Engineering Test Leg 124E reading as follows (changes in **bold**):

The platform for the DCS has been fabricated and is scheduled to **depart for Manila on or about 1 November**.

PCOM Motion

PCOM approves the minutes of the 23-25 August 1988 Planning Committee meeting with amendments. (Motion Malpas, second Kastner)

Vote: for 15; against 0; abstain 1

743 Approval of Agenda

Moberly called for additions or revisions, and then for adoption of the agenda for the meeting. Piasias and Lancelot asked for minor revisions.

PCOM Motion

PCOM adopts the agenda for the 28 November - 2 December 1988 Planning Committee meeting.
(Motion Piasias, second Leinen)

Vote: for 15; against 0; abstain 1

744 EXCOM Meeting Report

Both Moberly and Piasias attended the 13-15 September 1988 EXCOM meeting in Edinburgh and written summaries of the meeting of interest to PCOM are attached (Appendix B). Of special concern to PCOM, EXCOM commended PCOM for its consistent approach to developing the thematically driven planning process, and approved strongly the four points of consensus of PCOM at its Oxford meeting of how to proceed. EXCOM thought, however, that the specific wording of the PCOM motion for implementation was inappropriate. EXCOM's motion was, *At the November 1989 Annual PCOM meeting, and at subsequent meetings, PCOM will examine thematically reviewed proposals in any ocean, in order to plan a general direction of the vessel in the period after 1991.*

Piasias emphasized in his report that the two most important items of concern to PCOM were that (1) EXCOM approved the new advisory structure of JOIDES and the panel mandates were accepted almost as written with few revisions. EXCOM was concerned that the Site Survey Panel (SSP) should not review the merits of drilling proposals, so the wording of the panel's mandate was changed to reflect this. (2) EXCOM strongly endorses the concept that science proposals drive the ship, so that PCOM can continue to develop long-range plans.

Discussion

There was some concern that EXCOM Minutes are not distributed to PCOM members and Panel Chairmen. Moberly noted that PCOM members should have them available through their affiliated EXCOM representatives.

The misunderstanding about the role of the SSP in regards to the merit of drilling proposals was also discussed.

745 National Science Foundation Report

B. Malfait represented the National Science Foundation. A budget summary is attached (Appendix C). In his introduction Malfait noted that the change in administrations will have an unknown effect on NSF, but looks forward to the same generally favorable treatment for science as under the Reagan administration.

Status of the FY89 Budget

The total appropriation for FY89 for NSF's ODP program budget is \$32.1M. Of this \$21.5M is budgeted for the U.S. contribution to ODP. Individual contributions by the international partners is \$2.5M and total \$15M. The approved total budget for FY89 ODP Operations/Management program plan is \$36.15M, with the increase of \$150 K over the target level supported by U.S. funds.

NSF has budgeted \$5.184M for grants to support U.S. research related to ODP programs, including 5 field programs in the Pacific and development of downhole experiments and instrumentation (see Appendix C). FY89 will mark the end of two years of high-priority support for studies related to the Pacific drilling program.

Projected FY90 Budget

FY90 (1 October, 1989 - 30 September 1990) contributions by the international partners has been increased by 10% to \$2.75M and based on this increase the FY90 budget target of \$38M appears attainable. JOI will be given formal notification in early January 1989.

In FY90 NSF will be giving high-priority support to field studies in the Atlantic and its contiguous seas as outlined in the November 1988 JOI/USSAC Newsletter. NSF tries to direct high-priority field programs two to three years in advance of the drill ship track.

Other Items

MOU between Canada and Australia has been signed. Canada and NSF are attempting to resolve problems in the wording of the draft MOU between Canada and NSF.

The EXCOM resolution supporting Soviet participation in ODP has been forwarded into the system but there is nothing new to report.

Staff changes at the Division of Ocean Sciences at NSF are:

M. Grant Gross (Division Director) on 1 year sabbatical.

Don Heinrichs has moved to Division Director.

Bruce Malfait will serve as Acting Section Head for Oceanographic Centers and Facilities.

Dave Epp has joined Bil Haq at the Marine Geology and Geophysics Program as Permanent Associate Program Director.

746 Joint Oceanographic Institutions, Inc., Report

T. Pyle reported for JOI, Inc. and reviewed the timing and the steps for making the FY90 program plan.

Early Dec. 88	PCOM. establishes science plan (the driving force of the program)
End Dec. 88	Science Plan submitted by PCOM chairman to JOI.
Early Jan. 89	Official NSF budget target to JOI ~\$38M
Early Feb. 89	JOI "budget overview".
14-15 Feb. 89	JOI budget preview by JOI Board of Governors.
7-9 March 89	BCOM reviews budget and sets scientific priorities if there is not enough money to accomplish the proposed program.
April 89	NSF does a quick administrative review to guard against major omissions or misstatements.
2-4 May 89	PCOM meeting reviews if necessary.
31 May-June 2 89	EXCOM meets and approves program plan.
July 89	NSF final review.
August 89	NSF executes contract with JOI.
Aug./Sept. 89	National Science Board has no formal review this year but gets a briefing.
1 October 89	Start FY90 program.

FY90 Budget

Pyle then discussed the FY90 budget from the last program plan (Appendix D) noting that there are two categories of budget (1) standard budget and (2) special operating expenses (SOE). The SOE part of the budget is designed to improve the program with new or special things such as leasing an escort ship during Antarctic drilling, replacing drill pipe, and purchasing the mining coring system. For FY90, \$1.25M was budgeted for SOE, but only \$68K remains uncommitted. Pyle noted that there is little flexibility in the FY90 budget. Problems to be faced in the FY90 budget include:

Avoiding higher extrapolation of funds available in FY91.

SOE includes only \$150K for Hard Rock Guide Bases (HRGB).

If 2 HRGB are needed cost estimated at \$800K

Other SOE:

- \$400K Mining Coring System (enough?)
- \$200K Drilling Supplies (HRGB?)
- \$350K Drill String Replacement (10K ft.)
- \$150K Shipboard Equipment Upgrades

Uncommitted SOE only \$68K.

2 subsequent day-rate increases for the JOIDES Resolution are not included. Day-rate increases are tied to the Producer Price Index which went up again in November 1988. Increases in the PPI cost about \$500K and are tied to budget size.

Logging insurance (premium and deductible) rate increases are not included in the budget. Premiums have increased x4-5 (\$28K to \$139K) and the deductible has more than doubled (\$20K to \$50K) since an "aggressive" logging program has been implemented.

Fuel costs have remained fairly constant and may provide some flexibility in the budget.

Additional Information Items

A policy on "fishing" for lost logging instruments has been established (see agenda book p.213-217).

U.S. logging schools have been established to coincide with various scientific meetings (GSA 1988 Annual Meeting in Denver, AGU 1988 Fall Meeting in San Francisco, IGC meeting next summer in Washington).

A logging practices meeting was held between LDGO, TAMU, Schlumberger, and SEDCO on 24 October 1988, to improve communications about what happens aboard ship, who is responsible for what, and who talks to whom, and generally improve decision making during logging. A six month trial of the new structure will see if there is an improved record of fewer tool losses.

Minutes from the 11 October 1988 Nansen Arctic Drilling Project meeting in Bremen, FRG are attached to the minutes (Appendix E). Pyle suggests cooperation between ODP and this project could strengthen the program.

News related to the U.S. Science Support Program of general interest to ODP are:

One proposal for a wireline reentry program has been received and is currently out for review and decisions are expected in several months.

A CD-ROM of DSDP data is due for release in late Feb./Mar. 10 copies will go to national program offices and international partners for distribution as they see fit.

A USSAC sponsored synthesis of EPR data is complete and will be presented at the 1988 Fall AGU Meeting in San Francisco.

Pyle emphasized that Panel Chairmen must send their minutes to JOI under pain of no funding.

Discussion

Leinen questioned the \$800K cost for 2 HRGBs. She said that Dave Huey told CEPAC that the costs have decreased substantially. It was suggested that roughly 5-6 HRGBs could be purchased for \$150K. It was noted that the \$800K cost for 2 HRGBs was not only for the purchase of the guidebases, but included all costs associated with deploying and using these items.

Moberly asked Barry Harding to provide PCOM with a new estimate of the cost of HRGBs, for long-range planning.

Pisias asked about a cost analysis for logging holes drilled with the Diamond Coring System with slim-line tools versus making bigger holes. Garrison said this analysis was being done. Anderson said that redesigning the present logging tools with a slim-line design is too expensive. The options are to rent those slim tools available and lose logging data, or ream out the holes to make them larger and use the present logging tools.

747 ODP Science Operator Report

Lou Garrison gave the Science Operator report in two sections, first reporting on the JOIDES Resolution, and then on TAMU.

Leg 124

Leg 124 (SE Asia Basins) is now in progress with drilling at site CS-1 (Site 767). Three holes have been drilled at this site:

- A Hole Completed.
- B Hole Drilled to 739 mbsf, logging only partially completed due to hole troubles going down. Recovery was good at top and about 30% at bottom of hole.
- C Hole Drilled to basement 794 mbsf, recovered a few grams of basalt from 20 cm penetration in last core. Drilled through alternating terrestrial, calcareous and volcanic ash turbidites. Age of oldest sediments not clear, but Oligocene sediments were recovered above basement. Twelve cores were recovered and while coring the 13th the drill string became irretrievably stuck in massive turbidites and the pipe had to be severed.

While on site Co-Chiefs requested that the priority of the Sulu Sea holes be changed from SS-3 which is thought to have abnormal contaminated basement to SS-2 which may have a more conventional basement. Moberly (for PCOM) and PPSP agreed to the switch.

Other JOIDES Resolution Items

The scheduled port call between Leg 126 and 127 has been changed to Tokyo from Yokohama. Yokohama proved unsatisfactory because a bridge prevents the Resolution from entering the main port and only one outlying berth can accommodate the ship. There were also hotel problems. There will now be Tokyo I and Tokyo II port calls.

Shipboard computer upgrades will begin on Leg 124E and be completed by Leg 125. Upgrades include: 2 new VAX 3500 computers (Older 11/750 computers also remain on board), new disk servers, 2 optical disks one on board ship and one at TAMU (to reduce dependence on magnetic tape), Local Area VAX Cluster (a new configuration control using software to cluster VAXs into essentially one computer), 2 Macintosh-II computers, 2 Macintosh-SE computers, and 1 NT LaserWriter.

To try to improve the resolution of the 3.5 kHz seismic records a new sonar dome has been installed forward of the moon pool. A test of the new system on Leg 123 showed improvement, with 38 meters of bottom penetration with structural data while the ship was making 13 knots in 4800 meters of water.

A new multi-sensor tracker system will be installed on Leg 124E in the Physical Properties Section. This system runs a whole core section through the GRAPE/P-Wave Velocity/Magnetic Susceptibility logger and gives a single readout of the results in one pass.

Staffing of legs proceeds apace. Both Legs 125 and 126 are almost fully staffed except for a foram person on each leg; additionally a sedimentologist and logging scientist are needed on Leg 125 and a VSP person on Leg 126. The invitations have been mailed for Legs 127 and 128 but Canada/Australia participants are still needed. Logging scientists for Legs 127 and 128 have not been invited pending PCOM prioritization of the logging needs. Leg 129 is not staffed since it depends on how many Nankai Legs are planned and the prioritization of drilling sites. The safety review of Leg 129 holes is complete.

ODP-TAMU

Four new Staff Scientists will be coming on in 1989 to replace staff members who have left. Tom Janecek from LDGO has been hired as a sedimentologist, Laura Stokking from Scripps as a paleomagnetist, Andrew Fisher from RSMAS as a logging scientist and Jamie Allen from Univ. of British Columbia as an igneous petrologist.

There has been an administrative restructuring at ODP-TAMU with Data Base moved from Science Services to Science Operations since Science Services was too getting too big and a more equitable distribution of the work load was desired. Data Base now reports to Audrey Meyer. IHP will now go through different channels as well.

A laser video-disk is being published with archival images of all cores from Legs 1 through 121 of both DSDP and ODP. The charge for this has not been set.

Discussion

von Rad wanted to know if notices of ODP Staff openings were sent to the European science community. It was established that advertisements of openings go out on an international level and are advertised in international journals.

Cowan wanted know about the status of drilling in Indonesian waters since lack of clearance prevented Banda Sea drilling. Garrison said this matter was beyond ODP's ability to handle and requires the negotiation of an overall MOU by the US and Indonesia. It was largely a political issue and not an objection to drilling.

Austin asked about the status of Part B Publications. Garrison said that Part B (Scientific Results) for Legs 101 and 102 are supposed to be ready for distribution in early December; Leg 103 ready for distribution at end of December; Leg 104 will be distributed in June. The time gap between December and June is the result of hesitancy on the part of PCOM and EXCOM as to how publication should proceed. There is a glitch in Leg 107 assembly because of the establishment of the Editorial Review Board (ERB). The poor quality pictures of the Leg 113 cores is the result of a cost cutting attempt to use unglazed paper which resulted in the publisher overinking and producing blurring. For the next volume (Leg 116), ODP will experiment with using unglazed paper for the body and glazed paper for photos of cores. The plates will be placed at the end of the book. ODP would like to know whether or not this method meets with approval.

Kastner wanted to know if Leg 113 Part A publication will be redone. Garrison indicated that it would remain as it is. A decision was made to get out the volume on time even with the poor quality pictures.

Schlich commented on the deficiency of the geophysical equipment aboard the Resolution, especially the poor bathymetry on site and loss of seismic lines above 5 knots. He noted that the types of problems found on the ship have been solved by other oceanographic institutions for their vessels.

Garrison noted that ODP at TAMU is aware of the shortcomings and improvements are being made (*i.e.* new sonar dome) but budget constraints are limiting what can be done. ODP is working on purchasing a real time navigation system which will give smooth plots within 24 hours. Garrison stated that gathering high speed seismic lines between port and remote areas is not a role for ODP since they do not have the ship time available or the money to invest in a high speed streamer.

Schlich also noted that magnetic field results cannot be examined onboard ship since there are no programs to reduce the magnetics and this means important magnetic data is not available for making drilling decisions and may be lost entirely due to equipment malfunctions no one is aware of.

Garrison said that real time processing is a problem for which suggestions are needed and which could come from the new Shipboard Measurements Panel.

Shipley and Pisias both noted that SMP is to report to PCOM, which will establish priorities. Further discussion was held about the role of SMP and formation of liaisons with other panels (*i.e.* SSP). Moberly asked K. Moran to talk to R. Schlich and G. Mountain about the problems with shipboard geophysical measurements.

von Rad suggested that a narrow beam echo sounder should be installed to image the seafloor better, since the old fashioned wide beam system now onboard has side echo problems.

748 ODP Wireline Logging Services Report

R. Anderson gave the quarterly status report for Wireline Logging Services for the Borehole Research Group at LDGO (Appendix F). There has been an increased amount of time devoted to logging of holes since Leg 101. The side entry sub (SES) suggested by Lamar Hayes to get the logging tools to the bottom of the drill string has proven an extremely successful method for Legs 122, 123 and 124. Anderson suggests that the name "Hayes SES" be adopted both to recognize the efforts of Lamar Hayes on behalf of ODP and his suggestion of the technique.

Bridging continues to be a problem for logging holes. Clay swelling does not appear to be the cause. It appears to be a problem with sand caving into the hole. The solution is to use the SES. Logging tool bashing has not been successful and only results in tool loss.

Logging of Leg 122 holes found that Si, Ca, Al measurements correlate with the Haq and Vail sealevel curves, reflecting the changes in sand input.

Logging of Leg 123 site 766 hole downslope and west of 761 and 762 has shown the value of geochemical logs for stratigraphic correlation between holes. Because the hole had to be cased the planned experiment to compare logging through pipe and outside pipe could not be conducted. This will be tried on Leg 125.

Hole 765D provided good breakout data (breakouts in direction of least compressive stress) with the stress orientation the same as at 90E Ridge (site 758) but of greater magnitude. These experiments represent an important development in worldwide stress measurement mapping.

The French-made Slim Formation Microscanner will be shipped from the manufacturer around Christmas. The computer system has been received and software is under development, and the system is anticipated to be operational for Leg 126.

Testing of wireline packer is nearing completion and deployment on Leg 126 is anticipated. Changing the design of the steel reinforced braiding of the bladders has fixed the closure problem. New problem is the pumps keep burning out. The maximum life for motors and pump is 8 hours. The motors and pump were subcontracted to Stanford. M. Zoback is trying to solve the problem by getting AMOCO to let ODP use its design. The tool started out as the AMOCO Wireline Packer and used their own 1.5 HP motors. The ODP design uses TAM International motors which are only 3/8 HP and which are inadequate for the job. M. Zoback is negotiating for the use of the AMOCO motor or if that fails they will jury rig 4 TAM motors in series. The packer was supposed to be deployed on Leg 124E but will not be ready. The delay is the result of the need to field test the jury rigged 4-motor setup at Lamont, which is scheduled for the first week of December in a borehole in basalt. The design failure is blamed on Stanford and should have been spotted before the field tests. The problem arose because the instrument was assembled as individual components with each component working separately, but when fully assembled the tool was not capable of doing its job reliably. [Late word by Anderson was that AMOCO would let ODP use the motor design and the on-land test was back on schedule.]

Discussion

Taylor asked if K. Becker's packer could be used if necessary on Leg 126. Becker said yes. Anderson said the wireline packer will be ready to test by Leg 126.

von Rad noted that there have been lots of tool losses and failures causing complete unpredictability of logging time requirements. He suggested better maintenance of tools during the 5 days of port time. Anderson replied that Schlumberger cannot maintain their own test schedule because of the distance of the ship from Schlumberger Maintenance Districts. This is compensated for by carrying 2-3 backup tools. Schlumberger says shipping is the primary source of tool damage. Auxiliary Measurement Sonde has been failing a lot, causing the system to shut down, and may no longer be used. The problem is related to a failing splice required by the use of the crown block. Also, the swivel head has been leaking.

Moberly asked if you had to use the crown block. Anderson indicated it was necessary for safety reasons (heavy cable). He also said there was a full maintenance call by Schlumberger (expensive) last time in Singapore and all the tools were checked out as OK. He emphasized that tools should not be used as bashers, they're built to withstand significant horizontal banging, but not vertical. Most of the problem may be the rugged environment downhole. A set maintenance schedule will not solve the problem. Another part of the problem is a lack of logging time allowed; there just isn't any time available to thread a new tool after one fails.

Francis asked if the main problem is heave. Anderson said that heave mainly affects data quality. The engineers' hypothesis is that the main problem is "bashing" through bridged holes by users.

Taylor asked what could be done regarding the Auxiliary Measurement Sonde problems. Anderson said assemble tool ahead of time and test it in a "mouse hole" before the SES is deployed.

von Rad stated the chief scientists need real time figures so they can plan logging programs. At present one should multiply standard figures by factor of 2. It is possible to miss one's objective because of these timing errors.

CS-1 was an example of the value of the new policy of logging holes before reaching full depth on deep holes. The logging took 2.6 days but it was important because core recovery was very poor and the drill string got stuck.

Shackleton stated that there is a need for more information in the open literature regarding the benefits obtained from logging. Anderson said Volume 3 of the Logging Manual contains a lot of information from the backlog of logging manuscripts. Because of the restrictive ODP publication policy there has been trouble getting logging publications out.

Moore & Pias both stated that publication in the open literature with all 42+ authors could and should be done. It was noted that Leg 111 logging data were published in Reviews of Geophysics.

von Rad suggested that logging information should be combined with paleontology and sedimentology information.

Shackleton noted that the logging manual has a lot of information useful to chief scientists.

Anderson said that Volume 3 of the Logging Manual has a lot of science in it but was intended to be an educational volume using examples from ODP legs.

749 Regional Panel Reports

Atlantic Regional Panel

J. Austin gave the report of the Atlantic Regional Panel. The panel has not met in 18 months. Former PCOM Chairman N. Pias wrote a letter to Austin asking for an evaluation of the "ready-status" of drilling programs in the Atlantic. The purpose was to identify a small set of scientific drilling objectives that had nearly mature proposals and assemble a set of new thematic programs based on recent workshops. Additionally they were to make the community aware of plans to drill in the Atlantic. The preliminary assessment was included in the agenda book starting on p. 177. With the exception of Leg 101 proposals, previous drilling did not answer all high-priority thematic objectives of the mature proposals

previously submitted and further drilling related to these programs is envisioned. The regional thematic white paper generated by ARP also identified new drilling objectives in the Atlantic. Workshops sponsored by JOI-USSAC have also identified new thematic objectives in the South Atlantic and Adjacent Southern Ocean (J. Austin convenor) and in the Caribbean Sea (R. Speed convenor). Four workshops held in Europe have also identified new thematic objectives: (1) "Geologic History of the Polar Ocean: Arctic versus Antarctic" convened by J. Thiede; (2) "Mediterranean Workshop" convened by J. Mascle; (3) "U.K. Proposals for ODP: Atlantic Ocean" convened by NERC; (4) "Drilling in the Atlantic" convened by ESF. Austin noted that the Europeans are taking very seriously the PCOM initiative to open up drilling in all oceans based on thematic objectives. The U.S. response has not been as large.

Discussion

von Rad questioned why Leg 101 was left out of the summary of old legs. Austin said the purpose was to outline high thematic priority work that still needs to be done and Leg 101 accomplished its drilling objectives.

Cowan wanted to know what can be done in 1990-91 that hasn't already been done to investigate continental breakup? Is drilling deeper all that is needed, or is it a waste of money? Austin said the French are particularly interested in identifying the S-reflector. At present we cannot address all phases of breakup, and further drilling is needed.

von Rad said the deep stratigraphic hole in the Moroccan Basin is not mentioned. Austin said that in a phased program a deep stratigraphic test does not have a high priority in an early phase and these holes cannot be easily attempted with the ship in its present state. It would also be a safety nightmare.

Eldholm wanted to know what a return to volcanism drilling means? Austin said that the document considers the North and South Atlantic as good places to test plate kinematics and the hotspot reference frame and that the margins are good places to look at anomalous volcanism and its effect on continental separation.

Moberly asked if the report on p. 177 of the agenda book constituted the ARP Annual Report. Austin said that without a panel meeting in 18 months this was it.

Southern Ocean Panel

Moberly conveyed P. Barker's apologies for not being able to attend; a written report is attached to the minutes (Appendix G). Barker wanted it emphasized that remote areas may get neglected and remain neglected if their proponents of drilling perceive that it is a hopeless cause and may thus become a self-fulfilling prophecy. It may be equated that if there are no advocates in the panel structure then there will be few new proposals.

(Pisias noted that a major change in the panel structure is that proponents no longer rank their own proposals.)

N. Shackleton was asked to give the SOP report. He suggested that PCOM read Barker's report as he was not prepared to discuss it in detail. Shackleton noted that: SOP has not met in 12 months; there is a list of Antarctic proposals in the system; it is not true that SOP proposals have been the only proposals drilled in the Southern Ocean.

Discussion

Pyle asked if it was true that the number of scientists in the advisory structure is being reduced. Pisias noted that while 3 regular panels have been eliminated, two new panels and one DPG were added.

Indian Ocean Panel

R. Schlich gave the IOP report, noting the last meeting of the panel was October of 1987. Since that last panel meeting, drilling at site 735 has recovered 500 m of gabbro. Schlich requested a final meeting of the

IOP. He gave the history of the problems of putting together this final meeting of the panel and Chief-Scientists from the Indian Ocean legs, which was to have provided Pias with help in a part of the Long-Range Planning Document. The final panel meeting is now requested for a time after the panel is officially disbanded (31 Dec. 1988). The purpose of the meeting would be to document the achievements of drilling in the Indian Ocean and identify the remaining problems to be addressed by thematic panels.

Discussion

Kastner said it is a good idea, that there is a need to publish these results in the general science community. She suggested publication of a summary of the main achievements in EOS. Moberly said there is pressure to get out the important thematic summaries and he would note this suggestion.

Lancelot said this is extremely important especially since results will not be out for some time and since ODP volumes do not get highly publicized. Lancelot suggested publishing a small volume of some kind which could come out as a scientific report of this drilling phase. He suggested January would be the right target date for this meeting. Publication of these drilling results will help answer questions asked by France about where the scientific results are published, how can it be proven the project is well run, and how is the money being spent?

Kastner said that USSAC is going to have a meeting to discuss the problems of thematic publications and EOS-type articles, and the need to get results of drilling out more quickly.

Pias wanted the IOP meeting to provide an evaluation of what was planned versus what was achieved by drilling.

Langseth suggested that this meeting might be held in a workshop setting to get publication outside of the planning committee.

Mayer noted that two sessions at the IGC in July will be devoted to Indian Ocean drilling.

Francis wanted to know who is being addressed in producing this publication. Is the EOS article to be something other than a collection of Geotimes articles?

Pias said the intention of the article is to put Indian Ocean drilling in a larger perspective with cross-leg links and not a leg by leg summary.

Schlich agreed with Pias and noted that it is important to examine Legs 119, 120, and 121 together for future reference.

von Rad said there are two completely different objectives here (1) discuss what has been achieved by drilling and (2) what are the gaps in what we want to achieve in a long-range document. A workshop would be very useful but these objectives can be fulfilled by a follow-up meeting of the panel.

Mayer said this would be a healthy exercise. IOP was planned as a regional exercise but it would be good to see everything synthesized in terms of thematic objectives.

Pias noted that calling it a workshop may open the door for proliferation of DPGs and workshops. A meeting of the panel could provide what is needed especially since you can't go through a workshop format in a timely manner. Expectations regarding output should be formalized. The end of a panel's life could be a time to produce these kinds of documents.

Francis noted that the general public is not interested in details of whether or not planning worked, but how much ODP has contributed to improving our knowledge of the Indian Ocean. We should begin with what was known before drilling started and what drilling achieved.

Schlich requests a clear message from PCOM regarding the IOP meeting.

Langseth said the workshop suggestion was designed to get the publication out from under the JOIDES umbrella.

Kastner voiced two objections to the workshop type format (1) as Pisias noted it is not a timely way and (2) it reestablishes the concept of a regional panel. The JOIDES intent is to have thematic panels establish what thematic issues can be studied in what ocean. What is needed is a summary of scientific achievements of drilling, not a workshop. Schlich noted that this was his original request.

Lancelot said something must be published extremely soon, no matter what format. Put Schlich in charge and do it.

Shackleton said he doesn't see how you can make a useful publication given the publishing constraints imposed by ODP on the scientists involved.

Moberly noted that there is a great deal of difference between a volume (whatever a volume is) and one of the fairly long news items in EOS.

Moore said there are two ways to approach a summary of Indian Ocean drilling, under the existing publication policy: (1) the volume mode with two pages listing all authors on all legs, or (2) the short EOS-type article with references to individual leg volumes or Geotimes articles as sole references for the synthesis. The second option doesn't draw on any more data than are already out.

PCOM Motion

In light of the requests from both the NSF review and EXCOM that the thematic successes of ODP be highlighted and summarized, I move that a subcommittee of PCOM meet to discuss the possibilities for doing so and recommend some scenarios for summaries. (Motion Leinen, second Kastner)

Vote: for 11; against 4; abstain 1

Moberly appointed Leinen as chair of the subcommittee with Pisias, Lancelot and Taira members. Moberly asked that a focussed set of three or four choices, directed towards publication, be prepared. If a workshop format were chosen as an option, suggestions for specific charges should be made. A brief report is to be given on Friday during the agenda section on resolutions and new memberships. (Note: Leinen and Lancelot had to leave Miami early; there was no report on Friday.)

Shackleton thought it would be more useful if separate thematic reports were written including one on Ocean History findings in the Indian Ocean.

Moberly said that was the intent, to try and get away from a lot of nonthematic reports. (See further, Minute 767)

750 Advisory Service Reports

Site Survey Panel

G. Mountain gave the SSP report (Appendix H) in three sections (1) How the mandate was fulfilled in 1988; (2) Assessments regarding FY90; (3) Comments on future role. Site Survey Standards are given in the new Guidelines Special Issue of the JOIDES Journal which will be published soon. Carl Brenner was commended for his efforts towards data deposition.

Site survey reviews for scheduled WPAC legs are now generally satisfactory, except for: Leg 126 where high heat flow in vicinity of BON1 means care is needed in final site selection; Leg 127 where basement at J3b needs better imaging.

For unscheduled WPAC programs, site survey reviews have identified problems for: Lau Basin which needs redefinition of objectives based on new Gloria data; Vanuatu where site DEZ-2 has a continuing problem with the velocity structures and depth of drilling to the décollement objective; Geochemical Reference Sites do not have final locations for BON-8 or MAR-5.

Based on site survey reviews the CEPAC Programs have been divided into five categories: (1) Adult; (2) Adolescent; (3) Child; (4) Infant; (5) Gleam-in-the-eye (see Appendix H).

In the future SSP needs at least a 3-year lead time between receipt of initial data package and drilling. Moberly noted that PCOM is supposed to plan the general track of the drill ship 4 years in advance, but it is doubtful that SSP will get more than a 3-year lead time.

Liaisons with PPSP and DPGs on an "ad hoc" basis are important for timely input. TAMU engineers should provide feedback on the following issues: (1) the need for geotechnical core information at reentry sites; (2) risks associated with high temperature environments and the boundary conditions for drilling; (3) clarification regarding safety boundary conditions for bottom currents (>1.5 knot ?).

Discussion

Lancelot said that there will be a cruise to the Pigafetta Basin in July to August which will survey PIG1-4 and EMB2. Mountain noted that this is getting late in the year for processing the data for a site review.

The SSP characterization of the CEPAC programs drew considerable comments. Taylor and others questioned the SSP maturity assignments, including Sedimented Ridges and EPR Bare Rock drilling proposals as gleam-in-the-eye. Detrick said that EPR and Sedimented Ridges have some minor deficiencies but Middle Valley has a comprehensive data set available. Middle Valley needs deep MCS to image the magma chamber reflection, but this is not essential for the drilling objective. More geophysical studies are pending: Earl Davis for sedimented ridges; Hayman and Fornari for EPR. Langseth noted that Middle Valley is a paragon of site survey data. There are also abundant survey data on the EPR.

Detrick said that in drilling near fracture zones there is a need to know what rock type is present (peridotites, gabbros, basalts) and therefore sample recovery is important. On the EPR, siting of the guidebase is less dependent on rock type and more dependent on the structural setting.

Mountain asked if SSP should decline comments from persons like Ballard or others who suggest new technologies (e.g. Argo-Jason). Moberly said any information you can provide PCOM is valuable so SSP should take advantage of any information anyone wants to supply. There is however but a limited amount of money available to bring these persons to panel meetings. Pisiis said it was suggested that Ballard should submit a proposal to do these surveys. Austin noted that R. Hayman got support from the competitive sphere (NSF) to use the Argo to survey at 9°30'N on the EPR. This speaks eloquently about the calibre of science generated by these techniques for ODP.

Langseth noted that proponents of new techniques should not go to SSP for money. Certain types of drilling require a properly set guide base, and it is appropriate for SSP to be asking what type of site requires what kind of detail. SSP may need to go on a case-by-case basis for setting the guide bases. Mountain also noted that in the new Site Survey Data Matrix the term bottom photography has been replaced with bottom imaging so that the category includes a number of new techniques.

von Rad noted that the SW Indian Ridge drilling is a good example of a badly setup program. The IOP had said it was not a suitable site.

Dalziel said the Nankai Leg has been checked off by SSP while TECP has suggested additional data are needed from a thematic point-of-view in order to understand processes properly. Drilling objectives may need to be modified. Mountain said this is an example of why liaisons are needed with panels in order to keep informed about changing drilling objectives. Lancelot and Shackleton also commented on the usefulness of liaisons.

Lancelot wanted to know if SSP has the responsibility to advise ODP-TAMU about necessary ship equipment so that sites can be drilled properly. Moberly indicated that this is the responsibility of DMP and the new Shipboard Measurements Panel (SMP).

Downhole Measurements Panel

P. Worthington gave the DMP report. In his introduction he noted that the DMP views its function as about 70% service and 30% thematic. Panel membership breaks down along the lines: 4 from oil industry, 3 from JOIDES institutions (would prefer a bit more), 4 from other Universities, and 4 from government labs and institutes.

DMP has been trying to educate the community about the value of logging and is concerned about the recent statement that "If you have continuous core recovery you don't need logs". Logging provides information not available in cores, such as characterization at *in situ* conditions and of volumes considerably more than core.

Purpose of DMP is to make recommendations to PCOM and they do appreciate a reply to their recommendations. In 1988 they made 22 recommendations to PCOM and the following actions were taken: 15 accepted; 2 to ODP-TAMU for information; 2 referred back to DMP for further information; 1 not discussed (Accept Formation Microscanner dedicated scientist on the first leg that this tool is run); 1 rejected (Nankai Working Group); and 1 on hold pending cost analysis (Slim-lining tools versus enlarging DCS hole).

DMP has adopted these guiding interests of a thematic nature: (1) Composition and structure of crust; (2) Hydrogeological characterization; (3) Lithospheric stress on a global scale; (4) Sediment cyclicity; and (5) Temporal emphasis for monitoring of modern geological processes. These themes are used as guides for determining downhole measurement logging needs. They allow provisions for non-standard logging measurements when initial leg drilling strategies are being devised.

Future downhole measurement objectives (Mid 1990's) are: (1) Measurements-while-drilling technology (*i.e.* resistivity, natural radioactivity) and (2) Interwell tomography.(extending measurements beyond wells)

The COSOD II DMP white paper on downhole measurements and the scientific value of logging has been submitted and accepted for publication in Basin Research.

DMP emphasis for 1989 is to improve log data quality by monitoring of 3rd party tools, supporting improved tool maintenance by Schlumberger at remote locations (Schlumberger invited to next DMP meeting), furthering logging through pipe, requesting a meeting of logging scientists and contractors (requested for March 1989), and finally to improve tool calibration (most are calibrated for carbonates, not sandstone or basalt).

A major concern is that the Diamond Coring System 4" hole prevents certain tools from being run (*e.g.* full-waveform sonic, VSP, wireline packer, lithodensity tool, geochemical logging tool, borehole gravitometer, magnetometer, induction tool, formation microscanner, thermal neutron porosity tool). DMP does not see the sole purpose of ODP drilling to be the acquisition of deep material, but to acquire a balanced package of information including core, logging data, VSP data and to provide linkages to geophysical data. The loss of the use of these tools must be very carefully considered.

Discussion

Kastner asked if there are slim-line versions of these tools. Worthington said that there are slim-line versions for the sonic (but just get velocity, not waveform), resistivity (induction lost), basic porosity and density tools, and could develop gamma ray tool. If ODP is content to accept what is currently available in slim-hole tools this would be going back to what was considered a useful suite ten years ago and saying goodbye to what is available today.

A question was raised about how long it would take to develop slim-line versions of what is available today. Worthington replied that some tools cannot be slim-lined and for others the cost would be horrendous. Kastner wanted to know the cost of development. Worthington replied that for slim-lining the Formation Microscanner ODP contributed \$150K of the total \$500K spent by Schlumberger.

Pisias asked what is the minimum hole size acceptable for logging. Worthington said 5.5 to 6 inches based on the drilling at the KTB site in Germany. A table is given at the back of the June DMP Minutes with the diameters of the logging tools. Harding noted that the larger the hole diameter, the harder the drilling gets and the more unstable the hole.

Downhole Stress Using Borehole Televierer

A further concern of DMP is the delayed acquisition of the Digital Borehole Televierer. DMP sees downhole stress measurements to produce a global stress map as a major driving force for ODP and one of their high-priority thematic concerns. Existing Analog Borehole Televierers cannot support the logging program. BCOM has approved acquisition of the Digital Borehole Televierer in FY92. Therefore DMP suggests that it is important to advance the purchase of the Digital Borehole Televierer by two years. The Digital Borehole Televierer is the next logging tool in line for purchase, since there are no purchases scheduled for FY90 or 91. Another option is to make an arrangement with the FRG manufacturers of these devices.

Discussion

Taylor asked about the difference between the Analog Borehole Televierer and the Digital Borehole Televierer. Anderson noted that the analog tool is not durable and breaks down consistently while in the hole; on the other hand the digital tool is reliable.

Pisias asked about the cost of the Digital Borehole Televierer. Anderson said the cost was about \$80,000 for 2 units.

Francis wanted to know how many Digital Borehole Televierers are needed to ensure that this service is reliably supplied. Anderson replied that a minimum of 3 Digital Borehole Televierers is needed for the logging program. Mountain asked how much more reliable is the Digital Borehole Televierer compared to the Analog tool. Worthington indicated the digital tool was an order of magnitude more reliable.

Daiziel wanted the reason for delay in purchasing the televierer. Worthington said it was a budgetary problem. The initial priority budget item had been the formation microscanner. The difference between the two instruments is that the microscanner is not specifically designed to look at breakouts while the televierer sees the breakouts and determines their direction. The use of the instruments is complimentary. (Note: On Friday PCOM reaffirmed that the Digital Borehole Televierer tops its proposed use of SOE funds.)

Another budgetary constraint has arisen because high temperature logging tools have to be rented for upcoming legs. Rea wanted to know if any slim-line tools work at high temperatures. Worthington said 3 high temperature tools were available. A discussion about design constraints for slim-lining tools followed. Most problems associated with slimming tools involve keeping the electronics cool and poor counting statistics associated with decreasing the size of detection crystals. Kastner wanted to know why the high temperature logging tools had to be rented and if this was cost efficient. Anderson said that Sandia gets \$50K for the use of their tools, while the actual worth is much greater.

von Rad wanted to know when Volume 3 of the Logging Manual would be available. Anderson said that they will be mailed to JOIDES Journal receivers who got Vols. 1 & 2 and sent back the blue card in the front. Those who attend the logging school at AGU will get the color version while others get a B&W copy.

Pollution Prevention and Safety Panel

M. Ball gave the PPSP report (Appendix I). The mandate of this panel is to make sure ODP does not find oil or gas. Industry is heavily represented on this panel. Continuity is maintained by not rotating members off as do other panels. The 10 member JOIDES Panel chaired by M. Ball usually meets concurrently with a 3 member ODP-TAMU committee.

A safety panel meeting includes a review by L. Garrison of drilling legs since the last meeting. Co-Chief Scientists present the regional geology and geophysics, scientific objectives, and site-specific data for upcoming legs. PPSP is not adversarial; it wants to understand the science objectives so it can accommodate the science with changes made for safety reasons. Evaluation of potential for occurrence of hydrocarbons is defined using direct evidence (preexisting drilling) or indirect evidence (anomalies in amplitude, bottom-simulating reflections, structure, source, etc.).

Liaison with SSP has been useful, giving PPSP a chance to make contact with chief scientists well before a leg is finalized and improving the quality of safety reviews.

Discussion

Lancelot wanted to know if high temperatures were a safety problem and if safety limits in terms of maximum temperatures would be set. Ball said that they were not ready to set limits at this time but a study was being made of the mechanism for steam conversion. Garrison said that drilling engineers have been doing some modelling in cooperation with Sandia on the steam flash problem and that theoretical data do exist.

Pisias wanted to know if there were any safety concerns for the shallow holes for the NE Australia Margin. Ball said they did not see any problems for shallow holes; there are good seismic records and not much chance of hydrocarbons. PPSP also does not foresee any problems for Nankai, which is in very deep water and lacks reservoirs.

Kastner asked about the experience of drilling margins with clathrates and if PPSP had re-evaluated its policy. Ball said that decisions are based on prior experience with clathrates. Nankai is near the downdip limit of clathrates. Bottom-simulating reflectors (BSR) indicate clathrates and have been avoided during drilling. Garrison said that at the last PPSP meeting von Huene talked about clathrates. The feasibility of setting up a test to get under a clathrate or through a BSR has been discussed but with no conclusions. Moberly suggested that with high-quality seismic and 3.5 kHz records, drilling in a syncline may be safe. Since proposals exist to drill clathrates, ODP will have to consider this possibility in more than the abstract. Ball said PPSP is worried about it from a safety standpoint.

von Rad said that PPSP should look at the Exmouth Plateau drilling where there was an extremely gas rich show, for which the shipboard party prepared a good summary for PPSP. Ball said that PPSP would like to look at that.

Moberly noted that with the success of the preview of the NE Australian margin as an example, future requests for "previews" of leg proposals will be well received, but PCOM needs to consider the total expenses for doing this. Ball noted that the preview is intended to indicate obvious problems.

Information Handling Panel

T. Moore gave the IHP annual report to PCOM (Appendix J). Highlights of 1988-1989 for IHP are: (1) ODP has added a copy-edit step to production of the Scientific Results volume as suggested by PCOM; (2) Four new Macintosh computers and a laser printer have been put onboard ship plus new graphics software (Largely through the efforts of R. Merrill); (3) Core photos are available on video-disk (Recommended price \$50 slightly more than individual production cost); (4) DSDP data base available on CD-ROM (USSAC sponsored project). IHP proposes that the ODP data base be released in a similar way on a biannual basis; and (5) Letters to "non-performers" were drafted for PCOM Chairman's approval and have since been sent out by Moberly.

IHP will advise on the development of interactive on-board entry of data for: (1) Paleontologic data base (Using the Checklist II program which has a simple data entry menu suitable for shipboard use); and (2) Visual Core Description (current handwritten system is archaic and IHP recommends development of an up-to-date system that is easily convertible to a computerized data base).

Discussion

Malfait wanted to know how many letters to "non-performers" went out. Moberly indicated around 15. Moore said about 80% of "non-performers" are young scientists (graduate students) who go to sea with full intentions of participating but change job positions and no longer have time to spend on ODP obligations. Most are persons leaving academia for industry. von Rad wanted to know if the letters were being sent out as a warning. Moore recommended to ODP that the letter specify what are the consequences of not meeting the obligations now that the policy is in place, but before any action occurs. Eldholm wanted to know if the Chief Scientists were being consulted. Moore said the background to each case had been investigated but IHP and ODP did not want to publicize this list widely.

Pisias said he noticed in the minutes that "KERMIT" is used for file transfers. There are more efficient ways to transfer data and with the expertise available a better networking system should be found.

Publications:

Moore noted that PCOM dealt with the publications budget issue last year and now is going to address the issue of the timing of publications. A letter had been sent to panel chairs asking about the options available for speeding up publication. From a historical view the early goals of the DSDP and ODP publications policy was to: (1) tabulate locations and measurements, (2) collate and integrate drilling results, and (3) produce comprehensive, well-reviewed, high quality reports on results of each leg.

The proposed normal schedule for publication of the Part B Scientific Results Volume is:

	months post-cruise
Post-Cruise Meeting	4-6
Deadline for Manuscripts	18 (Publ. Part A)
Complete MS Review	22
Receive Revised MS	24
Complete Synthesis MS (Reviewed)	27
Type/Print (Paged)	32
Index	33
Publish Part B	36

The question is "Can this be speeded up?". ODP should be able to publish what comes off the ship in about a year (Part A now takes 16-18 months). A disadvantage for publishing quickly is that you lose the ability to reinterpret the stratigraphy and paleontology calls made onboard ship.

Discussion

Pisias wanted to know how much the paleontologists change their reports from leg-end to publication. Lancelot said there is very little change based on a summary he made at DSDP. Publication can be within a year without losing much of the stratigraphic control. Eldholm said that things may change in major ways after a Co-Chief has the manuscripts for final publication, but not by the post-cruise meeting stage.

Lancelot suggested that there is a need for an earlier meeting of the paleontologists to finalize barrel sheets to prepare for a post-cruise meeting. Moore said that the improvements in getting data into the data banks will help speed up the process. By eliminating the time spent going over the barrel sheets, more time becomes available for getting Part B done.

Kastner said that if the post-cruise meeting is eliminated the time could be better spent on the Part B volume. The letter to Panel chairs raised the question about a post-cruise meeting aimed solely at Part

B in order to decrease the time before publication. Moore asked if there was a consensus that we should take what comes off the ship and publish that as Part A.

Schlich said it is not so clear that you can take what comes off the ship and publish, because it depends on the leg and disciplines involved. Some very fundamental problems are not solved in 4-6 months. You can't say there is no need to discuss volume A. The changes between volumes A and B could be great. Volume A is important to geophysicists who need stratigraphic information and cannot finish their work until they have it.

Taylor wanted to know what would be done on the upcoming WPAC legs where there is only 1 day from the last drill site to port. Austin said that it took only 12 hours to write both the Geotimes and Nature papers on his leg. Moberly pointed out that one does not have to wait until the last core is up to start writing the results.

Leinen said that a deadline for changes in biostratigraphy needs to be set. Erroneous biostratigraphy can lead to problems in interpretation. Moore agreed that biostratigraphy should be determined within a few months and then published.

Taylor wanted to know how the new formation microscanner scheduled to be deployed on Leg 126 for first time will effect data handling, since there has been no planning to accommodate this major increase in amount of data. Moore said that there should not be a major problem since the formation microscanner will not get used on every hole. Provisions will have to be made for displaying the data along side the core data.

Some Options for Speeding Up Publication

The biggest problem causing the publication delays is people not getting their manuscripts in on time. Options for speeding up the process going from least severe to most severe are: (1) Utilize the system in place now but reduce deadline time for manuscripts from 18 months to 12 months (and stick to it); (2) Publication of the results of individual scientists outside the ODP Volume B, once they have completed a fully acceptable MS (on the same topic) for the ODP Volume; (3) Independently publish all scientific results outside the ODP Scientific Results Volume B, which will then consist of a bound reprint collection. (Clarification note for option #2; accepted means reviewed with reviews incorporated into text, and is not the same as "acceptable".)

Discussion

Moberly said publication delays have been discussed in the past, but two recent high powered reviews of the program, while overall quite favorable, have both identified publication timeliness as a deficiency. We have to take this problem seriously.

Lancelot said we need to get good publications in the "real" literature and out of the "grey" literature. We should encourage people to publish in outside journals and publish Volume B as collected reprints along with the unpublished paleontology plates and other data.

It was said that missing deadlines for manuscripts is still the main problem.

Eldholm observed that it is very difficult to publish a Part A synthesis of a leg without the key data to a certain level, especially geochemistry data. There is a need to produce the Volume B scientific results.

Kastner said ODP needs to get the information out into the open literature. She suggests three publications: (1) Vol. A with shipboard results plus minor augmentation; (2) Vol. B like option #3 with data papers and plates; (3) Third volume with integrated syntheses of several legs, but not to be published by ODP, instead to be published by established journals.

Garrison observed that there was no new idea discussed here today. A policy must be adopted and stuck to. Constant changes in policy are what delays volume B. The PCOM must not back up and

change the rules. Moore agreed with what Garrison said. We can reconsider our policies but should try them for some time first.

Pisias said that we need to make hard decisions about publications, otherwise it will continue to be viewed as "grey literature". EXCOM wants a lot of data in a volume, but we have only a finite resource to spend.

Moore said he is tired of the term "grey literature" for something that a lot of hard and conscientious work goes into.

Mayer said the problem is that since volume B does not exist at all its not even "grey literature".

Austin said that Part B Results for Leg 101 is a high quality publication. He cannot understand the level of criticism leveled at something that hasn't even been looked at. The publication is not that far behind schedule and it was realized by ODP from the beginning that it would take 36 months to publish.

Moberly said the criticism has been that no one has seen the scientific results coming out. ODP may have known that there would be a delay but the program reviewers did not know this. That's the crux of the problem. We need to give some help to the NSF people for future reviews by publishing the ODP volumes. There may not be a problem if there is timely publication of ODP results.

Lancelot said that Volume B is considered bizarre literature and not fully accepted as openly reviewed literature. There is a need to publish in open literature. The need is extremely well sensed by a lot of people. The literature is actually quite good, but no one reads it.

Francis affirmed the need to publish to keep the program operating.

Shackleton noted that a lot of good science goes into the ODP volumes that wouldn't make it into the open literature. It is ludicrous that we're talking about 18 months from manuscript deadline to publication. Modern technology should speed up the publication time.

Moore said we should not be too hard on the 18-36 month time frame, since by analogy the time of walking off the ship is the equivalent for some researchers as the time of getting notification that their grant has been funded. Therefore, 36 months to collect data and publish the results is not an unusual amount of time for publication of Part B Results.

Dalziel said the Antarctic research community had a similar experience, moving from in-house publication to the open literature. He suggested a memoir series to publish the kind of data that would not get published in the open literature.

Kastner said that even a high quality Part B is not an efficient way to communicate with the general community; we need to publish in the open literature.

Worthington said to (1) get timely and prestigious publication of scientific issues and (2) collect them into volumes. Make Part B a reprint volume of collated outside articles, other syntheses and data.

Rea noted that the "blue books" are treasures of data on ocean basins. Leg 92 was a spectacular success but only 11 papers have appeared in the open literature. This would make for a thin reprint volume.

Moberly noted that option 3 gives you the ability to publish outside, bind the papers and include the data. The bound papers cannot be called "grey literature".

Worthington noted that the reviewing load would be decreased by including reprints which are already reviewed.

Leinen suggested that the soon to be published Part B scientific results (which are reviewed literature of excellent quality) should be reviewed as a book in a journal such as Science to enhance the reputation of the books and the program. There was a general agreement that this was an excellent idea.

Taylor said PCOM should set a time table for resolution of the publication questions. This policy should be in the LRP document.

Moberly said that now is not the time to deal with this problem, there is not enough background information.

Pisias said that the publication problem is not in the LRP now.

Malfait said that something like this does not need to go into the Long-Range Planning Document, although it should be kept in mind that it has been identified as a problem by the outside community.

Shackleton wanted to know if consideration had been given to marketing aspects of the publications. People think of these volumes as being issued; more effort is needed to make them seem generally available for purchase by the public.

Kastner wanted the publication question put on the agenda for the spring PCOM meeting so that a firm decision can be made. She suggested that IHP prepare a report on the options based on their survey of Panel Chairmen.

Moore said that it would present difficulties to prepare the results of the survey at the March IHP meeting since not all panels will have met. Moberly said the problem was originally addressed to all panels. Pisias agreed that the general policy is a much broader issue that should go to panels for input to PCOM. Moberly agreed, but suggested that it may not be possible by May.

Tuesday, 29 November 1988

Technology and Engineering Development Committee

C. Sparks gave the TEDCOM annual report. The committee has 15 members with 6 from the oil industry, 2 from Universities, 4 from research organizations, 2 consultants and 1 from industry. TEDCOM meets about every 8 months and sometimes combines their meetings with a workshop with other groups of affiliated interests.

TEDCOM disagrees with a term of reference for their panel: "TEDCOM is responsible for ensuring that the proper drilling tools and techniques are available to meet the objectives of ODP drilling targets". They feel that it is the responsibility of ODP-TAMU Engineering to develop new tools whereas their responsibility is an advisory capacity. Moberly asked TEDCOM to submit the wording they want to PCOM for forwarding to EXCOM.

Engineering priorities discussed in December 1987 TEDCOM meeting were: (1) Drilling and core recovery in hard and soft interbedded sequences; (2) Drilling and core recovery in young basement and fractured rocks; (3) Drilling and core recovery in unconsolidated turbidites; (4) Drilling and logging in high temperatures.

TEDCOM is in agreement with TAMU that the mining, or Diamond Coring System (DCS) holds hope for drilling in interbedded sediments and basalts. Vibracoring and hydraulic hammers are being explored with the KTB Drilling Group for the purposes of drilling and recovering unconsolidated sandy sediments. Based on the results of the Riser Drilling Workshop, TEDCOM still thinks that a mini-riser system can be developed for the Resolution.

Long Term Goals to be addressed by TEDCOM as discussed at the February 1988 meeting are: (1) Deeper drilling - a 3 km hole by year 2000; (2) Higher Hole Stability using smaller holes such as in industry; (3) Mining drilling - How best to do it? Which motor to use - Circulation fluid drive, turbine drive (can get stuck without knowing it), or top drive system (recommended drive, will be tried on Engineering Leg)?

TEDCOM played a role in the contact between TAMU Engineering and the Norwegians who operate a drill ship which uses a diamond coring system to drill in water as deep as 1000 m. This system has been

examined for application to that system under development for the Resolution. Close to 100% core recovery has been achieved by the Norwegians.

Communications between the Engineers and different panels have improved by the use of liaisons, but TEDCOM wonders if these are sufficient. There are problems with the expectations of thematic panels concerning engineering developments, where everyone wants engineering solutions by a specific date, but it is not always possible to solve problems on a set schedule. Better communications are needed with the scientists. Liaisons with thematic panels, engineers and other service panels are needed.

Discussion

Moberly said there is a problem with the cost both in money and time for liaisons to attend all of these meetings. Liaisons will be discussed on Friday. There is also the problem of setting clear priorities as every panel becomes involved. PCOM should make the decisions about where to direct efforts.

Garrison asked if the concern over recovery of reefal limestones can be lumped with the chert-chalk recovery problem. Harding said that the results of the Enewetak drilling are being studied to help solve the problem of recovery of interbedded reef limestones. Mayer noted that the DCS has been used successfully to core this material.

Mountain wanted to know if rubber-sleeve technology can be used for reefal limestone recovery. Harding said this was an old technology that has had success recovering sands. It was looked at previously, but is not compatible with the ship's technology and is not wireline retrievable. Moberly noted that this technique had over 95% recovery through rubble at Midway, but was very time consuming.

von Rad said that on Leg 122, which drilled several hundred meters of shallow water reefal and lagoonal limestones, recovery was only 2-10%. With present technology recovery of shallow water unconsolidated carbonates is a problem.

Moberly wanted to know what was the definition of a mini-riser. A slim-line riser drills through the existing drill pipe, but a mini-riser is a 5-6 inch riser compatible with the mining drilling system. Harding said that by packing off at the bottom of the drilling system on the Resolution it's possible that a riser could be made for the DCS.

751 Panel Chairmen Meeting

R. Detrick gave the report on the 4th Annual Meeting of the panel chairmen held on Sunday, 27 November 1988 (Appendix K). The following topics were emphasized.

New Panel Advisory Structure

Communication among thematic panels are more important in new panel structure and because of the long-range planning mode. Timely distribution of minutes is essential. It is recommended that formal, double liaisons be made among thematic panels. (LITHP to TECP & SGPP; OHP to SGPP; TECP to SGPP & LITHP; SGPP to LITHP, TECP & OHP).

Detailed Planning Groups are intended to: have a short life; advise appropriate thematic panels; have flexibility; provide regional expertise (WPAC, CEPAC); integrate existing proposals; provide technical or thematic expertise not available on thematic panels.

The Panel Chairmen unanimously adopted the following carefully worded resolution:

"The Panel Chairmen agreed that the planning of the ODP, and therefore the movement of the JOIDES Resolution, should be driven by the science that is proposed. Every effort should be made to drill the sites that address the most important scientific problems in the most appropriate locations, without regard to parochial or political considerations that impose an arbitrary time frame or push to have the ship visit a particular area."

The Panel Chairmen wanted to make it clear to PCOM that the proper amount of time needs to be taken to address scientific problems without arbitrary time limits being set.

Engineering development needs and priorities identified by the Panel Chairmen were: improved core recovery, drilling chalk-chert sequences, drilling unconsolidated sediments, drilling fractured rocks, drilling deep holes, drilling at high temperatures. A lot of the high-priority drilling requires the development of new technology. Therefore it is essential that the science plan be realistic in terms of the available technology.

Publication Policy was discussed extensively both at the Panel Chairmen meeting and in the PCOM meeting. IHP will circulate a questionnaire.

The Long-Range Planning Document was discussed for about one-half the meeting. It was suggested that the 16 thematic objectives in the Long-Range Plan be focussed under four broad themes:

Structure and composition of oceanic crust and mantle.

Nature of lower oceanic crust and Moho

Magmatic processes associated with crustal accretion

Mantle structure and geochemical variability

Intraplate- and arc-volcanism

Causes and effects of oceanic climate and variability.

High-frequency global change

History of sea level

Longer-period global change

Carbon cycle and paleoproductivity

Evolutionary biology

Fluids in the lithosphere.

Hydrothermal processes in the oceanic crust and sediments

Mechanisms of dewatering of accretionary prisms

Processes of fluid flow at passive margins

Source of fluids

Impact on global geochemical budgets

Dynamics, kinematic, and deformation of the lithosphere.

Dynamics of oceanic crust and upper mantle

Plate kinematics

Deformation at divergent margins

Deformation at convergent margins

Intraplate deformation

This structure is similar to the COSOD II structure and gives a focus for long term planning.

Discussion

Kastner wanted to know what kind of technical expertise would be concentrated in a DPG. Detrick said as an example, if ODP wanted to establish a Seafloor Seismic Observatory, expertise on the best way to proceed could be provided by a DPG without having to establish a long term panel or working group. The EPR working group brought together expertise from different panels and individuals. A general discussion about DPGs established that they should be controlled by PCOM, limited in number, limited in life span, and have specific guidelines.

von Rad wanted to know why two-way liaisons were suggested instead of one-way with the liaison reporting to both panels. Detrick said this was what the panel chairmen thought would best improve communications while retaining panel advocacy.

PCOM generally agreed that the division along four major themes for the Long-Range Planning Document had merit. It was noted that these four themes do not correspond exactly to the thematic panels.

752 Thematic Panels

Tectonics Panel

I. Dalziel reported that in 1988 TECP spent most of its time working on the Long-Range Plan. TECP is now working on its second draft and expects to have the final revision done in February 1989. TECP concerns fall largely under the fourth heading of the main themes of the Long-Range Plan already discussed, namely dynamics, kinematics, and deformation of the lithosphere; although TECP also has interests in the other three divisions.

The TECP plan will try to generate a broader community interest in ODP programs, by addressing how the drill can be used to get at the underlying global tectonic processes. It will focus on models to be tested.

TECP high-priority programs (but as yet unranked) in the upcoming Pacific drilling:

WPAC Nankai as a natural laboratory for mechanisms and development of accretionary prisms. Must be able to measure fluid flow to justify drilling.

CEPAC Kinematic analysis

Calibration of Mesozoic Anomalies

Chile Rise Triple Junction (important for orogenic studies on-land)

Hawaiian Lithosphere Flexure

Cascadia Accretionary Prism (must be able to measure fluid flow)

N. Pacific & Bering Sea (important for understanding global tectonic framework)

Dynamics

Stress orientation

Ocean Bottom Seismometers

Stress orientation and magnitude observations are important for (1) testing models of the driving motions of plate tectonics and (2) forces operating on the upper plate at convergent margins. Mapping of stress may be a secondary objective.

The Pacific is a better laboratory than the Atlantic to address many thematic problems, although, for example, drilling in the Mediterranean (Gulf of Valencia) or Southern Ocean (Bransfield Strait) fit into a thematically driven program. [Total high priority TECP months in CEPAC area cannot be determined at this time.]

Discussion

Cowan wanted to know what TECP sees as the new thematic goals in the long-range drilling plan.

Dalziel listed logging fluid flow, permeability and pressures, and drilling deeper goals (2.5 km for Vancouver margin).

Leinen asked if the Chile Rise Triple Junction was another regional drilling theme or did TECP consider it a thematic problem best addressed at that location. Dalziel said the orogenic consequences of the subduction of a ridge are seen throughout geological history, therefore from a thematic viewpoint this is a high-priority site where ridge subduction can be studied in all of its different phases (before, during, and after). For proper integration, Dalziel suggested that two legs be devoted to a drilling program at the Chile Rise Triple Junction.

Sediments and Ocean History Panel

L. Mayer gave the final SOHP annual report. Because the mandate of this panel was too broad for the panel to cover the thematic field adequately, it is replaced by two new panels: Ocean History Panel (OHP) and Sedimentary Geochemical Processes Panel (SGPP). Copies of the first draft of the "SOHP Long Term Planning Document" and the second draft of the "JOIDES Sediments and Ocean History Panel White Paper" were distributed.

From SOHP's viewpoint, the minimum high-priority CEPAC drilling program is the following: (1) Eastern Equatorial Pacific Depth Transect; (2) Western Equatorial Pacific Depth Transect (*i.e.* Ontong Java Plateau); (3) North Pacific Transect; (4) Atolls and Guyots; (5) Shatsky Rise. [High-priority CEPAC drilling totals about 11 mo.]

Without improvement of core recoveries to at least 50%, SOHP has difficulty justifying either (4) or (5). SOHP suggests that the upcoming Engineering Leg be devoted to improving core recovery by drilling on the Shatsky Rise. The Ontong Java Plateau needs at least one deeper site into basement, which an upcoming cruise will survey. The Bering Sea has a high thematic priority for SOHP but is also a high risk program. SOHP requests that a DPG be formed to prepare a program for the North Pacific Transect and Bering Sea.

The new OHP has as its thematic objectives the study of: high-frequency global change, history of sealevel, low-frequency global change, carbon cycle and paleoproductivity. OHP plans for implementation of Phase 1 (1989-1992) drilling include: short-term engineering development of improved XCB and improved recovery in alternating lithologies, shallow-water carbonates, and gassy sediments; improved correlations between logging and recovered core; complete low-latitude and subarctic high-resolution transects; begin sealevel program with drillable carbonate margins, atolls and guyots; drill attainable low frequency targets. OHP plans for implementation of Phase 2 (1993-1996) drilling include: begin development of technology for drilling stable 2-3 km holes; complete surveys and selection of Arctic and deep passive-margin sites; initiate Central Arctic drilling using an alternate platform designed for Arctic drilling; mid-latitude high-resolution transects; continued sealevel studies using an alternate platform designed for drilling in atoll lagoons; extended Antarctic paleoceanographic and paleoclimatic record. OHP plans for implementation of Phase 3 (1997-2000) drilling include: one deep 3 km hole per year; continued Arctic drilling using an alternate platform designed for Arctic drilling.

The new SGPP has as its thematic objectives the study of: sedimentary geochemical processes (fluid flow and diagenesis) and facies evolution and depositional environments. Drilling strategy for facies evolution and depositional environment studies varies with objectives: stratigraphic and basin-evolution objectives require continental margin transects, facies studies will require small, dense arrays of sites to yield 3-D character of facies. Drilling strategy for sedimentary geochemical processes objectives requires transects of active and passive margins representing end-members of systems. Geophysical and geotechnical data are essential to develop 3-D picture of fluid flow. SGPP plans for implementation of Phase 1 (1989-1992) drilling include: improved recovery in sandy sediments; develop *in situ* tool technology; develop long term borehole monitors; studies of accretionary prisms and mud volcanoes; sedimented ridge crest and flanks; diagenetic studies in backarc basins, anoxic basins, and carbonate platforms; studies of turbidite facies. SGPP plans for implementation of Phase 2 (1993-1996) drilling include: begin instrumentation of accretionary prisms; develop technology for 2500-3000 m deep, stable holes and high-temperature drilling for sedimented ridges and flanks; transect studies of long-distance flow; high-temperature drilling on rift and flanks; diagenetic studies; drift, fan and ice-margin studies. SGPP plans for implementation of Phase 3 (1997-2000) drilling include: develop second generation instrumentation; develop deep instrumented multipurpose holes; study mass balance of subducting and passive margins; deep-drilling into hot areas.

Discussion

Moore and Tucholke both asked questions about the linkages between OHP and SGPP in relationship to thematic concerns about sealevel change. There also would appear to be duplication of efforts by the two panels. Mayer said that the SOHP white paper addresses these questions.

There was also a discussion about the use of alternate platforms to drill shallow continental shelves and shallow carbonate platforms.

Lithosphere Panel

R. Detrick gave the LITHP annual report. Accomplishments for the year included production of three reports: EPR Working Group Report, Sedimented Ridge Working Group Report, and LITHP Long-Range Planning Document. Other important issues were: WPAC planning for Geochemical Reference Sites and Lau Basin; CEPAC planning; and Engineering development.

WPAC

The Geochemical Reference Holes have a high thematic ranking from LITHP and have as their objective, obtaining first-order information on the composition of the principal components being subducted at the Bonin and Mariana Arcs. A viable reference-hole program requires sampling of the three major components being subducted: (1) a normal, marine pelagic sequence; (2) normal oceanic crust; (3) ocean-island lavas and volcanogenic sediments. The hypotheses that are being tested are: (1) That the more enriched compositions of the Mariana lavas compared to those in the Bonins are due to abundant volcanogenic sediments entering the Mariana Trench; (2) That alteration products in the upper few hundred meters of the pillow section can provide K, Rb, Ba and other LIL elements to arc-magma sources. LITHP suggested drilling program requires about 1.5 legs to drill the following sites:

BON-8 - Normal marine pelagic sequence plus 200 m or more of old, altered basement produced at a fast spreading ridge (M-13, adjacent to Bonin transect).

MAR-4 - Normal marine pelagic section and possible apron component (M-25, adjacent to Mariana transect).

MAR-5 - Volcanoclastic sediments adjacent to Hemler seamount at eastern end of Dutton Ridge.

Optional Site: MAR-6 - Sediments and uppermost basement at summit of Hemler seamount north of MAR-4.

LITHP suggests that: (1) MAR-5 be drilled as part of the Old Pacific program; (2) BON-8 and MAR-4 be drilled as one leg. The Geochemical Reference Hole leg does not stand alone, but is part of the overall 4 legs drilled in the arc and backarc drilling program supported by LITHP, TECP and WPAC. Can one leg answer the questions? Little is known about the composition of either the sediments or Mesozoic crust. One leg provides a quantum leap in our knowledge of unknowns for modelling fluxes at subduction zones. This is part of a proposed long term global program to quantify processes at both ridges and subduction zones.

The magmatic evolution and early rifting history of the Lau Basin has the highest LITHP thematic priority. Sites LG-2 and LG-7 are the highest priority followed by LG-3 and LG-6. LITHP still considers Valu Fa (LG-4) to be an immature drilling target and favors a re-entry hole on young crust (but not a bare-rock site) in the central Lau Basin (LG-1). LITHP recommended a Lau Basin Working Group meeting to reconsider proposed sites (LG-1) in light of new Sea Beam and Gloria data.

CEPAC

From the CEPAC prospectus LITHP has recommended a 7-leg program that includes two engineering half legs. In order of decreasing priority these are: (1) Structure of lower crust at 504B; (2) Magmatic and hydrothermal processes at sediment-free ridge crests (EPR); (3) Magmatic and hydrothermal processes at sedimented ridge crests (Middle Valley); (4) Early evolution of hotspot volcanoes (Loihi).

For Hole 504B LITHP favors deviating the present hole as the best option for sampling the boundary between layers 2 and 3, and the uppermost rocks of layer 3. An engineering half-leg should be devoted to this hole as early as possible in the CEPAC program. If 504B cannot be deepened, LITHP recommends other deep crustal drilling sites be evaluated.

The goal of EPR bare-rock drilling is to understand magmatic and hydrothermal processes at a fast spreading ridge and has a long-standing priority with LITHP. The EPR Working Group report has helped define strategy, site-selection criteria and science objectives. In LITHP's priorities, hydrothermal processes take precedence over magmatic processes. A suite of 8 holes is proposed with this priority: (1) a deep hole (1-1.5 km) near the ridge axis to penetrate as closely as possible to the top of an axial magma chamber; (2) a 500-m-deep hole to penetrate the upper crust near an active discharge zone; (3) a suite of three holes (about 300-m-deep) across the ridge out to 300Kyr crust; (4) a suite of three holes along the ridge axis from the middle to the end of a ridge segment. The highest priority objectives are also the technologically most difficult and require development of the DCS or other capability to drill young fractured rocks. A future program that LITHP would like to see developed is a series of 8 holes along a ridge crest to study the magmatic history.

The goal of the Sedimented Ridge drilling program is to: (1) Characterize in 3-D the fluid flow and geochemical fluxes within a sediment-dominated hydrothermal system; and (2) Investigate the processes involved in the formation of sediment-hosted sulfide deposits. This program would be easier to drill using existing technologies than the EPR bare-rock program. Two legs are proposed: (1) A hydrology experiment in Middle Valley consisting of a suite of six holes; and (2) Drilling of actively forming sulfide deposits in Middle Valley and Escanaba Trough. The highest priority site would be a single re-entry hole through sediments into basement in the active discharge zone slightly off-axis. Other holes would be drilled farther off-axis in both discharge and recharge zones. Extensive logging and fluid sampling would be part of this program. A new report has been submitted for Escanaba Trough drilling emphasizing the coeval volcanic association of sulfides and basalts; an array of shallow holes through sediments and sulfide bodies is proposed.

The objective of the Loihi drilling is to investigate the juvenile stage of Hawaiian volcanism and the physical and chemical processes involved in mantle plumes and their interaction with the lithosphere. Two holes are proposed: (1) A 200-400 meter deep hole in the summit area; and (2) A 100-300 meter deep hole on the northern flank of the volcano. There is also interest in developing this site for long-term geophysical monitoring and borehole experiments. [High-priority CEPAC drilling totals about 12 mo.]

Engineering Development

LITHP has identified the following engineering developments as necessary for meeting drilling objectives: improved penetration rates and hole stability when drilling young, fractured basalts; capability to drill routinely crustal holes to 2 km; high-temperature logging and borehole instrumentation; better borehole sampling techniques (rocks, fluids); wireline re-entry capabilities and methods for long-term borehole data recording and retrieval.

Drilling Objectives for the Next Decade

LITHP has identified the following drilling objectives for the next decade: (1) Drill three holes 2-3 km into the oceanic crust, extending one of these holes to Moho by the year 2000; (2) Drill arrays of shallow (~300 m) and intermediate (1-1.5 km) depth holes in several locations along the mid-ocean ridge and establish a seafloor "volcano observatory" by the year 2000; (3) Establish a global network of seafloor geophysical stations equipped with short and long-period broad-band seismometers; (4) Complete select "case studies" addressing magmatic and dynamic processes associated with intraplate volcanism, plate convergence, and mantle evolution and heterogeneity. LITHP plans for implementation of Phase 1 (1989-1992) drilling include: begin site survey work for candidate sites for ridge crest drilling, deep crustal drilling and seafloor seismic stations; complete 2 legs of drilling at 504B; carry out 4 legs of drilling at EPR and

sedimented ridge crests in NE Pacific; complete 3 lithospheric "case study" legs on magmatism in back-arc basins (Lau Basin), geochemical fluxes at convergent margins (Bonin-Mariana arcs), and early evolution of hotspot volcanoes (Loihi). LITHP plans for implementation of Phase 2 (1993-1996) drilling include: complete three holes 2000-3000 m into the crust including one hole in a fracture zone; begin first phase of Mid-Atlantic Ridge drilling and complete second phase of EPR program; carry out two lithospheric "case studies" (e.g. drilling a near-axis seamount and an oceanic plateau); establish 5 seafloor seismic stations. LITHP plans for implementation of Phase 3 (1997-2000) drilling include: extend one crustal hole to Moho; complete second phase of MAR drilling and establish a seafloor volcano observatory (in conjunction with RIDGE) in a volcanically active part of the mid-ocean ridge system; carry out 2 lithospheric "case studies" (e.g. a regional geochemical mapping experiment and an *in situ* stress experiment along an accreting plate boundary); complete installation of a global network of 15-20 seafloor seismic stations.

Discussion

Moberly wanted to know if any of LITHP's thematic science interests were involved in drilling the Atolls and Guyots, Old Pacific or Ontong Java Plateau proposals. Detrick said Old Pacific is an important part of the over-all Geochemical Reference Holes program. Sampling old crust (Mesozoic) formed at fast spreading centers can only be accomplished by drilling. If the Ontong Java Plateau (or Atolls and Guyots) were to be drilled into basement, LITHP would have a thematic interest.

Shiplely wanted to know why BON-8 was being drilled 200 meters into basement for the alteration profile but not MAR-4 which should be equally as important. Detrick said in the minimum program, the maximum information is obtained by drilling MAR-5 at the expense of the basement at MAR-4.

The value of the Geochemical Reference Holes for helping to understand geochemical fluxes in arc volcanism was debated. A major point raised was if the recovered sediments and crust would be sufficiently representative of what has been subducted to be an improvement over general estimates of averaged components sampled from other regions (e.g. Old Pacific). The necessity of drilling versus dredging the seamount apron was also questioned.

753 Reports for Pacific Planning

ODP-TAMU Engineering Projects

B. Harding gave the first part of the report for ODP-TAMU Engineering. Panel Chairmen wanting to receive the monthly engineering status reports should contact ODP-TAMU Engineering.

The prospectus for Engineering Leg 124E remains on target. The new and improved final version of XCB is being "fine tuned" after the Leg 121 test. The Navi-Drill is on line for testing using a new high-torque, lower RPM motor. The Phase I Pressure Core Sampler will be tested on this leg. The Diamond Coring System was given a quick test at Salt Lake City and was shipped to Manila last week. There will be a one day meeting in College Station among ODP-TAMU Engineering, SEDCO operations, Tonto Drilling and other parties to discuss plans, procedures, and deployment of the drilling rig on the Resolution. A new experiment has been added, using a rented bottom-imaging sonar device attached to the TV frame to look for chert layers around Site ENG-3, and to see what happens when chert drilling is attempted. There continued to be some concern expressed about finding chert-chalk interlayers at this site.

A handout was distributed about the DCS (Appendix L). Tests by AMOCO using an identical Universal Drillers (Australia) top-drive system, drilled 6000 feet with 95% recovery in West Texas. A 2000 meter system is going to be deployed on the Resolution.

On Leg 122, a new system for recording drilling parameters was installed. This system will help with correlating lithologies and drilling speeds.

A study of past chert drilling by both the DSDP and ODP programs is underway. The study will look at variables such as thickness of chert layers, drill bits used, success of method, etc. to help with the drilling on the Engineering Leg.

Methods such as vibracoring and hydraulic hammers for recovering sands are being studied via information shared by KTB.

A study is just underway to look at previous atoll drilling and associated recovery problems.

Discussion

The question was asked why there had not been a land test of the DCS in chert-chalk interlayers. Harding said since there have been successful on-land mining drilling tests in similar interlayered materials by other programs and the cost for these tests is a problem (ODP would have to buy pumps), the decision was to deploy the DCS on the ship.

Langseth said that a shallow high-temperature test of the drilling system will probably require drilling at hydrothermal vents on an oceanic ridge where high sulfide contents and high flow velocities will be encountered. Harding said that ODP has studied the drilling components that are affected by high temperatures and does not think it will be a problem since the hole is cooled by circulation of the drilling fluids and takes several hours to rebound. The present buterate plastic core liners are rated to only 175-180°C and metal core liners will have to be used above approximately 200°C. Francis wanted to know what effect the H₂S-rich fluids will have on the drill string. Harding and Storms said H₂S causes embrittlement of high strength steel and ruins the joints. ODP can run down-graded pipe (20% wall-loss) but they can't pull on it. There were several questions whether or not high-temperature drilling could be done realistically, and the answer appears to be that it can be done. For water depths greater than 2500-3000 m steam-flash appears to be less of a problem than originally thought. The depth range for the shallow high-temperature drilling test will be in the 2500-3000 m range.

Detrick wanted to know what plans were being made to overcome the problem with initial hole instability in fractured rocks. Harding said that a smaller diameter hole drilled at higher speed and with a lighter bit weight should solve the problem. Detrick wanted to know how this would cure the problem of collapse of rubble into the hole. Harding said that starting the hole with the present drilling system and then drilling through this larger pipe with the smaller DCS drill pipe (casing by drill pipe) should solve the problems of initial hole collapse. Detrick said that there are two drilling problems that must be solved: (1) Rubble; (2) Deep drilling. Harding said that the DCS needs to be tested to see if it can solve these two problems.

Pisias wanted to know the cost and time necessary to extend drilling capabilities to 4000 m and beyond using the DCS. Harding said that the DCS could be extended to about 4000 m within a year of Leg 124E given the resources (~\$740K). Extension of drilling beyond this (Phase III 4000-5500 m) will require major redesign to both platform and mast as well as other parts of the drilling rig with the cost over \$1M.

Development Engineering Schedules

M. Storms then discussed the three ODP Development Engineering Schedules: (1) Project Schedule; (2) Generic Technology Requirements; (3) 3rd Party Development Schedule (Appendix M). He said the vibra-percussion corer was still being studied through cooperation of the KTB Drilling Group but no money is available for ODP testing. An engineer working on the vibra-percussion corer system will be on the Engineering Leg. ODP hopes to be able to marry this system into the drilling program based on the experience gained through piggybacking with KTB.

ODP-Engineering would like PCOM input on a breakdown of the priorities for the technology development line items, so that the engineers can make plans based on the highest priority required developments.

Storms updated what ODP knows about third party tool developments. The status of the Barnes sampler is unknown. Geoprops (Taylor & Karig), Pressure Meter (K. Moran), and Japanese Instrument

Emplacements 1 & 2 are on schedule. Keir Becker's TAM straddle packer design works with only minor changes needed. The ODP TAM drilling packer was developed and deployed early in program (Leg 110) but ODP-Engineering does not recommend using the drilling packer over the straddle packer. Because of a concern about hole collapse and deployment of the Geoprops tool, Leg 124E will test hole conditions after removal of the Navi-Drill but without deploying the Geoprops tool. There will also be a test of the straddle packer using a minicone.

Discussion

Francis wanted to know about the status of the Downhole Turbine-Thruster for the DCS since it was included as a line item on the development sheet with \$100K budget. Storms said the money was requested for development participation with the KTB Group of the Downhole Turbine-Thruster, but the money was not available. The top-drive system works better and has been adopted for the DCS. Turbines are a problem in an oceanic environment.

Francis wanted to know if the Geoprops tool will be tested before the Nankai Leg (129). Brian Taylor has set aside 6 hours for a test of Geoprops on Leg 126.

von Rad wanted to know if the XCB had been improved since its use on Leg 122 where very poor quality cores were recovered. Storms said that both the flow to the cutting chute and the cutting chute itself have been modified and they expect that tests on 124E will show that they have gone as far as they can go with the advanced XCB design.

Langseth wanted to know if the problem of not knowing if the Navi-Drill core barrel advances has been solved. A system using MWD technology, being developed by industry, has been adapted to measure if the drill is advancing. Lancelot wanted to know if this system could be used with the APC system. Yes it could, but it would only be of minimal help.

Leinen wanted to know if the break-away piston head core was at a stage where only a few more weeks of work is needed to make it operational. The break-away piston head was designed, deployed and tested, but the piston head was breaking away at the wrong time. To correct the problem the hydraulic orifices need to be balanced and this will require an iterative adjustment and testing program.

Becker said the rotating head packer was successful on Leg 123 and could be very important as an alternative system at Nankai, since it can be used in holes that are unstable whereas his packer needs a stable hole.

Update on Third Party Tools

K. Moran gave a further update on several of the third party tools. Her own Lateral Stress Tool - Phase I makes passive, autonomous, low temperature, *in situ* measurements of lateral stress (magnitude and direction), pore pressures, and temperature in soft sediments (APC range up to 150 m), but disturbs the sediments. The Phase-I tool replaces the nose or shoe of the APC. This tool is now in the testing phase. Her Lateral Stress Tool - Phase II is an active tool which includes measurements of *in situ* deformation properties of harder sediments and will be used in conjunction with the Geoprops tool. This tool is in a three year design phase and a prototype should be tested on the Engineering leg after 129E.

The Geoprops tool being developed by Karig and Taylor using packer technology and has as its goals the *in situ* measurement of pore-water pressure, permeability, temperature and pore water sampling. This tool is in a "dynamic design" status that is "on track" for deployment at Nankai. Shipley said that the electronics are ready for fabrication and any physical problems are minor.

Western Pacific Regional Panel

B. Taylor gave the report for WPAC. He went over the summary (which starts on p.131 of the agenda book) of scheduled upcoming legs that are part of the WPAC Prospectus. He covered the suggested changes for Leg 125 (exchange BON-6A and BON-6B for BON-6; set re-entry cone at Site BON-6A) and

Leg 126 (exchange BON-4 for BON-5 in list of drilling priority and run VSP and formation microscanner at BON-6A). Science objectives will not be changed from what PCOM approved for the FY89 program. PCOM therefore gave its approval to the changes for Leg 125 and 126 as suggested by the Co-Chief Scientists at the pre-cruise meeting and approved by PPSP and the ODP-TAMU Science Operator. There is a potential problem with Leg 127 because what has previously been interpreted as basement in the Japan Sea has low seismic velocities and shows layering. Drilling to the high-priority oceanic basement may take longer than previously anticipated. Therefore it is suggested that the highest-priority site J-1b be drilled to oceanic basement taking as long as necessary to reach this objective. The lowest priority site J-3b should be drilled on a time-available basis. WPAC suggests that DMP re-evaluate the electrical conductivity experiment proposed for site J-1b. Leg 128 remains unchanged. The time requested for logging on Leg 129 (31.3 days) is unacceptable for a one-leg program, so WPAC has recommended a two-leg program.

WPAC programs which are not yet scheduled were also covered by Taylor and are in the summary (p.131). WPAC suggests that the number of Geochemical Reference Leg sites be shortened to drilling the primary BON-8 & MAR-4 sites plus logging, with additional drilling in the volcanoclastic apron and seamount sites at MAR-5 & 6 done if time is available. NE Australia Margin should eliminate 2 sites to keep drilling times within a standard length leg. Vanuatu shows a "velocity pull-up" structure which may indicate fractured volcanic material above the décollement and could cause longer drilling times for the high-priority sites. All of the Lau-Tonga sites can probably be drilled in one leg.

Jim Gill is nominated to replace Taylor as WPAC chairman.

Discussion

Mountain asked if the single line of heat flow measurements along the seismic line for BON-1A was sufficient, but as the need for heat flow measurements was safety related and not part of a hydrogeology program, this survey was deemed sufficient. Langseth suggested that detailed heat flow measurements be made downhole.

Discussion of the oblique electrical resistivity experiment at site J-1b was continued on Wednesday (see end of Minute 754).

Wednesday, 30 November 1988

Central and Eastern Pacific Regional Panel

D. Rea gave the CEPAC report. Two concerns of CEPAC covered in letters in the agenda book are: (1) Lack of chert-chalk sequences at site ENG-3 (p.173); (2) Engineering development priorities (p.174); Leg 129E should address chert-chalk (Shatsky?), limestone (Menard Guyot?), and young crust (Mariana back-arc?).

Rea talked about the results of Leg 121 which suggest that APC cores have gaps that total about 10%, but that by vertically offsetting the cores 4.5 meters in an adjacent hole this loss of data can be avoided.

Rea discussed the 14 programs covered by the CEPAC Prospectus, emphasizing that only one site (504B) has a fixed location whereas all others require site-survey information to various extents. Programs where there are significant problems are: Flexure of the Lithosphere where dating of material to within 100,000 years is essential for testing the response of different flexure models; Cascadia Margin needs a more polished proposal for the Vancouver sites and more MCS for both sets of sites; Old Pacific where there is a need to determine paleolatitudes (for pre-70my plate-motions) and therefore oriented hardrock core samples; Atolls and Guyots require recovery of reef limestones, and alternating lithologies; Shatsky Rise Anoxic Events requires recovery of alternating lithologies, depth and dating of anoxic events; Lower Crust at 504B needs the hole cleaned or deviated; EPR Barerock Drilling and Loihi both need engineering developments to deal with high-temperatures and corrosive fluids plus drilling and recovery of fractured rocks; Sedimented Ridge Drilling also requires high-temperature drilling capabilities.

Total time required to drill the CEPAC programs would be over 20 legs without including transit times.

754 Drilling Plans for FY90

High-priority drilling in the Pacific should be done in the next few years, since under a thematically driven program open to drilling in all oceans, transit times may become very large if the ship has to shuttle frequently through the Panama Canal between Atlantic and Western Pacific Oceans.

A general discussion was held about whether Nankai should be drilled as a one leg or a two leg program. Leinen via Larson suggested that a second Nankai Leg should be drilled about a year after Nankai I to allow time for evaluation. Shipley indicated that a one-leg versus a two-leg program has a big effect on what science is planned. A one-leg program requires moving site NKT-2 up slope. A minimum program requires three holes to be drilled at sites NKT-1, NKT-2 and NKT-10 in order to determine gradients as suggested by the Fluid Processes in Accretionary Processes Working Group. Taira said that in a one-leg scenario NKT-10 in the proto-thrust zone of ductile deformation would not get drilled. A two-leg scenario allows time for both more holes and a more complete logging program, so that horizontal as well as vertical gradients and fluid flow can be measured. Francis noted that DMP requests 31 days of logging and calls for 54 deployments of the Geoprops tool, which he thought was exaggerated logging expectations for untested tools. It was generally agreed that the measurements made with these tools (especially packers) are the most important scientific aspect of this drilling program. Therefore DMP needs to prioritize both logging requirements and sites for this leg in order to reduce logging time to about 20 days. The WPAC scenario suggested for drilling the first Nankai Leg is:

NKT-1	drill 10.0 days + log 6.9 days	16.9 days
NKT-2	drill 21.1 days + log 16.0 days	37.1 days
Contingency + Transit		6.0 days
	total	60.0 days

Cowan wanted to know the options if the Geoprops tool is not ready for deployment on 19 October 1989. A discussion was held about options and it was decided that since Karig has indicated that the tool will be ready and there are other tools and packers to be tried on the Nankai Leg, everything should proceed as planned. Nankai I is to be kept in the present schedule after the drydock in the NW Pacific.

PCOM Motion

Accept in the FY90 drilling program a Nankai Leg consisting of drilling sites NKT-1 and NKT-2 and about 20 days of logging. A second Nankai Leg will be considered after evaluation of the first Nankai Leg. (Motion Piasis, second Francis)

Vote: for 13; against 0; abstain 2; absent 1

It was suggested that the proposed SW Pacific WPAC programs were more advanced than the North Pacific CEPAC programs and should be considered for drilling after Nankai. However cyclones in the southern areas such as off Australia during December through March prevent safe drilling of these programs soon after Nankai. It was therefore suggested that the second Engineering Leg be drilled at this time.

CEPAC, LITHP and SOHP have all identified development of new engineering capabilities as necessary for accomplishing thematic objectives. Testing of a longer DCS, Geoprops Probe, OBS Instrumentation Experiment, etc. were all suggested for a second Engineering Leg. Rea said CEPAC's recommendations for a second Engineering Leg are drilling and recovery of chert-chalk interlayers, reefal limestone rubble, and drilling young fractured rocks. The Shatsky Rise, Menard Guyot and Mariana Back-Arc were suggested as sites close to one another and suitable for these tests.

ODP-TAMU expressed some concern that Leg 129E was being planned before Leg 124E has been drilled. Moberly said that preliminary planning of the leg requires some knowledge of what needs to be tested. If

engineering developments for drilling in young fractured rocks are not tested soon then the EPR bare rock drilling gets moved back even further. Tucholke said the important thing at this stage is to establish when to have the leg; what is to be done can be decided later. Larson pointed out that a half leg (30 days) is only enough time to do one test. von Rad suggested that a balance is needed between science drilling and technological development to enhance the scientific capabilities. Moberly asked PCOM to postpone the discussion of objectives for the engineering legs until FY90 scientific legs are set.

Moberly said that he sees a pull towards the SW Pacific because of the maturity of those proposals. Leinen via Larson recommended that Engineering Leg II be drilled between a Japan to Guam transit and that on the return transit northwards either the Geochemical Reference or Old Pacific proposals be drilled. Malpas said that it should be kept in mind that the drill ship should stay away from NE Australia until March when the cyclone season ends. This translates into at least 1.5 legs after Nankai.

Eldholm said that the science of the WPAC program needs to be reevaluated. Pisis pointed out that Lau-Tonga, Vanuatu and NE Australian Margin have been discussed in depth and are part of the WPAC program previously accepted by PCOM. Eldholm asked if Lau-Tonga had required some revisions. Langseth (PCOM watchdog) said that the drilling priorities and science objectives have not changed from what PCOM approved. All sites can be drilled in one leg.

PCOM Motion

Accept in the FY90 drilling program the NE Australia Margin, Vanuatu, and Lau-Tonga programs as most recently modified by WPAC (Motion Shipley, second Kastner)

Vote: for 15; against 0; abstain 1

Langseth asked if space should be reserved for programs such as Banda and South China Sea which had their science objectives approved but because of political problems did not get drilling approval. It was decided that until clearance is given they will not get scheduled, but TAMU is asked to continue seeking approval for these programs.

The Geochemical Reference Holes were discussed extensively, because of their previous low ranking by regional and all thematic panels. Malpas (PCOM liaison to LITHP) said that a letter from J. Natland discusses how this leg was originally proposed as a part of a large thematic program, which has been whittled down to what may appear to be a one leg regional proposal. The global thematic science which is being addressed by drilling in the Mariana-Bonin region is the crustal contributions to arc volcanism. The Mariana-Bonin system is one of the simplest and cleanest arc systems studied, where known geochemical variability of the volcanic arc products can be directly related to the different proportions of three crustal components being subducted (marine pelagic sediments, altered upper oceanic crust, seamount component in Marianas). This leg should not be viewed as a local one, but as part of the larger science objectives identified in the Long-Range Planning Document.

Kastner said the theme of geochemical reference holes is trying to address some basic science questions that are part of the objectives of ocean drilling. The two sites BON-8 and MAR-4 are important for understanding old altered ocean crust and require 100 m penetration into the crust to get the alteration sequence. Sites of second-order importance can be sampled in other ways, MAR-5 as part of the Old Pacific program and MAR-6 (seamount apron) by dredging. Lancelot said that he still thinks that the program is poorly designed. Taira said that this is not a single-shot program, but one designed to give a first handle on the problem. Cowan said that the first order differences between the Mariana and Bonin arc volcanism suggest differences in the crust being subducted; both BON-8 and MAR-4 need to be drilled. The geochemical and petrological differences between the two arcs are much greater than the variability along each arc axis. In answer to queries about the actual site locations, Taylor said that these sites were chosen because they had good site-survey data. Langseth said these would be good sites to use the borehole televiwer to determine stress magnitude as part of a regional stress map. In query to the

question of drilling times, Taylor said that BON-8 (200 m basement penetration with set reentry cone) and MAR-4 (100 m basement penetration with free-fall cone) can be done in a standard length leg.

PCOM Motion

Accept within WPAC drilling program one Geochemical Reference Leg, including sites BON-8 and MAR-4, plus appropriate downhole experiments and logging. (Motion Kastner, second Taira)

Vote: for 12; against 2; abstain 2

A general discussion was held regarding thematic ranking of proposals versus execution based on geographical and logistical constraints. It is possible that drilling will not be back in the SW Pacific for some time following the WPAC program. After FY91 with drilling open to all oceans there will be an open competition between remaining CEPAC, WPAC and new proposals. PCOM must decide whether it is acceptable to spend large amounts of time for transits between the highest priority legs or to insert lower priority legs that fill geographic or time gaps. Only mature proposals are supposed to be considered for drilling.

Next the CEPAC programs were considered, to see if one could be inserted within the FY90 schedule. Moberly emphasized that thematic panel rankings should prioritize the CEPAC proposals and he will ask for any new rankings from the panel chairmen for the Spring PCOM Meeting. Francis was concerned that all panels rank proposals in the same way. It was also a concern that some panels would be ranking proposals in which they have no interest. Rea said that the CEPAC Prospectus is a distillation of over 100 proposals based on thematic panel rankings. It was noted that the top-ranked proposals of each of the thematic panels are listed in the prospectus in the order TECP, SOHP, LITHP. Of the western CEPAC proposals, PCOM agreed that the Ontong Java Plateau is the best at present in terms of site surveys and has a high priority with thematic panels.

PCOM Motion

Place an Ontong Java Plateau Leg within the FY90 program. (Motion Malpas, second Piasias)

Vote: for 15; against 0; abstain 1

Taylor suggested that PCOM examine the proposed WPAC drilling schedule on page 143 of the agenda book. It was generally agreed that the proposed schedule fulfilled the plans already suggested for drilling in FY90.

PCOM Motion

Following a Nankai Leg the general order of drilling in FY90 will follow the order on page 143 of the agenda book with the CEPAC Leg identified as the Ontong Java Plateau. (Motion Malpas, second Francis)

Vote: for 14; against 0; abstain 2

Note: this then is the approximate cruise plan for FY90

129	10/19-12/18 1989	2 mo.	Nankai
129E	12/23-1/21 1990	1 mo.	Engineering II
130	Feb.-Mar. 1990	2 mo.	Geochemical Reference
131	Apr.-May 1990	2 mo.	Ontong Java Plateau
132	June-July 1990	2 mo.	NE Australia Margin
133	Aug.-Sep. 1990	2 mo.	Vanuatu
134	Oct.-Nov. 1990	2 mo.	Lau-Tonga

Some concern was expressed that EPR Bare Rock Drilling was not in the FY90 plan. If this leg is to be drilled before FY92 then an engineering leg must be planned to prepare the site. The technological issues will also have to be resolved. Another concern was that place savers may need to be placed for the

second legs of some drilling programs (e.g. Nankai II). There is however the danger that this might make it seem these second legs are guaranteed, whereas their drilling must be based on results of the first leg.

Engineering Legs

The earlier discussion of Engineering Legs was continued. Engineering developments identified by PCOM and panels to have high priority for CEPAC and later programs are: drilling at high temperatures; drilling and recovery of young fractured crust; drilling and recovery of chert-chalk sequences; drilling and recovery of unconsolidated sediment (shallow-water carbonates; sands) and reefal limestones rubble; further testing of the diamond coring system aimed at the preceding; and testing of downhole instrumentation.

von Rad said that drilling and recovery of chert-chalk sequences has the highest immediate priority and the DCS should be used to solve the problem on the second engineering leg. He suggested the third engineering leg be devoted to solving problems of hot temperatures and fractured rocks. Piasias thought that high temperatures should be given the highest priority since this problem must be solved for the EPR drilling; high-temperature drilling could be tested either in sediments or bare rock. Langseth noted that a deep hole in the offaxis recharge zone of a hydrothermal system would not encounter high temperatures in the upper 1 km and could be accomplished without new engineering developments. An engineering leg could both set guidebases and do a drilling test in the high temperature zone. von Rad wanted to know if drilling hot conditions could be tested on land (Kilauea). Harding said that testing on land would not be the same as ocean drilling. Testing of some components would be possible, but there would be problems testing the heat exchangers.

Piasias emphasized that if deepening of 504B is to be accomplished before the end of the present program then an engineering leg devoted to hole preparation must be soon (early FY91). Kastner said that the highest priority should be testing of the DCS in hot rocks and fractured rocks to prepare for the EPR drilling. Garrison pointed out that transit times from the Western Pacific (Pago Pago) to the EPR and back would total about one month (or half a leg). Taylor suggested that the well-surveyed Bonin Rift (1700-2400 m depth) has both bare rock and sediments as well as hydrothermal vents and thus is suitable for a Western Pacific engineering leg. A deeper water test could be in the Mariana Trough (3500-4000 m depth) where Alvin observers located hydrothermal vents. Moberly suggested that a test of the DCS for drilling and recovering of chert-chalk sequences could also be done at Shatsky Rise, which is 2-3 days transit from the Bonins. Harding noted that vertical racking of drill pipe with the Diamond Coring System makes a substantial savings of time for tripping the pipe. The possibility was suggested that another drill ship could be hired to clean or deviate the hole at 504B on a "no cure-no pay" basis, but it was pointed out that the cost of hiring this out is not in the budget.

PCOM Consensus

The Second Engineering Leg (129E) should be a further test of the mining coring system with emphasis on drilling and recovery of fractured crust and chert-chalk sequences, with reefal limestones-sandy sediments added if there is time.

PCOM Consensus

The Third Engineering Leg (134E) should be aimed at meeting the science objectives in the Eastern Equatorial Pacific by preparing for drilling at 504B (clean or deviate hole) and EPR Bare Rock Drilling (set hardrock guidebases). It was noted that this leg, with a long transit, may require 60 days, which would be in about December 1990 and January 1991.

Other Drilling-Related Matters

Piasias asked that two items be addressed: (1) prioritization of the downhole measurements in the Japan Sea; and (2) what to do with the \$68K SOE contingency funds. Pyle said that the SOE amount is so small it could easily be used up by the DCS. Purchase of the Digital Borehole Televiewers remains

PCOM's intention for SOE funds. Since there was so little money and the costs associated with the DCS are only gross estimates, that may not be possible now.

A general discussion was held on the problem of downhole measurements proposed for site J-1b in the Japan Sea. Both an oblique seismic experiment (6.6 days) and an oblique electric resistivity experiment (2.6 days) were proposed for this hole. The oblique electric resistivity experiment did not get support from TECP although DMP had included it in the program in its 1987 minutes. The logistics of both experiments include the use of a second ship and has required considerable coordination, elimination of the resistivity experiment would be a disservice to Japan. DMP will be asked to review again the proposed oblique electric resistivity experiments at site J-1b. A written review of the experiment will be requested as soon as possible of Nigel Edwards by John Malpas who will then forward this report to Mark Langseth. Within a day of the DMP panel meeting a decision on whether or not to proceed with this experiment will be made by Ralph Moberly and Mark Langseth, with the consultation of Keir Becker, and transmitted to Lou Garrison for any appropriate scheduling changes.

755 New Drilling Vessel

Y. Lancelot presented information on the new French initiative to build a European drilling vessel. The scientific objectives, proposed technical approach, and data about the ship are given in the attached handout (Appendix N). The new ship is envisioned as being integrated into ODP with scientific advice by JOIDES, with either a full-time or part-time operation schedule. France is willing to stay in ODP and also participate in this project. The other European partners will be asked about their participation in this project. France would assume 30% of the cost. Management of the ship would be in Europe. Proposals for drilling would come from worldwide.

Thursday, 1 December 1988

Discussion

Malfait asked why there was only 200 days of ship use indicated. Lancelot said it was 200 days for drilling in a year; the rest of the time would be used for other projects. Malfait asked if the Charcot was being replaced with another new ship. Lancelot said a 85-m-long ship was being built that was equipped with a hanger for the Nautilie. The new ship will be operational in about a year and a half. It will be equipped with a new Seabeam system that has a 60-beam system.

von Rad commented that the European technological community favors building a big ship, but the European science community questions if enough manpower and funding is available for operating two drilling ships. Competing projects are already imperiling drilling funds in the FRG and the major decision about continuing ODP funding will coincide with money requests for this new project. Lancelot said he did not think manpower would be a problem, since there is a large geological community in France, Germany, Italy, and Britain which can be brought into the new project.

Francis said that NERC is concerned with building new UK research ships including a new Antarctic research vessel the James Clark Ross which is expensive (£40M). The Discovery also needs to be replaced, but a £10M refit will try to stretch the life. Lancelot said that France has modified an ice-breaking vessel which will be run by TAAF rather than IFREMER. In a few years there will be 4 icebreakers operating out of Europe.

756 Reviews of Drilling Legs

Leg 120

R. Schlich reviewed Indian Ocean Leg 120 on the Kerguelen Plateau. Leg 120 lasted from 21 February until 30 April, 1988 (69 days), with a total of 28 days spent on drilling operations. Reports have been published in both Geotimes and Nature. Leg 120 drilled 12 holes at 5 sites on the Kerguelen Plateau under hostile drilling conditions: waves >20 m, winds >65 kts, and 20° rolls of the ship. Recovery was only about

20% due to the unfavorable conditions. The objective of drilling was to recover Neogene, Paleogene-Mesozoic, and basement sections. Drilling results for Leg 120 sites 747, 748, 749, 750, 751 were presented. Site summaries and preliminary interpretations can be found in the Leg 120 Preliminary Report.

Discussion

The problem that logging took a much longer time than expected was discussed. Weather conditions and tool failures both played roles in the long logging times.

Leg 122

U. von Rad and B. Haq reviewed Indian Ocean Leg 122 on the Exmouth and Wombat Plateaus. von Rad thanked PCOM for allowing flexibility in moving drilling sites so that the best science could be accomplished. The basement of the Exmouth and Wombat Plateaus is foundered continental crust. Sites occupied on Leg 120 were 759, 760, 761, 764 on the Wombat Plateau, and 762 and 763 on the Exmouth Plateau. Drilling results for Leg 122 can be found in the accompanying handout (Appendix O).

Discussion

The site pre-review process was discussed. Much concern was expressed over the potentially dangerous conditions that were encountered during drilling on the Exmouth Plateau (Site 763) when a gas-rich sand was drilled. Site pre-review should have spotted this problem since it was previously noted by oil industry drilling at this location. PPSP will be asked to perform a post-mortem on the Leg 122 information.

Leg 123

L. Garrison provided a review of Leg 123 drilling in the Argo Abyssal Plain. Site 765, where there are suppressed M26 magnetic anomaly signatures, has drilled 931 m of sediments and 271 m of basalt. A brown, silty, hemipelagic claystone was found at the sediment contact with the underlying fresh glassy basalts which appear to be typical MORB. Recovery has been about 68% in the sediments and about 100% in the basement. VSP experiment did not have much success because of attenuation of signal and noise in the pipe. Single packer experiment was partially successful and found low permeability. Double packer failed due to packer mechanism mistake. The hole was cased to 31 m into the basement. Site 766 was rotary cored to 767 mbsf. Basement was encountered at 466 mbsf where a series of diabase intrusive sheets (40-50 m thick) of MORB affinity were found. Recovery was about 66% in sediments and reached 100% in basement. Three series of logs were run but ledging problems curtailed additional logging.

Leg 124

Garrison then described Leg 124 drilling in progress. The Celebes Sea hole (CS-1) was lost at the basement contact, when the pipe got stuck in turbidites and had to be severed (see also Minute 747 above). A medical evacuation caused some delay in the Sulu Sea (SS-2) drilling. Celebes-1 will be redrilled into basement if there is time.

Discussion

A discussion was held about the problem of medical evacuations and whether this is the result of more people on the ship or inadequate checking of health before going to sea. There is a problem with some of the subcontractors not requiring adequate reports on physical condition, but the illnesses which required medical evacuations probably could not have been detected beforehand. Medical staffing and facilities onboard the Resolution are in good shape.

757 Long-Range Planning Document

A discussion of the Long-Range Planning Document was led by its author, N. Pias. The document will be used as part of the proposal to renew ODP, for NSF and the non-US drilling partners. He identified

successful completion of the Nankai, EPR, and 504B Legs as being important for the future of the program, in order to demonstrate that ODP can plan and execute high ranking scientific programs that are technologically difficult. ODP is a long-range project; the thematic objectives of high-priority already have more than 100 proposals, which translates into over 17 years of drilling. A 50% increase in funding is not to be expected. An alternate drilling platform or another ship, while attractive, is not a reasonable expenditure, because as yet the long-range planning documents from the panels show little need for one. He also wanted it kept in mind that other global initiatives are starting to gather momentum and they will be competing with ODP for funding. The ODP approach is to deal with the earth as an interlinked global system, which can be divided into four main topics. Piasias expects panel chairmen will help to integrate their white papers and provide cross-reference to other documents (e.g. COSOD I & II) in the Long-Range Planning Document.

Discussion

There were some general questions about the funding of the present program. The Ocean Drilling Program has National Science Board approval through FY92 to spend money. The Memorandum of Understanding with each partner extends through FY93, so there will be drilling in 1993.

Questions were raised about when the final document would be ready and its distribution. The "final" document would be brought to the Spring PCOM meeting for last minute work and final approval. This is only three weeks before the EXCOM and ODP Council meetings. The document will be reproduced by JOI to be sent out to all interested scientists and international partners. Distribution will be sought as widely as possible. COSOD I & II documents will also be distributed to interested parties.

It was felt that the scientific aspects of downhole measurements were under-represented in the document. A charge was given to the DMP to prepare a section on scientific highlights of the logging program. Malpas said that Canada would be interested in the results that have come out of the program that are of value to industry. He was asked to prepare something on the technological developments and applications. Eldholm also thought that the technological achievements should be highlighted, especially the development of deep-water drilling technology and developments in downhole measurements which will help promote the program outside the academic community. Sparks volunteered TEDCOM to help with the section on technological developments.

Taira said that highlights of the Japanese scientists' contributions to ODP would be useful in Japan; this could be a one page summary of Japanese scientists' publications. von Rad said documenting the contributions of international partners is important for promoting the program.

It was thought that the Global Geosphere-Biosphere links were too vague; specific statements are needed about how ODP results can be used to study such topics as pollution, world-wide oceanic and atmospheric circulation, and environmental and climate change, with references to specific documents.

An executive summary is needed for the COSOD documents. Keep everything as clear and crisp as possible, with 2 or 3-sentence bullets used in the introduction to highlight exciting achievements.

Francis wanted to know if the budget was going to be based on steady-state funding. If so, do parts of the program have to be cut out? Piasias said that the emphasis was now on the proposed science objectives. The budget will be worked out after the ODP-TAMU and ODP-LDGO cost analyses are completed, which will be before the next PCOM.

Kastner suggested that PCOM show its appreciation of the work of the subcommittee and especially N. Piasias (and staff) in putting together the Long-Range Planning Document. A round of applause signified appreciation.

758 Four Year Planning Mode

PCOM cannot jump directly from its present thematic-priority regional-planning mode to a four-year thematic-priority all-ocean planning mode, as there are not enough mature proposals to jump into a three-year mode. The main item for the Spring 1989 PCOM meeting in Oslo will be planning the ship's general direction in a three-year mode (Spring 1989 to Spring 1992). By the following year (Spring 1990), panel reviews of new and existing proposals should allow PCOM to plan the general route for four years (Spring 1990 to Spring 1994).

Pisias said that the present challenge is to take the prospectus with nearly mature proposals and plan three years. This means that the thematic panels' rankings of thematic priorities of proposals become all-important for planning. New proposals will have to be integrated into the thematic rankings constantly. Eldholm said that he agrees that it will be hard to go directly to the new mode, but PCOM also has to open the program to all oceans after 1991. There may have to be some compromises at the Oslo meeting if there are no mature proposals for drilling in all oceans, but PCOM must show it is open to this new drilling. Malpas suggested that a "straw man" type setup be made at the Oslo meeting. As new proposals come in it may fall apart, but a schedule can be designed so the engineers will know when developments will be needed. Moberly pointed out that the existing PCOM commitment to 18 months of CEPAC drilling would carry through all but the last few months of the 3-year general planning at Oslo. Pisias suggested that the CEPAC prospectus plus any new proposals should be used for the ship track.

759 Detailed Planning Groups

Cowan asked if DPGs are needed to evaluate objectives. The need for DPGs was discussed. DPGs serve useful purposes such as: integrating the priorities of the thematic panels; insuring full evaluation of proposals; work on specific requirements of an individual hole; help improve program development; provide an overall flexibility; and assemble special expertise. That was the general basis for the following decisions.

PCOM Motion

(1) Retain the CEPAC panel membership as a Detailed Planning Group that reports to all thematic panels and (2) evaluate the CEPAC membership to determine if any other new Detailed Planning Groups are needed to provide advice in the CEPAC-area. (Motion Kastner, second Taira)

Vote: for 11; against 1; abstain 3 (absent 1)

During the discussion, Larson stated that slight addition or modification in the present CEPAC membership should allow it to provide detailed planning without creating new DPGs. [Present members of CEPAC are: Rea (Mich.); Beirsdorf (FRG); Davis (Can.); Flower (Ill.); Floyd (UK); Francheteau (France) Kroenke (HIG); Okada (Japan); Sancetta (LDGO); Schlanger (NW); Schrader (ESF); Sliter (USGS).] Another suggestion was that any new DPGs should report to PCOM before the May meeting.

Langseth advised PCOM that only accepted proposals or highly ranked thematic programs be the basis for DPGs. The purpose of a DPG is not to write proposals. PCOM should not create a Bering Sea DPG. Cowan said that the Bering Sea has excellent proposals and two panels have called for creation of a Bering Sea DPG. General discussion led to the following motion.

PCOM Motion

There will not be a Bering Sea-North Pacific DPG. The CEPAC DPG will ask for additional expertise as needed to evaluate the program. (Motion Pisias, second Eldholm)

Vote: for 14; against 0; abstain 1 (absent 1)

CEPAC needs to decide whether they have the necessary expertise to evaluate a Bering Sea program or if they need additional members. A report requesting changes in membership is to be submitted to

PCOM by the 2-4 May, 1989 PCOM meeting. Liaisons from OHP should be considered for providing additional expertise.

CEPAC needs to meet to keep the prospectus up-to-date and improve the drilling program. CEPAC should meet according to the work load. The next CEPAC prospectus is expected for the Summer PCOM Meeting. A new prospectus will not have to be prepared for the Spring PCOM Meeting in Oslo.

Discussion next shifted to WPAC and the following motion was made.

PCOM Motion

WPAC will be kept as a DPG, meeting as requested by PCOM to evaluate any new site information affecting the current drilling program, and reporting to PCOM. (Motion Piasias, second Malpas)

Vote: for 14; against 0; abstain 1 (absent 1)

Malpas asked if CEPAC could serve the same purpose as the EPR and Sedimented Ridges Working Group. Becker said that the EPR and Sedimented Ridges Working Group has almost completed their charge, only the EPR Bare Rock drilling proposal is left. Piasias said that it would be a shame to lose the critical mass of expertise assembled for the working group. Malpas asked if CEPAC should turn Sedimented Ridges over to the EPR and Sedimented Ridges Working Group. Shipley suggested that LITHP could make the necessary drilling decisions. Piasias said that the EPR and Sedimented Ridges Working Group has a "corporate history" of working with these problems and have worked out the experimental design for investigating hydrothermal systems. It was also observed that DPGs meet at the request of PCOM to address specific tasks, so they will meet only if necessary.

PCOM Motion

Create a Sedimented Ridges DPG (SRDPG) out of the existing Working Group to deal with existing proposals for EPR Bare Rock Drilling and Sedimented Ridges and which reports to LITHP, SGPP and TECP. (Motion Piasias, second Malpas)

Vote: for 9; against 1; abstain 5 (absent 1)

SRDPG members are to use their special expertise to help develop a drilling program using the existing proposals and not to write new proposals. CEPAC will turn over the Sedimented Ridges proposals to SRDPG to ensure that the drilling program is correctly prepared. Moberly is to ask R. Detrick if he is willing to continue as chairman of the SRDPG. The membership of this DPG is to remain the same as the overlapping EPR and Sedimented Ridges Working Group.

The general agreement of PCOM was that the Fluid Processes in Accretionary Prisms Working Group should not meet again until the initial report of this group has been circulated. Their status was left in abeyance until PCOM decides if further work is necessary.

760 Watchdog Assignments

The following watchdogs have been assigned to keep track of CEPAC drilling proposals:

J. Malpas	Hawaii Flexure
O. Eldholm	Chile Triple Junction
D. Cowan	Cascadia Accretion
A. Taira	Old Pacific
B. Tucholke	Atolls and Guyots
M. Kastner	Ontong Java Plateau
M. Leinen	Eastern Equatorial Pacific
Y. Lancelot (alt. J. Watkins)	North Pacific Neogene
Y. Lancelot (alt. J. Watkins)	Bering Sea History

H. Jenkyns
 J. Malpas
 G. Brass
 M. Langseth & M. Kastner
 R. Moberly

Shatsky Rise
 Lower Crust at 504B
 EPR Bare Rock Drilling
 Sedimented Spreading Centers
 Young Hotspots: Loihi

It was suggested that forms need to be established for the watchdogs so that a more uniform way of keeping track of advanced proposals can be implemented. Tuchoke and Moberly will draft forms.

Friday, 2 December 1988

761 Jack-up Mobile Platform

In view of such potential ODP drilling as in atoll lagoons, R. Ginsburg spoke about the possible use of a jack-up mobile platform (R/V JUMP) for drilling and recovery of sediments from shallow carbonate banks such as the Bahama Bank. The platform is a self-propelled barge with three hydraulically operated legs that can be operated in up to 200 feet of water. The platform carries enough drill pipe to reach 1000 meters, and additional pipe can be carried on another barge. Chartering cost for the platform is \$5000/day with crew. The drilling rig and crew must be supplied. Drilling of atolls and shallow carbonate banks are used for studies of sea level change and evolution of carbonate platforms. Industry is interested in the studies because they help interpret seismic patterns on these structures. A RSMAS drilling program using one of these rigs is planned for next year with support coming from both NSF and industry.

762 PCOM Liaisons to Panels

The following liaisons were established between PCOM and panels.

	TECP	LITHP	SGPP	OHP	TEDCOM	IHP	SSP	SMP	PPSP	DMP
G. Brass		*			*					
D. Cowan										*
O. Eldholm	*									
H. Jenkyns				*						
M. Kastner			*							
Y. Lancelot						*	*			
M. Langseth				.						*
M. Leinen								*		
J. Malpas		*								
R. Moberly									*	
N. Pias				*		*				
T. Shipley										
A. Taira								*		
B. Tuchoke	*									
U. von Rad			*							
J. Watkins							*			

The following liaisons were established between PCOM and DPGs:

M. Langseth and M. Kastner	SRDPG
M. Leinen and R. Moberly	CEPAC
A. Taira	WPAC

It was reaffirmed that DPGs report to Thematic Panels who report to PCOM by way of the PCOM Chairman or the PCOM Liaison to the Thematic Panel.

763 New Panel Members

TEDCOM New person to be invited to join TEDCOM is Prof. Heinrich Rischmüller, providing KTB Drilling Group pays his expenses, which von Rad said would be the case. New international partner panel members are: J. Bonnasse-Gahot (France), A. Milton (UK), and H. Strand (ESF).

SSP R. Kidd (UK) was nominated as the new SSP chairman to replace G. Mountain. PCOM Chairman is to ask USSAC for nominations for a U.S. panel member with expertise in petroleum geology. New international partner panel members are: K. Loudon (Canada) and G. Pautot (France). SMP panel member F. Duennebier is rotating off USSAC, but PCOM member J. Watkins (SSP liaison) is still a USSAC member. A liaison between SMP and SSP still needs to be nominated. PCOM reaffirmed its policy that persons serving as NSF program officers are disqualified from membership in JOIDES panels.

LITHP R. Batiza will be the new LITHP chairman. New persons to be invited to join LITHP are: Don Forsyth (1st choice), J. Phipps Morgan (2nd choice) or Marc Parmentier (3rd choice) to replace M. McNutt; and Guy Smith (1st choice), P. Johnson (2nd choice), or M. Tivey (3rd choice) to replace N. Petersen. New international partner panel member is: S. Cloetingh (ESF). Suggested LITHP liaisons to other panels, M. Perfit-CEPAC, D. Forsyth-TECP, L. Cathles-SGPP, were accepted.

IHP New persons to be invited to join IHP are: H. Spall (1st choice), J. Aaron (2nd choice) or E. Smith (3rd choice) to replace M. Latremouille. Others suggested are R. Buchanan, J. Thyfault, R. Cole, and P. Ryan. IHP wants someone with managing-editor skills. New international partner panel members are: J. Sanders (ESF), A. Schaaf (France), K. Tamaki (Japan). Someone may be needed to replace I. Gibson's expertise in computers.

SGPP E. Suess is the new SGPP chairman. Transfers from SOHP are: P. Froelich, M. Goldhaber, L. Mayer, and W. Normark. After considerable discussion, H. Elderfield will transfer from LITHP and remain a member-at-large, and new nominees are: N. Christie-Blick or J. Thorne; N. James; F. Prah; and S. Dreiss. New international partner panel members are: J. Boulegue (France), F. Masuda (Japan), J. McKenzie (ESF), J. Mienert (FRG), and D. Stow (UK). The panel is directed to make an evaluation of the expertise of its membership in regards to meeting its mandate, and report for the next PCOM meeting.

OHP N. Shackleton is the new OHP chairman. Transfers from SOHP are: W. Berger, A. Droxler, R. Garrison, D. Kent, R. Stein, T. Saito, E. Vincent. New nominees are: A. Mix or L. Peterson; M. Delaney or E. Boyle; W. Berggren or J. Lipps; E. Baron or J. Parish. New international partner panel member is: E. Jansen (ESF).

TECP TECP had pointed out the need for replacements but made no specific new membership recommendations. PCOM recommendations and decisions will be deferred until after the next TECP Panel meeting. New international partner panel member is: H.C. Larsen (ESF).

DMP New invitees to join DMP are: R. Morin (physical properties), J. Gieskes (sampling fluids and chemistry), P. Lysne (high temperature work). PCOM decided that M. Hutchinson (industry logging experience) be reconsidered when E. Howell leaves panel in one year. New international partner panel members are: J.P. Foucher (France) and O. Stephansson (ESF).

SMP K. Moran is the chairman of the new SMP. New person to be invited to join the SMP is M. Mottl for his expertise in shipboard chemical measurements. New members who were previously invited to join and have accepted are: J. King, M. Rhodes and E. Thomas. New international partner panel members are: I. Gibson (Canada), A. Richards (ESF), H. Tokuyama (Japan) and J.P. Valet (France). Francis says the UK will try to nominate someone with underway geophysics experience.

It was decided that Panel Chairman should make specific nominations for any necessary liaison between panels and DPGs.

764 Co-Chief Scientist Nominations

The following are the PCOM recommendations for Co-Chief Scientists, based on the nominations by WPAC, CEPAC and SOHP, with such modifications by PCOM and international partners as are indicated. Those who are not US are so indicated.

Geochemical Reference

C. Langmuir, J. Natland, H. Staudigel, M. Leinen, M. Salisbury (Canada), F. Alberede (France), R. Kay
From the initial panel list, Francis for the UK withdrew the nomination of A. Robertson. PCOM added Kay to the list. J. Natland got a strong endorsement.

Ontong Java Plateau

L. Mayer (Canada), W. Berger, N. Shackleton (UK), J. Resig, L. Kroenke, L. Peterson, W. Curry. PCOM added Peterson and Curry to the list.

NE Australia Margin

P. Davies (Australia), P. Symmonds (Australia), R. Sarg, A. Droxler, J. McKenzie (ESF), A. Bosselini (ESF), W. Schlager (ESF), R. Ginsburg, N. James (Canada), J. Ladd. PCOM added Ladd to the list. Canada indicated its first choice is Davies. ESF listed this priority: 1 McKenzie; 2 Bosselini; 3 Schlager.

Vanuatu

J-I. Collot (France), M. Fisher, H.G. Green, J. Recy (France), S. Bloomer, D. Falvey (Australia), L. Kroenke. PCOM added Falvey and Kroenke to the list. France's priority is: 1 Collot; 2 Recy.

Lau-Tonga

J. Hawkins, J. Gill, J. Erzinger (FRG), L. Parson (UK), H. Foucher (France), D. Scholl, S. Bloomer, A. Stevenson. From the initial panel list, Francis for the UK withdrew the nomination of D. Cronan, and von Rad for FRG replaced U. von Stackelburg with J. Erzinger.

765 Remaining Agenda Items

In the new thematically driven program, all thematic panels should evaluate all proposals, but if the proposal is outside of the panel's mandate they can indicate they have no interest in it.

There will be a Guidelines Special Issue of the JOIDES Journal giving new information on panel mandates. The JOIDES Journal will go back to the old format and publish an updated membership directory in each issue.

Moberly asked everyone to read item M in the agenda book, The JOIDES Planning Year. Panel Chairman should especially take note that having panel meetings as short as two weeks before PCOM meetings makes it hard to incorporate panel advice into the agenda.

Pisias was concerned that PCOM and panels should be preparing to plan Eastern Pacific drilling at the next Annual Meeting. He recommended that the SRDPG be given the specific charge of starting to prepare for a hydrology leg for the Sedimented Ridge program (as recommended by LITHP) and CEPAC be given the specific charge of starting to prepare a leg for the Cascadia program. Moberly said that the minutes will reflect that specific charges will be given when the meetings are requested.

Langseth said that two other nearly mature programs should also be included, one leg of drilling on the EPR and one leg for the Eastern Equatorial Pacific Neogene. Both of these programs should have site specific surveys by the PCOM Annual Meeting, and a cost analysis should be done as well.

Pisias said that this process should start as soon as possible, and proponents of these programs should also be aware that they are being considered for drilling. Langseth emphasized that this should not be taken to indicate that they are in the drilling program, but only that they are under serious consideration.

Moberly asked if there were any institutional recommendations or comments to the letter from EXCOM Chairman Helsley concerning balanced discipline representation on PCOM and the possibility of longer terms for PCOM members. Kastner said that a letter had been sent by Scripps to the EXCOM Chairman. Cowan said the University of Washington sees no compelling reason to extend PCOM membership beyond 4 years.

Concerning the letter from C. Sancetta on a separate electronic-mail bulletin board for JOIDES, E. Kappel said that there is an Drilling Bulletin Board on OMNET and JOI will consider one on KOSMOS. BITNET has no bulletin boards. Moberly asked Kappel to talk to Sancetta about the matter.

Moberly called attention to the information on the new JOIDES Planning Office at the Hawaii Institute of Geophysics. Important for speedier mail are the street number, 2525 Correa Road, and the zip code, 96822.

von Rad was concerned about communications concerning who would or would not be able to attend meetings, since alternates need to be contacted to cover the meeting. The JOI Office in Washington keeps track of this information. Moberly said the JOIDES Planning Office can be contacted if there is a problem contacting JOI.

766 Future PCOM Meetings

1989 Spring PCOM Meeting will be from 2-4 May 1989 in Oslo and will be hosted by the ESCO-secretariat.

1989 Summer PCOM Meeting will be from 22-24 August 1989 in Seattle and will be hosted by the University of Washington. US PCOM members will be asked to attend the USSAC meeting that will overlap on the following day.

1989 Fall Annual PCOM Meeting will be a four day meeting from 27-30 November 1989 in Woods Hole and hosted by WHOI.

1990 Spring PCOM Meeting will be from 24-26 April 1990 in France.

O. Eldholm went over the plans that are being made for the Oslo meeting (Appendix P). Preliminary arrangements are being made to hold the meeting at the Conference Room at the Voksenåsen Hotel in the hills above Oslo. A two-day field trip is being planned which includes the Oslo Rift and a range of geologic topics. Eldholm will help arrange accommodations for those arriving early or staying on after the meeting. A questionnaire concerning travel plans, hotel accommodations and field trip will sent out by Eldholm in January.

767 Other Business

PCOM Consensus

The PCOM chairman should ask the IOP chairman (R. Schlich) to convene a panel meeting including invited guests consisting of Leg Co-Chief Scientists, Science Operator, Bore Hole Research Group, and others as needed to examine the objectives and achievements of the Indian Ocean drilling program and the causes and possible remedies for any disparities between the objectives of drilling and the results thereof and to provide a report to PCOM on their findings before the 2-4 May, 1989 PCOM meeting. In addition a second report emphasizing the exciting thematic results of Indian Ocean drilling should be prepared for publication in EOS as soon as possible.

PCOM also decided that in general at the end of a regional planning group's task that a meeting such as the one proposed for the IOP be held as a "post-mortem", to examine the drilling objectives and achievements of that program, including technical and logistical problems and their possible solutions.

Taira wanted the problem of publications placed as an agenda item for the Oslo PCOM Meeting. Japanese participants on ODP legs would like to publish their data as soon as possible. Moberly said that this will be a major agenda item.

PCOM Consensus

PCOM urges that the acquisition of two Digital Borehole Televiewers be advanced to the earliest time possible so that an improved stress-measurement program can be implemented.

768 Conclusion of the Meeting

The Planning Committee expressed appreciation to the following persons and groups of individuals:

Jean-Paul Cadet, Tim Francis, and Steve Gartner for their dedicated service on PCOM.

Nick Piasias and his subcommittee for their efforts in developing the Long-Range Planning Document.

Doris Rucker who is retiring from the JOI office and whose help over the years has benefitted us all and deserves recognition.

Keir Becker for "pitching in" and organizing logistics for this meeting, and also to Chris Harrison who graciously extended the RSMAS facilities and made our stay here more pleasant.

Outgoing Panel Chairmen Jamie Austin (ARP), Peter Barker (SOP), Bob Detrick (LITHP), Larry Mayer (SOHP), Roland Schlich (IOP), and Brian Taylor (WPAC) for their stewardships.

The Lau Working Group for its efforts.

Members of the regional panels (ARP, IOP, SOP) which have been disbanded and those other panel members who are leaving.

The 1988 Annual PCOM Meeting was adjourned at 1:10 p.m.

JOIDES PLANNING COMMITTEE SPRING MEETING
2-4 May 1989
Voksenåsen Hotel
Oslo, Norway

Executive Summary

Members:

R. Moberly (Chairman) - Hawaii Institute of Geophysics
G. Brass - University of Miami
D. Cowan - University of Washington
O. Eldholm - University of Oslo, ESF Consortium
D. Falvey - BMR, Australia (for J. Malpas)
H. Jenkyns - Oxford, United Kingdom
M. Kastner - Scripps Institution of Oceanography
Y. Lancelot - University Pierre et Marie Curie, France
M. Langseth - Lamont-Doherty Geological Observatory
M. Leinen - University of Rhode Island
N. Pisiias - Oregon State University
T. Shipley - University of Texas at Austin
A. Taira - Ocean Research Institute, Japan
B. Tucholke - Woods Hole Oceanographic Institution
U. von Rad - BGR, Federal Republic of Germany
J. Watkins - Texas A&M University

Liaisons:

L. Garrison - Science Operator (ODP-TAMU)
R. Jarrard - Wireline Logging Services (ODP-LDGO)
B. Malfait - National Science Foundation
T. Pyle - Joint Oceanographic Institutions, Inc.

Guests and Observers:

M. Cita-Sironi - University of Milano, Italy
E. Kappel - Joint Oceanographic Institutions, Inc.
M. Storms - ODP-TAMU Engineering
J. Thiede - GEOMAR, Federal Republic of Germany

JOIDES Planning Office:

L. d'Ozouville - Executive Assistant and Non-U.S. Liaison
G. Waggoner - Science Coordinator

Introduction

PCOM Chairman Ralph Moberly called the 1989 Spring Meeting of the JOIDES Planning Committee to order. Olav Eldholm welcomed everyone to Norway on behalf of the NAVF, the ESCO-Secretariat, and the Institutt for Geologi of the University of Oslo. Eldholm explained logistics including a dinner party hosted by the NAVF. A field trip led by Bjørn Larsen of Statoil Stavanger was planned for Friday and Saturday to visit the Oslo Rift.

Discussions and Actions Taken By PCOM

PCOM Motion

PCOM approves the minutes of the 28 November-2 December 1988 Planning Committee meeting with amendments. (Motion Kastner, Vote: for 16; against 0; abstain 0)

PCOM Motion

PCOM adopts the agenda for the 2-4 May 1989 Planning Committee meeting with amendments. (Motion Pisas, second Brass) Vote: for 16; against 0; abstain 0

Reports were given by the ODP Liaisons to PCOM. B. Malfait from NSF gave an update on the NSF budget and new US oceanographic research vessels. T. Pyle from JOI reported on how the ODP FY90 budget was produced. The budget includes \$1.5 M in SOE which are already committed. \$53K of the SOE is for publishing the LRP and includes "seed money" for thematic publications. Pyle also discussed possible JOIDES liaisons with other global science initiatives, and the response to PEC II. Pyle and Moberly reported on the BCOM meeting. L. Garrison gave the Science Operator report on ship operations and staffing of cruises. R. Jarrard gave the Wireline Logging Services report. The TAM wireline packer continues to have development problems and may not be ready for the Nankai Leg.

Reports were presented by the PCOM liaisons to: the thematic panels, LITHP by G. Brass; OHP by G. Brass; SGPP by M. Kastner; TECP by O. Eldholm; service panels, DMP by R. Moberly; IHP by Y. Lancelot; SMP by M. Leinen; SSP by T. Shipley; PPSP by R. Moberly; TEDCOM by J. Watkins; and detailed planning group CEPAC by R. Moberly.

Arctic drilling was discussed by J. Thiede. He presented the scope and present status of the proposed drilling program that is developing within some countries. The presentation was followed by a general discussion.

Engineering developments at TAMU were discussed by M. Storms, including principal systems under development, and results of the tests completed on the Engineering Leg. The test of the Diamond Coring System on Leg 124E proved that it was capable of operating on the Resolution in rough seas,

however lack of a suitable drilling site prevented a good test of its ability to improve core recovery.

The relative costs to achieve compatibility between hole size and logging were presented, assuming the Diamond Coring System is deployed on the Resolution. Estimates by ODP-TAMU Engineering for reaming a 4 inch diameter hole to 7.5 inches are 17.5 additional days of drilling time at an additional cost of \$76K for hardware. It was noted that reaming has its own particular drilling problems including sticking the pipe. The estimated cost for increasing the size of the Diamond Coring System hole to 5 inches is \$2.72M and requires 2-3 weeks in dry dock for modifications to the Resolution. Drilling a hole greater than 6.5 inches in diameter with the Diamond Coring System requires extensive modifications to the Resolution. R. Jarrard for WLS provided an estimate of \$60K per leg to rent a basic logging tool assembly for a 4 inch diameter hole, however this sacrifices a considerable amount of information which is obtained with the logging tool suite currently in use. Modifying the present tools for use in a 4 inch hole would be prohibitively expensive and in some cases difficult to impossible to achieve. With the current budgets a choice between renting tools for high temperature logging and logging 4 inch holes would also have to be made. An increase in funding appears to be necessary to achieve compatibility between hole size and logging if the Diamond Coring System is used. A further cost analysis on drilling a 4 inch hole with the Diamond Coring System for core recovery with a second conventional hole for logging purposes (with no coring) will be prepared for the next PCOM meeting.

A report of 11 April meeting on high-temperature drilling was submitted.

PCOM watchdogs for CEPAC programs reported on their maturity.

Discussion of the Nankai program in regards to the status of the geotechnical instruments occupied a considerable amount of time. Even though the drilling leg would benefit from the use of the instruments under current development, it was agreed that the scientific objectives of the Nankai Leg can stand on their own without the Geoprops probe; therefore the program was left in the FY90 drilling program.

PCOM Motion

PCOM reaffirms its previous motion made at the Miami PCOM meeting to accept in the FY90 drilling program a Nankai Leg consisting of drilling sites NKT-1 and NKT-2 and downhole experiments independent of the availability of the Geoprops tool. (Motion Piasias, second Watkins)

Vote: for 13; against 0; abstain 2; absent 1

PCOM Motion

Schedule the Nankai Leg to be immediately after the dry dock. (Motion Brass, second Leinen)

Vote: for 0; against 12; abstain 3; absent 1 (Failed)

Engineering-Development Legs were extensively discussed and the following decisions were made.

PCOM Consensus

PCOM affirms the use of the ship's time for testing of engineering developments in joint science-engineering legs or within a scientific leg, as opportunities and the stage of developments allow. PCOM in consultation with ODP-TAMU Engineering and with the advise of JOIDES Panels, will establish priorities for these legs, check that preparations for tests are adequate, and determine if the necessary site surveys are available for proper site selection. There will be both an engineer and a science co-chief on the engineering development legs. Staffing of these legs should include JOIDES panel members or other scientists concerned with the long-term engineering development goals, and proponents of the particular engineering development undergoing tests. Engineering operations will have priority on these legs.

PCOM Consensus

Engineering legs will not be given an "E" designation, but will be sequentially numbered along with the scientific drilling legs.

Further rescheduling of the FY90 program was also debated. Because of its higher thematic ranking, the Old Pacific Leg was substituted for the Geochemical Reference Leg previously scheduled for FY90. It was suggested that results from drilling the Old Pacific Leg will help to improve any future Geochemical Reference Leg. These discussions led to the following motions and consensus.

PCOM Motion

Remove Atolls and Guyots from consideration for the the FY90 drilling program. (Motion Leinen, second Eldholm)

Vote: for 12; against 0; abstain 3; absent 1

PCOM Motion

Remove Old Pacific from consideration for the FY90 drilling program. (Motion Kastner, second Brass)

Vote: for 6; against 6; abstain 3; absent 1 (Failed)

PCOM Motion

PCOM adopts the following approximate schedule for the FY90 drilling

	129	Nov.-Dec. 1989	2 mo.	Old Pacific
	130	Jan.-Feb. 1990	2 mo.	Ontong Java Plateau
	131	Mar.-Apr. 1990	2 mo.	Nankai
	132	May -June 1990	2 mo.	Engineering (Shatsky, MIT, Mariana)
	133	July-Aug. 1990	2 mo.	NE Australia Margin
	134	Sep.-Oct. 1990	2 mo.	Vanuatu
	135	Nov.-Dec. 1990	2 mo.	Lau-Tonga

(Motion Brass, second Langseth)

Vote: for 12; against 0; abstain 2; absent 2

PCOM Consensus

Following Leg 135 there will be a transit of the Resolution eastwards across the Pacific to Site 504B and East Pacific Rise to prepare for drilling in these

PCOM Consensus

Having issued a call for proposals, PCOM is reluctant to plan the general position of the vessel beyond 1991 until there is reasonably sufficient opportunity for new and revised proposals to be submitted for thematic evaluation and ranking. Thematic panels will meet twice (early fall 1989, late winter 1990) before spring 1990, when PCOM will determine the general direction of the vessel through spring 1994.

PCOM Motion

PCOM will schedule the general ship track for calendar year 1991 from among the following list of programs given high priority by the thematic panels: Cascadia Accretionary Prism; Chile Triple Junction; Eastern Equatorial Pacific Neogene Transect; East Pacific Rise Bare Rock Drilling; Hydrothermal Processes at Sedimented Ridge Crests; Lower Crust at Site 504B. (Motion Brass, second Kastner)

Vote: for 13; against 0; abstain 2; absent 1

The request by UK biological scientists to the Science Operator to conduct C¹⁴ radiotracer experiments, on a third APC core collected for this purpose, onboard the Resolution generated considerable controversy. PCOM was concerned that another experiment was being conducted that had not gone through the proper review by appropriate JOIDES panels and which had not received PCOM approval. There was great concern that radioisotope reagents (as opposed to the sealed sources in logging tools) were going to be used onboard the Resolution, in view of the possible contamination of the vessel. Taira pointed out that without proper approval from Japan, the use of these radioisotopes could prevent the Resolution from entering Japanese harbors. It was agreed that a formal policy on the use of enriched stable and radioactive isotopes is needed for the Resolution. The importance of this experiment towards broadening the scientific community participation in

ODP was recognized. It was suggested that alternative laboratories to the Resolution's could be used to conduct these experiments, either onshore or on another vessel. These discussions produced the following motion and consensus.

PCOM Motion

Neither enriched stable nor radioactive isotope reagents will be brought onboard the Resolution until such time as the Shipboard Measurements Panel provides satisfactory guidelines for their use to the Planning Committee. (Motion Brass, second Falvey)

Vote: for 12; against 0; abstain 4

PCOM Consensus

PCOM endorses the use of ship time for obtaining a third APC core for the UK bacteriological experiment. However, the proposed experiments using C¹⁴ radiotracers cannot be done at this time on the Resolution. Use of laboratories on another ship or shore-based laboratories is recommended for the C¹⁴ radiotracer experiments.

The problem of publications was extensively discussed since a major criticism of reviewers of ODP has been the delay in publication of Initial Reports and Scientific Results, as well as the lack of thematic (synthesis) publications. Related is the problem that ODP publications have not become fully accepted as peer-reviewed literature, especially outside the drilling community. There is strong sentiment among some that policy be changed to favor a more immediate and unrestricted publication in the open literature. Policy should be to return to the style and guidelines of DSDP days, which could even be speeded up because so much work can now be done onboard ship with computers. PEC II recommended that Part A [Initial Reports] be published so as to appear within one year of the end of the cruise, "even if this means some sacrifice in appearance and makes for unhappy paleontologists." Two-thirds of respondents to the IHP survey thought IR publication could be accelerated by 1 to 4 months. The present schedule calls for 14 months, but the IRs are appearing about 16 to 18 months post-cruise. With most IR material now ready for publication at the end of a leg, the main requirements for time seem to be for (1) biostratigraphic adjustments, (2) preparing or improving illustrations, (3) editing, and (4) printing and binding.

PEC II also suggested that "every effort be made to publish [Part B, the Scientific Results] in less than 30 months." Sixty per cent in the IHP poll thought the results should be published less than 30 months post-cruise; only 5% said 36 months or more. At present, 36 months is the target, but about 45 months is the actual time to appearance of the SR volumes. A major delay is post-schedule receipt (or non-receipt) of manuscripts from authors.

PCOM Motion

PCOM endorses the publication policy outlined below and forwards it to EXCOM for adoption by ODP. (Motion Brass, second Eldholm)



Vote: for 14; against 0; abstain 2

**ODP Publication Policy**

In order to provide a framework for more timely publication, both in the ODP literature and in the open literature, while maintaining the integrity of the Scientific Results volumes, PCOM recommends the following policies for publications.

- A. The Initial Reports volume will be scheduled to appear within one year of the end of a drilling leg. A small meeting of the co-chief scientists and key personnel, about 3 or 4 months post-cruise, will refine, edit, and complete the Initial Reports volume, which essentially will be what had been written onboard ship.
- B. The Scientific Results volume will be scheduled to appear 30 months from the end of a drilling leg. The volume can be composed of contributions directly to the volume, as well as reprints and preprints of publications submitted to the open reviewed literature. These latter two options are subject to the following restrictions:
 1. Any submission for publication within 12 months post-cruise must have had its authorship and theme agreed to by a consensus of the scientific party before the end of the cruise. The co-chief scientists will examine the manuscript to ensure that the agreement about theme and authorship has been fulfilled.
 2. Any submission for publication between 12 months post-cruise and the fulfillment of the author's obligation to the Scientific Results volume must have had its theme and authorship agreed to by a consensus of the scientific party at the main post-cruise meeting. The co-chief scientists will examine the manuscript to ensure that the agreement about theme and authorship has been
 3. After the author's contribution to the Scientific Results volume has been accepted, authors may publish at will in the open
- C. Within this policy framework PCOM will direct its Information Handling Panel to advise it of more detailed guidelines. They will include for example, issues regarding copyright, site-survey publications, lead times to meet publication dates, and editorial policy including the need for an editorial review board.

The subcommittee of PCOM on Thematic Publications chaired by M. Leinen made recommendations. Thematic publications should cover multiple-leg topics, focus on themes (e.g. processes, conceptual models, environments, history), and highlight ODP results in the framework of their influence and contributions to science. They suggest a "Dahlem conference model", where papers are submitted in advance as a pre-requisite for attendance; papers evolve as a result of interactions; volumes of papers are published quickly; and is a model familiar to geoscientists. Thematic panels would suggest appropriate themes. To begin with funding would be from co-mingled sources (estimate around \$50K). Negotiate publications with publishers such as AGU or Kluwer which have experience with these types of publications. Other funding sources will eventually take over when conferences are well established. Thematic symposia at meetings are also to be encouraged, especially those that result in special issues of journals. PCOM has asked the thematic panels to take the lead toward thematic publications. The PCOM chairman and PCOM liaisons will keep reminding panels of this responsibility.

Third Party Tool policies were discussed. Keir Becker wants to turn over to ODP-TAMU the operation and maintenance of the drillstring saddle packer that he developed. Because that would involve future support by co-mingled funds rather than by US funds alone, any transfer should first be approved for reasons of scientific value by DMP (they have done so) and for policy by PCOM. TAMU Engineering has agreed to accept the packer for routine operations. The Downhole Measurements Panel has suggested guidelines for monitoring third party tools.

PCOM Motion

PCOM accepts the Down Hole Measurements Panel's recommendation that the operation and maintenance of the drillstring straddle packer developed by Keir Becker be turned over to ODP-TAMU. (Motion Piasias, second Langseth)

Vote: for 14; against 0; abstain 2

PCOM Motion

PCOM accepts the guidelines for monitoring third party tools suggested by the Downhole Measurements Panel. (Motion Langseth, second Cowan)

Vote: for 11; against 0; abstain 4; absent 1

Some rewording of panel mandates have been proposed.

PCOM Motion

PCOM recommends and forwards to EXCOM for approval the following proposed rewording of mandates:



- 1) The Technology and Engineering Development Committee was concerned that it is described as responsible for ensuring, rather than for recommending, the proper tools. In section 5, paragraph 1, change *ensuring that* to *recommending to the Planning Committee*, so that

the paragraph now reads "The Technology and Engineering Development Committee (TEDCOM) is responsible for recommending to the Planning Committee the proper drilling tools and techniques to meet the objectives of ODP drilling targets, especially those for achieving highly-ranked objectives identified in ODP long-range planning."

- 2) Shipboard Measurements Panel noted that an important shipboard activity was left out in last year's attempt to stuff all activities into the mandate. In section 7.6.2(d), add *paleontological* and *micropaleontological* to the listing so that the paragraph now reads "(d) Petrological, mineralogical, sedimentological, biological, paleontological, micropaleontological, organic and inorganic geochemistry analysis, and such equipment as microscopes for
 - 3) Ocean History Panel requested that the phrase *ocean paleoproductivity* replace the phrase *sedimentation patterns* in view of the fact that this concisely describes one area of particular concern, so that section 4.5 now reads: "(a) Long-term history and driving mechanisms of the evolution of the ocean, atmosphere and biosphere. Central to this theme are relations among plate tectonics and ocean paleocirculation, ocean paleoproductivity, global paleoclimates, glacial and ice-sheet evolution, sea level change and its
- (Motion Langseth, second Eldholm)

Vote: for 15; against 0; abstain 1

The Long Range Planning document was reviewed and some minor suggestions were made.



PCOM Motion



PCOM endorses the Long Range Planning document and forwards it to EXCOM for adoption by ODP. (Motion Leinen, second Brass)



Vote: for 16; against 0; abstain 0

The problem of liaisons was discussed. In many instances the need to exchange information more rapidly and completely than by mailed minutes requires liaison by individuals at meetings. The cost in man-hours and travel funds, however, may outweigh the usefulness of liaison. The recent change in the number of thematic panels and the elimination of regional panels, has led to some important gaps in liaison. There has been some confusion on liaison procedures. In many instances it may be more appropriate to ask for a guest or guests to attend a meeting to provide specific information, rather than have a formal liaison. The attempt to provide mutual information and cooperation between JOIDES and other large international programs in the earth and marine sciences will require liaison or some sort of ad hoc committees.

PCOM Consensus

Having previously accepted the principle of double liaisons between certain thematic panels, the suggested liaisons are approved. Other liaisons between panels will be approved on an *ad hoc* basis by the PCOM Chairman. PCOM reaffirms that panel liaisons to or from DPGs are not acceptable and that having panel members on DPGs is preferred to

PCOM Consensus

Establishment of liaisons between ODP and other international science efforts is desirable. If acceptable to these organizations, liaisons will be overlapping members of the JOIDES advisory structure and these other

The problems associated with choosing Co-Chief Scientists and scientific staff had considerable discussion.

PCOM Consensus

Because the Science Operator is no longer obligated to select the co-chief scientists from the rankings provided by PCOM and because ODP is now driven by thematically ranked scientific drilling proposals with the need to encourage proponents to invest the time and effort necessary to bring drilling proposals to maturity, PCOM recommends to EXCOM for forwarding to the ODP Council a change in emphasis for choosing the co-chief scientists on drilling legs away from maintaining a political balance and more towards encouraging the participation of the primary science proponents without regards to nationality. The same recommendation holds for the staffing of the remainder of the scientific party. The wording of the MOU allows this flexibility.

Some miscellaneous business decisions were made. Present core-sampling policy is so restrictive that it causes problems in obtaining the necessary sampling density for many isotopic and paleomagnetic studies of sedimentary sections and petrological studies of igneous cumulate sections. For the sedimentary sections adequate sampling is not allowed unless a section has double or triple coring runs, thus creating difficulties in scheduling logging and additional sites in a leg.

PCOM Consensus

PCOM in principle endorses the use of cores for high resolution studies. The Information Handling Panel is asked whether a change in sampling density, additional APC cores or other policy is recommended.

PCOM Consensus

PCOM has no objections to the Pollution Prevention and Safety Panel conducting a safety review of the non-ODP drilling of the Bahamas Bank proposed by Robert Ginsburg.

Panel membership decisions were made for the following panels.

LITHP is directed to examine their expertise to see if the present membership is adequate.

OHP new person to be invited to join the panel is Lisa Pratt. To complete his term of panel membership Larry Mayer can attend the fall OHP meeting as a member of the panel. A new panel member with seismic interpretation expertise needs to be nominated for next year.

SGPP needs to evaluate its membership and make suggestions.

TECP new persons to be invited to join panel are Eldridge Moores, Kim Klitgord, and Dale Sawyers.

DMP new person to be invited to join the panel is Mark Hutchinson.

IHP new persons to be asked to join the panel are Will Sager and Bill Riedel.

PPSP members are asked to designate alternates who can cover meetings when they are unable to attend.

SMP has a new international partner member from the UK, R.B. Whitmarsh.

SSP new persons to be invited to join the panel are Jim Hedberg, Kim Kastens and Dick von Herzen.

Two new Detailed Planning Groups have been proposed. TECP has requested an *Accretionary Wedges DPG*, to evaluate, clarify objectives, and coordinate plans for Nankai, Cascadia, and Barbados programs. It would include considerations of fluids and gas hydrates, as well as structural and tectonic ones. Their proposal is for a joint TECP and SGPP group (i.e., making recommendations to both thematic panels), perhaps based on the membership of the ad hoc working group on Fluids in Accretionary Prisms. LITHP has recommended that a *Deep Crustal Drilling DPG* be formed early in 1990 to consider site selection criteria for deep crustal drilling sites and to consider specific proposals. It was decided that no new DPGs would be formed at this time.

The next PCOM meeting will be held in Seattle, Washington on 22-24 August, 1989 and will be hosted by the University of Washington.

The 1989 Annual PCOM meeting will be held at Woods Hole, Massachusetts on 27-30 November, 1989 and will be hosted by the Woods Hole Oceanographic Institution. It will be preceded by the Panel Chairmen meeting on 26 November.

The 1990 Spring PCOM meeting is scheduled for near Nice in the South of France on 24-26 April, 1990.

The 1990 Summer PCOM meeting is scheduled for the second week of August 1990 to be hosted by the Hawaii Institute of Geophysics.

The 1990 Annual PCOM meeting is tentatively scheduled for 24-27 November, 1990 to be hosted by Scripps Institution of Oceanography. It will be preceded by the Panel Chairmen meeting on 23 November.

The conclusion of the 1989 Spring PCOM meeting followed a demonstration by N. Pias of the CD ROM method of storing and retrieving drilling data using the facilities at the Institutt of Geologi of the University of Oslo.



 Requires EXCOM Action



JOIDES EXECUTIVE COMMITTEE MEETING

Edinburgh, U.K.

13-15 September, 1988

REVISED DRAFT MINUTES

Executive Committee:

D.Caldwell, Chairman - Oregon State University
 C.Barnes - Geological Survey of Canada (Canada)
 B.Biju-Duval - IFREMER (France)
 J.Briden - NERC (United Kingdom)
 R.Duce - University of Rhode Island
 H.Duerbaum - BGR (Federal Republic of Germany)
 M.Friedman - Scripps Institution of Oceanography
 D.Hayes - Lamont-Doherty Geological Observatory (for B.Raleigh)
 C.Helsley - University of Hawaii
 K.Kobayashi - ORI, Japan (for T.Nemoto)
 B.Lewis - University of Washington
 A.Maxwell - University of Texas Institute of Geophysics
 W.Merrell - Texas A & M University
 J.Stel - ESF Consortium for Ocean Drilling
 J.Steele - Woods Hole Oceanographic Institution

Absent: C.Harrison - University of Miami

Liaisons:

R.Anderson - LDGO Borehole Research Group
 J.Baker - Joint Oceanographic Institutions, Inc.
 D.Heinrichs - National Science Foundation
 N.Pisias - JOIDES Planning Committee, Oregon State University
 T.Pyle - Joint Oceanographic Institutions, Inc.
 P.Rabinowitz - TAMU/Science Operator

Guests/Observers:

P.Cook - Bureau of Mineral Resources, Australia
 R.Gallois - British Geological Survey
 R.Moberly - Hawaii Institute of Geophysics
 B.Munsch - European Science Foundation
 E.Nickless - Natural Environmental Research Council

JOIDES Office:

C.Moss - Oregon State University
 S.Stambaugh - Oregon State University

Tuesday, 13 September 1988

INITIAL BUSINESS

INTRODUCTIONS AND OPENING REMARKS

D.Caldwell welcomed all participants, who introduced themselves and their affiliations. Caldwell welcomed C.Barnes, Geological Survey of Canada, as the new Canadian representative, and introduced P.Cook, Bureau of Mineral Resources, Australia, who was in attendance as an observer for the proposed Canadian-Australian membership consortium. J.Briden welcomed EXCOM to Scotland and introduced E.Nickless, Natural Environmental Research Council in Swindon, and the local host, R.Gallois, Programmes Director (U.K. North), British Geological Survey.

ADOPTION OF AGENDA

EXCOM added an item under "Other Business" regarding replacement of K.Kobayashi on the Budget Committee.

EXCOM Motion:

EXCOM adopts the agenda for the 13-15 September 1988 Executive Committee Meeting. (Motion Helsley, second Maxwell)

Vote: 15 for, 0 against, 1 absent

APPROVAL OF MINUTES

D.Caldwell called for corrections to the minutes of the previous meeting.

J.Briden asked that the second paragraph of the U.K. member country report (p.34 in agenda book) be changed to read: "The initial reaction was positive, although tempered by the realization that funding above the level of 50% of the present program would be difficult." B.Biju-Duval asked that paragraph seven of the French country report (p.36) be changed to read: "A replacement for the JEAN CHARCOT has been budgeted and scheduled for operations after 1990."

EXCOM Motion:

EXCOM approves the minutes of the 25-26 May 1988 EXCOM meeting as corrected. (Motion Stel, second Biju-Duval)

Vote: 15 for, 0 against, 1 absent

LONG-TERM SCIENTIFIC OBJECTIVES

SCIENTIFIC INPUT TO JOIDES

N.Pisias, Planning Committee Chairman, reported on the status of thematic panel input to the long-range planning document.

At its August meeting in Oxford, PCOM evaluated thematic panel input on long-term global priorities (Appendix A) and reviewed the three draft white papers. Pisias commented that PCOM was very pleased with the LITHP white paper which presents a three-phased research plan for implementing global thematic priorities. LITHP is meeting concurrently with EXCOM to refine their white paper.

Pisias reported that both TECP and SOHP met over the summer to define thematic priorities and begin development of their respective white papers. The SOHP white paper addresses six major scientific themes and includes scientific objectives, drilling strategy and technology issues for each theme (Appendix A). PCOM had several concerns about the SOHP white paper; these concerns will be addressed at a SOHP meeting in early October.

The TECP white paper and thematic priorities were also reviewed by PCOM. TECP will also meet in early October to respond to PCOM concerns and further define their thematic priorities.

LONG-RANGE PLANNING DOCUMENT

Pisias reviewed the timetable for producing the long-range planning document which will be submitted to NSF next spring. A first draft will be distributed to PCOM in early November for consideration at their annual meeting. The thematic panels will meet and provide their final input over the winter months with a final draft of the plan to be reviewed by PCOM at their spring, 1989 meeting. After PCOM review, the final draft will be submitted to EXCOM and the ODP Council at the May, 1989 meeting for approval.

A special PCOM subcommittee consisting of Pisias, G.Brass (U.Miami), D.Cowan (U.Washington), J.Malpas (Canada) and B.Malfait (NSF) will meet in Corvallis the second week of October to begin preparation of a first draft of the long-range planning document.

Pisias said the primary focus of the long-range plan is to address scientific objectives for post-1992 which can be addressed by ocean drilling, and how ocean drilling can advance our knowledge of the earth sciences. After reviewing the outline for the long-range plan (Appendix B) he asked for EXCOM's comments.

After considering the outline, several points were raised. There was some discussion as to how goals vs. achievements would be measured. It was felt that although not all COSOD-I objectives have been met, significant progress has been made. It was felt that the trade-off between the amount of science accomplished and the quality of that science has been acceptable and that COSOD-I may have been too ambitious.

J.Stel said that practical spin-offs of ODP should go beyond technological developments and questioned how well the program has reached the general public. He said that in the future some attention should be given to public relations and information dissemination. Briden agreed and said the U.K. has just lost a small portion of their membership contribution funded by private industry because it was felt the program has become "less relevant". He suggested that increased visibility and public education may help avoid this problem in the future. T.Pyle said that JOI,Inc. would prepare options and develop this issue for EXCOM consideration at their next meeting.

Several people questioned the role ODP will play in the future with respect to other global research programs. C.Helsley voiced some concern that the program is moving away from drilling toward downhole experiments such as seismic programs, long-term observatories and geomagnetics. Briden said these developments may be necessary to extrapolate away from individual drill sites to test models and increase our understanding of broader earth processes. B.Lewis suggested the need for closer interface between ODP and other global research programs if ODP participation is to go beyond using the drillship to emplace downhole instruments.

After more general discussion of the outline, EXCOM agreed that progress on the long-range plan should continue as planned. D.Heinrichs said that the outline presented for the long-range planning document was a good one and that the purpose of the plan is to define an overview of post-1992 goals and objectives. Heinrichs said it is most important to first build a sound science program, then decide on the specifics of implementing it.

NEAR-TERM PLANNING

JOIDES ADVISORY STRUCTURE

Pisias presented a schematic of the new panel structure (Appendix C) and reported that PCOM reviewed the Terms of Reference for the JOIDES Advisory Structure at its August meeting and revised them to reflect the new structure. Mandates were added for the new panels and old mandates were reviewed and updated. Pisias also reported that chairmen for the new thematic panels had been chosen, and for the new Shipboard Measurements Panel:

Ocean History Panel	N.Shackleton (Cambridge Univ., U.K.)
Sediment & Geochemical Processes Panel	E.Suess (GEOMAR, FRG)
Shipboard Measurements Panel	K.Moran (Atlantic Geoscience Centre, Canada)

EXCOM reviewed the revised Terms of Reference for the JOIDES Advisory Structure. C.Helsley voiced some concern that mandate for the Site Survey Panel (SSP) indicated that the panel was involved in the actual evaluation of proposals. He said it should be clearer in the SSP mandate that the panel receives its data from the ODP Site Survey Databank, and is not actually involved in reviewing or evaluating the proposals. Other than the Site Survey Panel mandate, EXCOM agreed with the revised Terms of Reference and expressed approval of the new panel structure.

H.Duerbaum suggested that a subcommittee might be the best way to deal with preparing a detailed revision of the Site Survey Panel mandate. D.Caldwell agreed and appointed H.Duerbaum, C.Helsley and D.Hayes to the subcommittee and directed them to review the SSP mandate, make appropriate revisions and present specific wording for EXCOM consideration at the next business session to be held Thursday morning.

J.Stel noted that the Terms of Reference for EXCOM were badly in need of updating as they still contained references to the International Phase of Ocean Drilling (IPOD). B.Biju-Duval and B.Merrell agreed and all three were appointed to a subcommittee, which was directed to update the existing EXCOM Terms of Reference and prepare specific wording for EXCOM consideration at the next business session.

It was recommended that the Budget Committee mandate be removed from the EXCOM Terms of Reference and presented as a separate Terms of Reference document for the Budget Committee. Caldwell questioned the voting quorum referred to in the BCOM mandate and said that it was his impression that in the past BCOM had operated as a consensus group. There was also some confusion as to the extent of BCOM's authority to make fiscal decisions on behalf of EXCOM and/or PCOM. Caldwell appointed another subcommittee, consisting of C.Helsley, J.Baker and D.Heinrichs, to prepare a revised Budget Committee mandate for review at the next business session.

Caldwell reported that K.Kobayashi has requested that he be replaced as the non-U.S. EXCOM representative to the Budget Committee. Caldwell asked members to begin considering nominations for his replacement and said that action on this issue would be deferred to the next business meeting.

ON-GOING REVIEWS

T.Pyle reported that JOI, Inc. administrative organization and operations were reviewed by the Administrative Cost Review Panel (ACR) in July, 1988. (The same panel recently performed an administrative cost analysis of TAMU operations for JOI, Inc. with very favorable results.) Pyle reported that the Panel found that the JOI science programs are coordinated and administered in an excellent fashion at reasonable costs.

J.Baker reported that the Performance Evaluation Committee (PEC-2) has visited JOI, Inc. and all subcontractors, and also sat in on a Co-Chief Scientists meeting held at TAMU this summer. Their report (Appendix D) was received by JOI, Inc. on August 30, 1988 and the next step is to send it to the subcontractors for response. The JOI Board of Governors will meet in February, 1989 to discuss the subcontractors' responses and the final report will be presented for EXCOM review at the April, 1989 meeting.

Baker said in general, this PEC report takes a broader view than the previous Evaluation Report. Although it is not as specific or detailed, this year's evaluation report looks carefully at the advisory structure and broad future goals and seems to be a very favorable report.

D.Heinrichs reported that an external panel formed by NSF and composed of national and international senior scientists, convened in early June, to conduct a programmatic review of ODP. Over the two-day meeting, the panel reviewed various documents, including the 1989-1992 ODP program plan (see Appendix E).

Issues discussed at length included COSOD-I and -II objectives. The panel felt that the highest priority objectives should be addressed first, even at the cost of addressing fewer problems. The panel also suggested that over the next four years the level of engineering development should be reviewed, and felt that the engineering budgets are at minimal levels.

Heinrichs reported that the most focused criticism was with publications. The panel felt that the leg volumes were very good, but there was a need for more attention to thematic synthesis and thematic results. The panel suggested that this might be pursued through separate publications or symposia.

Heinrichs said that these were all addressed as "areas for improvement", not problems, and that the overall review was very positive. Continued funding was approved by the National Science Board at a level not to exceed \$156 million over the next four years. Heinrichs said the 1993 review will depend heavily on the long-range planning document and the renewal of MOUs with the non-U.S. partners. The National Science Board did request that NSF come back with a status report on JOIDES long-range planning. A one-hour presentation will be made, in conjunction with JOI, Inc. and JOIDES, next year.

RESOURCE CONSTRAINTS

D.Heinrichs reported that the NSF FY89 budget figure of \$1.885 billion is known, although the appropriations bill is still not through Congress. Heinrichs said ocean sciences were supported at \$146.52 million, which represents an 8.2% increase over FY88. He also said that up to \$3 million has been designated to enhanced ocean engineering focused on the Pacific basin, although no special funds were requested for this purpose. The FY89 budget for ODP is \$32.1 million, which includes the U.S. share of commingled funds and U.S. travel funds. Heinrichs said this is an increase of about 2% over the FY88 budget figure of \$30.7 million, essentially a steady-state budget.

RESOURCE NEEDS

N.Pisias reported that only two items were not included in the four-year program plan and budget. These include two guidebases which will be required for the Loihi drilling program, and the possibility of increased engineering costs associated with the diamond coring system which drills a hole incompatible with the high-tech logging tools currently used by ODP.

NEAR-TERM SCIENTIFIC OBJECTIVES

Western Pacific Program

N.Pisias reviewed the FY89 drilling program planned for Legs 124 through 129. He reported that there has been no significant change in the Leg 124 (SE Asia Basins) program. Leg 124E, the engineering development leg, will include a test of the diamond coring system, a 1500 m drill rod test in shallow water, and a high temperature logging experiment which will include testing of a consolidated two string logging run.

Leg 125 (Bonin/Mariana) is unchanged. A problem has developed with one Leg 126 (Bonin II) site which is in a high heat flow area. Alternate sites are being identified. Legs 127, 128 (Japan Sea I and II) and 129 (Nankai) are unchanged.

At their next meeting, PCOM will finalize plans for the Geochemical Reference, NE Australia Margin, Vanuatu and Lau Basin programs.

Central & Eastern Pacific Program

Pisias reported that at its August meeting, PCOM reviewed the first full CEPAC Prospectus which contains 14 programs, all ranked and endorsed by the thematic panels. He reviewed the top priorities of each thematic panel and noted any special comments or considerations:

LITHP Priorities

Hole 504B (needs half a leg to prepare hole)
 East Pacific Rise (program is not yet site specific)
 Loihi (guidebases will be needed for shallow, bare rock drilling)

SOHP Priorities

Ontong Java depth transect
 Shatsky Rise (need more data, current site not shallow enough to determine top of anoxic event)
 Neogene

TECP Priorities

Chile Triple Junction
 Cascadia Margin (site survey has been funded but not yet completed)
 Hawaiian Flexure

Pisias said that the total CEPAC program adds up to a minimum of 15 legs. He also noted that a working group on Fluid Processes and Accretionary Prisms will be meeting in late September to help define TECP priorities in that area.

STATUS OF NEAR-TERM SCIENTIFIC & TECHNOLOGY PLANNING

The Planning Committee is charged with planning scientific objectives four years in advance of the drillship. Pisias said that PCOM has established a new, thematically driven process for this planning which will use long-range planning and the thematic white papers as the primary basis for evaluating new scientific objectives and drilling programs. He said that although PCOM has identified and

instituted this new process new proposals are needed from the community to begin the planning of programs beyond 1991 and 1992.

At its August meeting, PCOM prepared a motion and implementation consensus intended to convey this message to the community and initiate the submission of new proposals so that a new proposal base can be used to move planning decisions beyond 1991. A copy of the PCOM motion and consensus is attached as Appendix F.

After reviewing the PCOM motion and consensus, B.Merrell said he also saw the need for some word to go out to the community. He said that in the past, when the shiptrack was known in advance, scientists interested in a specific geographic location knew when to submit proposals. Merrell felt, however, that the PCOM motion may be inappropriate for the new thematic approach and suggested that it should perhaps be worded more as a challenge to the community. Several other members agreed and A.Maxwell suggested that EXCOM prepare a new motion which clarifies the new process and makes it clear that the nature of the proposals received will determine the path of the ship after 1991. EXCOM did feel that the PCOM consensus was the appropriate way to proceed with the new process.

J.Stel voiced some concern, which he felt was shared by other non-U.S. members, that the ship would not be returning to the Atlantic. Pisiias said that return to the Atlantic is not precluded by the new process, but until proposals addressing scientific objectives in the Atlantic are received the path of the ship could not be guaranteed.

After some discussion as to wording, EXCOM forwarded the following motion:

EXCOM Motion:

At the November 1989 Annual PCOM meeting, and at subsequent meetings, PCOM will examine thematically-reviewed proposals in any ocean, in order to plan a general direction of the vessel in the period after 1991.
(Motion Merrell, second Briden)

Vote: 15 for, 0 against, 1 absent

EXCOM commended the Planning Committee for their consistent approach in developing the thematically driven planning process.

OPERATIONS NEEDS

T.Pyle reported that there was no new information for EXCOM to consider.

PROGRAM PLAN REVIEW

Pyle again reported that there has been no new information which might affect the FY89-92 Program Plan since the last EXCOM meeting. He asked if EXCOM has any comments or suggestions for PCOM before preparation of the long-range planning document begins. There were none and it was agreed that PCOM should proceed as planned.

One problem mentioned at length was the need to implement some mechanism for increasing thematic publications and symposia.

PRESENT STATUS OF ODP

OPERATIONS: PROBLEMS AND TECHNICAL PROGRESS

Science Operator Report

P.Rabinowitz provided an update on ODP Legs completed since the last EXCOM meeting. Rabinowitz submitted a written report; highlights of his report included (see Appendix G):

- * Drilling results from Broken Ridge (Leg 121) suggest that uplift of Broken Ridge was caused by mechanical, rather than thermal, processes.
- * Leg 121 retrieved an expanded section across the Cretaceous/Tertiary (K/T) boundary on Broken Ridge.
- * The oldest sediments ever recovered from beneath the deep ocean floor were sampled on the Wombat Plateau transect of Leg 122 (Exmouth Plateau). These sediments extend the record of marine sediments to basal late Triassic (Carnian/Norian).

Rabinowitz reviewed the schedule for Leg 123 which is currently at sea, and reviewed future cruises and staffing.

Wireline Logging Services Report

R.Anderson presented the Wireline Logging report on operations and technical progress. His written report is attached as Appendix H.

Anderson presented a graph of time spent logging versus time recommended by PCOM. He noted that there has been an improvement in recovery since Leg 110, due to a change from fresh- to salt-water drilling mud. A review of logging results (Legs 120 through 122) followed.

Anderson reported that bridging problems did occur on Leg 122 with approximately 1 km of hole lost. He said the situation would have been improved had the sidewall entry sub been deployed earlier. A tool string was lost on Leg 122, and although the crew did fish for the tool string and scan the seafloor with telemonitors, nothing was recovered. Anderson said that particular tool string was to be replaced with new technology on Leg 124, so the lost string will not be replaced before then.

Anderson announced that logging schools will be presented in the U.S. this winter in conjunction with the GSA meeting in Denver (November) and the AGU meeting in San Francisco (December). He noted that, with the exception of Canada, logging schools have now been sponsored by every ODP member country.

Anderson reported to EXCOM that he has been invited to present a logging school in the People's Republic of China next spring, at the Institute of Crustal Dynamics in Beijing. The Chinese have offered to pay all expenses but air fare. Anderson said this may be a good opportunity to stimulate interest in Chinese ODP membership and asked EXCOM how he should proceed.

J.Stel responded that if ODP is to subsidize the cost of logging schools, he would prefer that it should be limited to member countries. H.Duerbaum agreed. D.Heinrichs noted that he made a series of presentations two years ago and although the Chinese were very interested in obtaining membership in ODP, they had absolutely no way of raising the funds to sponsor a membership.

EXCOM directed Anderson to respond to the Chinese invitation with positive language, but to decline the invitation unless all expenses were paid. Anderson said he would check his response with Heinrichs before forwarding it to the Chinese.

Anderson reported that he recently attended a seminar on ultradeep continental drilling sponsored by the International Lithosphere Program in the USSR. He said a data exchange policy between the U.S. and USSR is being developed and Anderson was asked if ODP and DSDP data currently available on CD-ROM would be included in the exchange program. Anderson said that this data is routinely sent to the National Geophysical Data Center where it is available for sale, although the cost seems to be somewhat prohibitive to USSR scientists. Heinrichs suggested that these types of issues should most appropriately be handled by T.Pyle as Program Manager at JOI, Inc. Anderson agreed and passed the issue on to Pyle.

RESOURCE ISSUES AND BUDGET STATUS

T.Pyle said that fiscal year 1989 will be starting soon and reviewed the operations budget for FY89. He reported that an increase of \$150,000 has been included to partially cover the costs of increased day rates. The FY89 budget also includes special operations costs as approved by PCOM and EXCOM.

J.Briden thanked the subcontractors for their reports and as there were no comments or corrections, asked that the minutes reflect EXCOM's acceptance and approval of the subcontractor reports. This was agreed by all present.

Thursday, 15 September 1988

MEMBER COUNTRY REPORTS

FEDERAL REPUBLIC OF GERMANY

H.Duerbaum presented a report for FRG. He reminded the meeting that the next meeting of the German ODP Colloquium will be held in Tubingen (near Stuttgart) from 8-10 March, 1989. Duerbaum welcomed the participation of other ODP member countries.

The German ODP community is interested in increased communication between TEDCOM, DMP and the Germany KTB (Continental Deep Drilling) program. Duerbaum reminded the group that TEDCOM is holding a meeting at KTB headquarters in Bavaria in late September, and said that increased communication will benefit both programs.

Duerbaum announced that funds are now available for a joint French-German Lau Basin diving experiment; details will be available at a later date. Duerbaum also announced that new information was obtained by a recent POLARSTERN cruise near Greenland, which will result in the submission of drilling proposals addressing various geochemical issues in that region.

UNITED KINGDOM

J.Briden reported for the United Kingdom. He said that the UK subscription, which has been in a "fragile" situation until recently, is now almost fully committed. He said that the U.K. ODP Management Committee was meeting concurrently with EXCOM to discuss funding for future years, in an attempt to prevent the situation from arising each year. The ODP Community has resolved to "hang in there" and signals from the central government are favorable.

Briden said there has been a great deal of activity in the U.K. with regard to drilling proposals, although the recent postal strike may have delayed their arrival at the JOIDES Office. He also said that the British research program on ocean ridges (so called B-RIDGE) has met with very enthusiastic response at NERC and is pushing forward with faith and enthusiasm.

FRANCE

B.Biju-Duval reported that the FY89 French science budgets are still under discussion, but that ODP has been maintained as the primary geoscience program. He stated however, that science support will be very light. He also reported that the new French vessel, which will replace the JEAN CHARCOT, is scheduled to sail by the end of 1990.

Biju-Duval announced the successful re-entry of DSDP Hole 396B this August using a submersible and the Nadia platform. Five entries were made, including two runs with the Scripps water sampling tool and two runs with the French temperature tool. The hole was clean and excellent results were obtained. He said a full report on the re-entry operations will be circulated to the ocean drilling community.

CANADA

C.Barnes reported for Canada and introduced Dr. Peter Cook, Bureau of Mineral Resources, Australia, who is attending the meeting as an observer for the proposed Canadian/Australian ODP membership consortium.

Barnes reported that through the first part of the year, the Canadian ODP program underwent an evaluation process which was performed by an outside reviewer. He said the final report will soon be published by the ODP Secretariat and that the results may be useful to other ODP member countries who are considering the same process.

Barnes reminded the meeting that the Canadian ODP Secretariat has changed and is now housed at Memorial University. K.Babbcock has replaced R.Price as the Canadian representative to the ODP Council, J.Malpas replaces P.Robinson on the Planning Committee, Barnes replaces M.Keen on the Executive Committee, and S.Scott is the new Chairman of the Canadian ODP National Committee.

Barnes reported that Canadian membership contributions are secure for the next year, however continued interest expressed by the Australians, and the desire to ease funding strains have encouraged the Canadian ODP community to pursue a consortium agreement with Australia. Barnes circulated copies of a draft Proposal for a Canada-Australia Consortium for Ocean Drilling.

The proposed consortium will be based on a 2:1 ratio, which will determine the Canada:Australia representation on ODP panels and committees. The current idea is that Canadian and Australian representatives will take turn attending EXCOM and PCOM meetings, and the remaining positions on other JOIDES panels will be divided, based on the 2:1 ratio. Australia will be establishing their own ODP national structure and a new MOU will be signed between Canada, Australia and NSF.

P.Cook reported that funds for the Australian membership contribution to the consortium have been identified for three years. The Australian Research Council and Bureau of Mineral Resources will provide most of the funding, with smaller contributions coming from the Antarctic Division of the Dept. of Environment, and the Australian Vice-Chancellor's Committee. Bids to house the National Secretariat have been received from four Australian universities and a decision is expected soon.

Barnes said that the final documents have not yet been signed and it is unlikely that the 1 October, 1988 deadline will be met, however all parties involved would like to see the agreement go into effect as soon as all the appropriate documents are in place. Barnes welcomed any input from EXCOM and both Barnes and Cook expressed enthusiasm and optimism for the new consortium.

B.Merrell and J.Briden expressed concern over the alternating attendance of Canadian and Australian EXCOM and PCOM representatives. Both felt that this would result in a lack of continuity which would be particularly problematic with regard to the detailed science planning performed by PCOM. J.Baker pointed out that the consortium would represent one membership in ODP, as is the case with the ESF Consortium, and that however the consortium is organized internally, it is generally understood that there will be only one consortium representative to the PCOM and one to the EXCOM. N.Pisias suggested that perhaps a two-year Canadian, one-year Australian arrangement could be made with alternation based on a longer time frame.

Both Barnes and Cook responded that the functions of the ODP Planning Structure would be kept in the best interests of the consortium and that this issue would be reconsidered, based on the previous discussion. The EXCOM asked that a general welcome to the consortium be recorded, and agreed to formulate a formal motion under a later agenda item.

ESF CONSORTIUM for OCEAN DRILLING

J.Stel reported for the Consortium. He said that at the last EXCOM meeting the ESF Consortium had voiced concern with the late arrival of the JOIDES Journal issues. He said that a solution has been worked out and thanked the JOI, Inc. and JOIDES Journal staffs for their cooperation. Stel also reported that a final report on the fourth ECOD workshop held last May in Helsinki will be available in a few weeks. He said several drilling proposals will be forthcoming as a result of the workshop.

JAPAN

K.Kobayashi reported on behalf of Prof.T.Nemoto and the Japanese ODP scientific community, that the appointment of Japanese drilling engineer, Mr. Matsuoka, as a shipboard engineer onboard the JOIDES RESOLUTION is very welcome.

Kobayashi also reported that Japanese geophysicists are working to prepare instruments for long-term downhole observations of temperature variation, microseismology and magnetotellurics. He said the best is being done to squeeze the necessary funding out of existing budgets in order to continue such geophysical research.

In early August the eastern portion of the Nankai Trough was investigated by a chartered ship, KAIKO-MARU V, using 6-channel seismic profiles and magnetics. Ten complete profiles crossing the accretionary wedge, trench bottom, ocean slope and Zenisu Ridge compressional swell were analysed. Although their locations are slightly east of the proposed drill sites, because the survey was attempted for the French-Japanese KAIKO program, their general features will provide much information for ODP interpretation.

Also early this summer, a Japanese submersible, SHINKAI 2000, made a series of dives at Okushiri Ridge, in the northeastern Japan Basin. An outcrop of basaltic rocks was found near the obduction zone and results from the dives will help in considering proposals for Japan Sea drilling.

Japan has begun preparations to receive the JOIDES RESOLUTION in Japanese waters. Kobayashi expressed hopes that there will be no difficulty in clearance issues.

UNITED STATES

National Science Foundation

D.Heinrichs reported that NSF has received, and is working with Canada to finalize, the draft MOU for the Canada/Australia membership consortium. He said the content is the same as MOU's currently in effect with the other member countries.

Heinrichs reported that an MCS/Seamark study off the Oregon margin has been funded, with V.Kulm (Oregon State Univ.) and C.Moore (Univ. California, Santa Cruz) as co-chiefs. Additional proposals are under review for site survey work in the East Pacific with the primary review panel scheduled to meet soon.

U.S.Science Support Program

T.Pyle reported for the U.S. Science Support Program. His written report is attached as Appendix J.

Pyle said that five workshops have been funded this year. Details on any of these workshops is available from the JOI/USSAC office, or through the JOIDES Journal. Site survey augmentation includes support for three programs:

- Analysis of Heat Flux from the East Pacific Rise (Crane and Aikman)
- Support of Phase II of the Geoprops Probe (Karig)
- SeaBeam and SCS across Jurassic magnetic lineations E. of Japan (Lonsdale)

Pyle reviewed fellowships granted for the upcoming year and once again encouraged participation in the two U.S. logging schools which will be held in conjunction with the Geological Society of America meeting (29 October, 1988) in Denver, and the American Geophysical Union meeting (4 December, 1988) in San Francisco.

He also reported that two CD-ROM disks are being developed for distribution the first part of next year. One will contain only DSDP geophysical data, the other will contain all other available DSDP digital data. Software will be supplied on floppy diskette, and ODP partner and JOI institutions requests for limited gratis copies are encouraged. Those interested should contact JOI, Inc.

EXCOM ACTION ON NEAR TERM PLANNING

D.Caldwell reviewed actions required by EXCOM concerning revision and adoption of Terms of Reference for the Executive Committee, Budget Committee and JOIDES Advisory Structure. Caldwell called for reports from the three subcommittees.

B.Merrell reported for the subcommittee responsible for revising the EXCOM Terms of Reference. He reported that the subcommittee had updated the existing Terms of Reference and presented a final version for EXCOM review.

C.Helsley reported for the subcommittee responsible for preparing Terms of Reference for the Budget Committee. Helsley presented a list of changes to the existing BCOM mandate for review. After adding statements regarding quorum, and membership, the BCOM Terms of Reference were agreed upon.

D.Hayes presented revisions to the Site Survey Panel mandate. After some minor changes in wording, EXCOM agreed to that the new mandate be inserted into the Terms of Reference for the JOIDES Advisor Structure.

EXCOM Motion:

EXCOM accepts and adopts revised Terms of Reference for the JOIDES Executive Committee, JOIDES Budget Committee, and JOIDES Science Advisory Structure. (Motion Steele, second Duerbaum)

Vote: 15 for, 0 against, 1 absent

H. Duerbaum added that it should be quite clear that the reason for the changes in wording was that pre-site investigations in some cases were not sufficient, that, therefore, the Site Survey Panel should review the data base of all mature proposals, and that PCOM should take into account critical reports of the SSP seriously.

B. Merrell suggested that the date of adoption be noted at the top or bottom of each document for easy reference to the most current version. Copies of the approved Terms of Reference for EXCOM, BCOM and the Science Advisory Structure are attached as Appendix K.

D. Caldwell called for nominations to replace K. Kobayashi as non-U.S. EXCOM representative to the Budget Committee. Jan Stel was nominated and the following motion was approved.

EXCOM Motion:

EXCOM elects Jan Stel to act as non-U.S. representative to the Budget Committee. (Motion H. Duerbaum, second Merrell)

Vote: 14 for, 0 against, 1 absent, 1 abstain (Stel)

INTERNATIONAL PARTICIPATION IN ODP

CANADIAN/AUSTRALIAN CONSORTIUM

Based on discussions held during the Canadian Country Report (see p.11 above) the following motion was forwarded:

EXCOM Motion:

EXCOM recommends that the Canada-Australia consortium for Ocean Drilling be accepted as a member of JOIDES. This will supersede the Canadian membership when an appropriate MOU is signed with NSF. (Motion Steele, second Briden)

Vote: 15 for, 0 against, 1 absent

LESSER DEVELOPED COUNTRIES

T. Pyle reported that a quantitative survey was sent out in July to assess the status of lesser developed countries participation in ODP. So far only a few responses have been received but final results should be available at the next EXCOM meeting.

USSR MEMBERSHIP

B. Lewis reminded EXCOM that the USSR Academy of Science previously expressed interest in joining the ODP and that despite problems which developed, they are still interested in obtaining membership in the program. The following motion was forwarded for consideration and discussion:

EXCOM Motion:

Whereas the USSR has a long and distinguished record of accomplishments in earth sciences, and was an active and valued partner in the International Phase of Ocean Drilling and,

The USSR continues to have an active interest in global earth sciences as does the Ocean Drilling Program, and

EXCOM responded to the USSR interest in joining ODP by inviting them to open negotiations with NSF in 1985, but noting that

the U.S. Government has not yet offered to enter into a Memorandum of Understanding with the USSR, and recognizing that:

The USSR is still interested in joining ODP as a full member, but the USSR cannot keep this potential commitment open indefinitely,

Therefore: EXCOM reaffirms its previous resolution and recommends that the U.S. Government immediately take appropriate steps to secure full membership in ODP for the USSR. (Motion Lewis, second Briden)

Vote: 15 for, 0 against, 1 absent

Heinrichs said he will actively pursue NSF action in response to this resolution.

FUTURE MEETING SCHEDULE

Participants agreed on the following schedule for the next two EXCOM meetings:

31 May - 2 June 1989
3-5 October 1989

Palisades, NY (hosted by LDGO)
The Netherlands (hosted by ESF Consortium)

B.Biju-Duval extended an unofficial invitation for EXCOM to hold its Fall 1991 non-U.S. meeting in France. He said a field trip might be arranged to see the new French vessel.

OTHER BUSINESSJOIDES OFFICE ROTATION

D.Caldwell reminded the group that the JOIDES Office will rotate to the Hawaii Institute of Geophysics on 1 October, 1988. He also said that after HIG there was no official plan for further rotation of the JOIDES Office. N.Pisias said that after Hawaii, each of the eligible U.S. institutions has hosted the JOIDES Office for one tenure with the exception of the University of Texas, Austin. Pisias noted T.Shipley, the UT Austin representative to PCOM, will be rotating this year and that hosting the JOIDES Office would be an important consideration for UT Austin in naming Shipley's replacement.

EXCOM Motion:

The JOIDES Office will rotate to the University of Texas, Austin following its tenure at the Hawaii Institute of Geophysics. (Motion Friedman, second Helsley)

Vote: 15 for, 0 against, 1 absent

J.Baker raised the question as to whether or not the JOIDES Office should rotate outside the U.S. As UT Austin is the last U.S. institution to host the JOIDES Office, Baker said this would be a good time to consider the issue. It was pointed out that the Terms of Reference just approved state that the JOIDES Office will rotate among the U.S. institutions only, with the exception of those which are subcontractors to JOI, Inc.

D.Caldwell said that EXCOM's major accomplishment over the past two years has been to get the budgetary process under control. Caldwell said the Budget Committee has held primary responsibility for this achievement and thanked all BCOM members, past and present, for their efforts. He also extended his thanks to Nick Piasias for his efforts as PCOM Chairman, and to the JOIDES Office staff. A.Maxwell thanked Doug Caldwell on behalf of EXCOM for his service as Chairman, and C.Barnes extended thanks and best wishes to Caldwell, Piasias and the JOIDES Office staff.

ADJOURNMENT

There being no other business to consider, the meeting adjourned 15 September 1988.

APPENDICES

- A. Long-term Thematic Priorities as identified by LITHP, SOHP and TECP
- B. Outline for Long-Range Planning Document
- C. Organization chart for revised JOIDES panel structure
- D. Performance Evaluation Committee report
- E. National Science Review Board report
- F. PCOM motion: call for drilling proposals
- G. Science Operator report
- H. Wireline Logging Services report
- J. USSSP report
- K. Revised Terms of Reference for JOIDES Executive Committee, Budget Committee, and Science Advisory Structure