

JOIDES PLANNING COMMITTEE MEETING  
23-25 August 1988  
Oxford, England The United Kingdom

MINUTES

Members:

N.Pisias (Chairman) - Oregon State University  
G.Brass - University of Miami  
J.P.Cadet - Univ. Pierre et Marie Curie, France  
D.Cowan - University of Washington  
W.Coulbourn - Hawaii Institute of Geophysics  
O.Eldholm - Univ. of Oslo, ESF Consortium  
J.Ewing - Woods Hole Oceanographic Institution  
T.Francis - United Kingdom  
S.Gartner - Texas A&M University  
M.Kastner - Scripps Institution of Oceanography  
M.Langseth - Lamont-Doherty Geological Observatory  
M.Leinen - University of Rhode Island  
J.Malpas - Memorial University, Canada  
T.Shipley - University of Texas Institute for Geophysics  
U.von Stackelberg - BGR, Federal Republic of Germany (for von Rad)  
A.Taira - Ocean Research Institute, Japan

Liaisons:

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

Guests / Observers:

D.Falvey - BMR, Australia  
B.Harding - ODP/TAMU Engineering  
E.Kappel - JOI, Inc.  
B.Larsen - Co-chief Leg 119  
R.Moberly - Hawaii Institute of Geophysics  
J.Weissel - Co-chief Leg 121

JOIDES Office:

S.Stambaugh  
M.Wiedicke

Tuesday, 23 August 1988

#### 724 INTRODUCTIONS AND WELCOME

Chairman N.Pisias called the summer PCOM meeting to order. Meeting host, T.Francis welcomed all to Oxford and explained logistics. Francis invited PCOM members to review the Darwin GLORIA data from Hawaii and the Lau Basin on display in the meeting room during the course of the meeting.

New PCOM members, M.Leinen (URI) and J.Malpas were introduced, as well as PCOM alternates, U.von Stackelberg (for U.von Rad, at sea on Leg 122) and J.Ewing (for B.Tucholke, WHOI). PCOM Chairman designate R.Moberly, from HIG, was introduced along with ODP Co-chiefs B.Larsen (Leg 119) and J.Weissel (Leg 121). Pisias relayed the regrets of R.Schlich (Leg 120) who could not attend. B.Harding, TAMU/ODP Engineering, and D.Falvey, an observer from the Australian Bureau of Mineral Resources, were introduced.

#### 725 AGENDA AND PREVIOUS MINUTES

Pisias reviewed the key items of the agenda and the handouts to the meeting.

##### PCOM Motion:

PCOM adopts the agenda for the 23-25 August 1988 meeting. (Motion Brass, second Langseth)

Vote: 16 for, 0 against, 0 abstain

R.Jarrard asked that a consensus item in the minutes for the previous PCOM meeting be clarified as follows (change in bold, p.31 of minutes attached to agenda):

For all **XCB** holes planned deeper than 750m, TAMU and LDGO will schedule time for two-stage logging. Logging at 750m will ensure logs for that interval. PCOM asks for a review of this procedure in 6-8 months.

##### PCOM Motion:

PCOM approves the minutes of the 19-22 April 1988 PCOM meeting held in College Station, Texas. (Motion Brass, second Kastner)

Vote: 16 for, 0 against, 0 abstain

#### 726 NSF REPORT

B.Malfait represented the National Science Foundation; a written report is attached (Appendix A).

### Status of the FY89 Budget

The \$36M target for FY89 program funds was increased to \$36.15 to partially cover an increase in ship dayrates. The increase is tied to the US Producer's Price Index (PPI) and future increases may occur.

In the overall NSF budget for FY89, ocean sciences and ODP were protected at the requested level. Ocean drilling will see an increase of about 4.6% or \$1.4M next year.

### Recommendations of EXCOM/ODP Council

At the May meeting, NSF announced its intent to increase individual ODP contributions by 10% (\$2.75M for FY90). No strong arguments from the ODP Council against this increase were received.

EXCOM had requested that NSF reexamine the target budgets for FY91 and 92 to bring them more in accord with BCOM's recommendations. NSF is proceeding with this review.

### Program reviews

Malfait summarized the process and results of the recent NSF panel and National Science Board (NSB) reviews of ODP (Appendix A). Key results were:

- Need for ODP to interface with other global programs.
- Presentation of thematic syntheses [as recommended by the Performance Evaluation Committee (PEC) as well].
- NSB approved the panel's recommendation for four years of funding at a level not to exceed \$156M.
- The panel commended the program for the clarity of presentation in the Four-Year Program Plan.

Malfait explained that there would be flexibility in the \$156M funding target depending on co-mingled ODP funds.

### Membership

Malfait discussed the financial impact of an additional international partner in ODP. The recommended 10% increase would not necessarily be affected by a new seventh partner. NSF increased its contribution when the USSR did not join the program. Malfait reported no new developments regarding Soviet membership.

Malfait commented on the proposed Canadian/Australian consortium negotiations. A draft MOU is currently in review by the Australian Minister. D.Falvey added that the target date for signature of the MOU is 1 October 1988. The proposed 2:1 Canada/Australia contribution is based on each country's GNP.

## 727 JOLINC. REPORT

### Program reviews

T.Pyle reported for JOI, Inc., beginning with a status report on the PEC review. The draft report from the PEC had recently arrived at JOI and its preliminary findings were expanded in the report. PEC reiterated the need for thematic publications and the remarked on the excessively slow rate for the appearance of Part A & B publications. PCOM advice on thematic publications is needed.

The recent favorable administrative cost review (ACR) at TAMU was followed by one for JOI. The JOI review was favorable for both staffing level and effort. The report recommended improvement in interactions with TAMU. Pyle added that some recommendations may require additional hiring at JOI.

Pyle remarked on the reasonableness of the budget figures recommended by the NSB and thanked PCOM for its input to the Program Plan that was reviewed by the panel and board.

TAMU is looking at ways to reduce publications costs by 5-10% and a draft of R.Merrill's report will be sent to PCOM for review. The Information Handling Panel, with input from Ian Gibson (Leg 121 participant) and others, is reviewing shipboard computers.

### Program Plan addendum

Pyle reported that an addendum incorporating recommendations for ODP special operating expenses and budget adjustments (due to the PPI increase in ship dayrate) had been mailed to PCOM as information.

### Arctic Drilling

Pyle attended a recent conference on Arctic Ocean Drilling in Ottawa, where he spoke on JOI/ODP involvement in this area. The chief results of the meeting were:

- Appointment of national representatives for Arctic research (Leonard Johnson from ONR will represent the US)
- Formation of scientific and technical committees
- Designation of Canada as venue of the executive secretariat (Mike Keen will coordinate this initially)

Pyle said that the group would like association with ODP, mainly as a source of peer review, and emphasized the potential of Arctic drilling to bring excitement to ODP in upcoming years. Although funding is limited, progress in and optimism for future Arctic efforts was expressed.

## 728 SCIENCE OPERATOR'S REPORT

### Leg 122 Update

L.Garrison reported first on the progress on Leg 122 on the Exmouth Plateau. A major surprise has been the absence of Jurassic sediments recovered on the Wombat Plateau. For this reason, the co-chiefs asked to be allowed to drill EP9E (Site 761), scheduled for Leg 123, instead of EP2A, which could be drilled by the next leg. This was done but the EP9E site yielded no Jurassic core.

Garrison reviewed other operations and results of the leg, particularly the good recovery and negligible gas encountered at EP12 (Site 762). A logging tool was lost at this site, and because it carried a radioactive source, the Australian government was notified and the hole sealed.

A breakdown of the onboard Cyberex unit (which eliminates spikes in electricity flowing to the lab stack) caused problems with VAX, XRF, MASSCOMP and other data acquisition. The unit will be repaired at the Singapore port call and leg data stored on floppies will be downloaded to the VAX.

#### - Discussion

U.von Stackelberg remarked on the surprising lack of Jurassic rocks considering the Sonne previously had dredged them on the Wombat Plateau.

M.Kastner suggested that a future ODP thematic publication might look at how many times the geophysicists had been correct in estimating the ages of seismic reflectors (although other PCOM members thought the volume might be too slim).

#### Leg 123 Plans

The priorities for Leg 123 are now AAP1B and EP2A. The Leg 123 co-chiefs were agreeable to switch EP9E with Leg 122 because Leg 123 will have a complement of petrologists to deal with EP2A.

Garrison reported that because of the new transit times, there is the potential of running short of time to complete both sites if basement at AAP1B is deeper than expected.

#### Ship ops schedule changes

To avoid arrival in Hakodate during a major Japanese holiday, the Leg 127 portcall was shifted five days later, and one day added to Leg 125 and two each to Legs 126 and 127 (See Appendix B, including subsequent handwritten changes to schedule).

#### Leg 119 Report

B.Larsen, co-chief with J.Barron on Leg 119 reported results from the N-S Kerguelen Ridge and the development of the E.Antarctic shelf in Prydz Bay. During the leg, the glacial sequence in Prydz Bay was drilled and dated, by pollen, as Eocene. Very little marine sediment was cored, although some diatoms and coccoliths are present in the till-like material for shore-based analysis. It appears that full-scale glaciation was in progress by late mid-Eocene and the whole section showed evidence of over-compaction suggesting that the Antarctic ice sheet extended much further north than its present position.

Site 738 was cored to basement and appears to be older than 90my with subsidence rates similar to those of aseismic ridges. A K/T boundary section of laminated sediments was recovered at this site. Although recovery was not high during the leg, logging was a powerful onboard tool (to see evidence of glacial outwash, e.g.)

Larsen concluded by thanking PCOM for its support for this risky leg. Thanks also to the cooperation from the ice picket boat, all prime sites were drilled and the results should be worth the time and support needed for this high-latitude leg.

## Leg 121 Report

J.Weissel, co-chief with J.Peirce, reported on operations and results from Broken Ridge and the Ninetyeast Ridge. The main drilling objective was to test models of lithospheric extension and rift-initiation mechanisms. The evidence from drilling showed that there was no precursory uplift before the rifting of Broken Ridge, and uplift of about 2 km occurred during rifting. This suggests a passive, pull-apart style based on theoretical rifting models.

The Broken Ridge was found to be constructed by discrete volcanoes that were mostly subaerial. Deep water pillow basalts were marginal to these structures. The ridge is interpreted to have formed as newly created Indian Plate material passed over the Kerguelen Ninetyeast hotspot. Biostratigraphic ages increase from south to north along the ridge, from 38 Ma to 80 Ma, in close accord with predicted ages.

Navidrig testing at Site 757 was successful in basalt sills but not as good in ash/clay layers. A limestone/chert stringer was recovered at Site 754, but coring was slow.

## Engineering Test Leg 124E

B.Harding, TAMU engineering, reported on plans for the upcoming ODP development leg; a prospectus for the cruise was finalized and mailed to PCOM in late July.

Harding reported on operations, staffing and logistics for the leg, including plans to transfer engineering equipment and staff after testing the diamond coring system (DCS) at ENG-1 has been completed to cut down costs. Most of the operations time for the leg has been scheduled for tests at ENG-1 (15.5 days).

The platform for the DCS has been fabricated and is scheduled to depart for Manila on or about 1 November. SEDCO had requested additional safety and dynamics testing for the platform system which will slightly increase its cost. TAMU also bought rather than leased drill rod for the system (\$56K cost)

The 121 version of the XCB will be tested on the leg. The pressure core barrel and sampler, originally scheduled for the leg, has not yet gone into fabrication because Eastman-Christenson has decided not to enter into a development consortium with ODP/TAMU. TAMU will continue work on the E-C design and hopefully have it ready for Leg 124E.

### - Discussion

Harding presented a "decision chart" for testing at ENG-1 (Appendix C); penetration rates and bit life will determine how much time is needed at the site to complete the engineering objectives.

R.Jarrard explained why a separate Site, ENG-2, was scheduled for logging operations testing. LDGO needed a hole to test circulation during logging, and the ENG-1 site was not suitable. LDGO's testing of a two-string logging tool has major implications for saving logging time in the upcoming Western Pacific program. [See Wireline Logging Services Report below for details of the logging program for Leg 124E.]

Several PCOM members supported Roger Larson's recommendations that additional time (up to 6 days) be devoted to drilling chert sequences at Site ENG-3 (near former DSDP Site 452). Harding explained that 2.3 days are scheduled at ENG-3 and the deepwater operations test site, ENG-4, scheduled for 1.5 days will only be attempted if time remains.

PCOM and the TAMU representatives discussed a extension of Leg 124E to ensure that ENG-3 chert tests have adequate time. Garrison pointed out that no major tool development beyond the redesigned XCB and NCB were available for chert and hard/soft layer drilling at ENG-3; modifications of drilling parameters with the current equipment is scheduled there. He proposed taking back some of the days randomly distributed to Legs 125, 126 and 127 as a result of the portcall change at Hakodate. This would extend Leg 124E to 37 days. Other suggestions were to omit the ENG-4 site and hope that flexibility with portcalls would make up some needed time for the test.

#### PCOM Motion

PCOM accepts the proposal to add two extra days (for a total 37 days) to Leg 124E to fully test chert/chalk drilling configurations at ENG-3 and to ensure that the engineering objectives at ENG-3 are accomplished. (Motion Brass, second Leinen)

Vote: 13 for, 3 against, 0 abstain

[Note: The Ship Ops schedule attached as Appendix B has handwritten notations reflecting this change.]

#### 729 WIRELINE LOGGING SERVICES REPORT

R.Jarrard reported for the Borehole Research Group at LDGO. Chairman Piasias commended the wireline contractor for submitting a written report for the agenda book (Appendix D).

In his report, Jarrard briefed PCOM on:

- 1) A recap of results from Legs 119-121
- 2) Changes to the logging status of upcoming legs, and
- 3) A recent problem concerning logging tool loss.

#### Past Leg Results

During Legs 119 to 121, 9 of 23 sites were logged, VSP was tried unsuccessfully at one site and one BHTV run was completed. The low rate of logging was due primarily to failure to penetrate to 400 mbsf. Logging highlights of these legs included:

- On Leg 119, 1600m of hole was logged, a near-record for ODP.
- Continuous correlation with logs between two Prydz Bay sites. Detection of over-compaction trend at Site 739.
- At Site 747 (Leg 120), logging aided interpretation of volcanogenic sediments near K/T boundary where core recovery was low.
- Excellent comparisons of core and log data on Leg 121; geochemical variations picked up by logs show volcanogenic sediments and ash layers.

Jarrard described the results of the borehole televiwer break out test at Site 758 on the Ninetyeast Ridge. The breakouts were poorly developed and did not confirm models that the area was undergoing intense intraplate stress. J.Weissel added that reinterpretation of plate boundaries may be needed.

### Status of Logging for Leg 124E

The preparations for the leg are on track. The wireline packer will undergo a final field test in December. LDGO has decided not to include the formation microscanner (FMS) on the leg. Although initial landtests with the scaled-down version were successful, training of Schlumberger operators and landtesting with the accelerometer is still needed before the FMS can be deployed. He explained that another accelerometer is already onboard the Resolution for testing heave compensation on Leg 124E. About one-half day will be available to the leg by omitting the FMS test, but about five days are needed to complete all logging tests. One Leg 124E test is to run logs in a "warm" hole while circulating sea surface temperature water.

### Other tool/technique developments

Jarrard reported that on Leg 122, pipe was pulled successfully while logging; this technique could be used for Legs 125 and 126. He discussed developments with the side-wall entry sub (SES). Jarrard added that the heave compensation tests on Leg 124E would be very important for successful FMS runs in the future.

LDGO is continuing its studies of the reliability of geochemical logs and presented results from the KTB hole. The aluminum (Al) log trend showed a poor comparison with core results suggesting that variability among holes may complicate generalizations concerning reliability of the instruments. He mentioned that Al is detected with a separate tool than used with the other geochemical logs and it is very sensitive to logging speed.

### Logging tool loss

Jarrard described a recent trend of logging tool loss and resultant increases in tool insurance premiums (Appendix E). LDGO has attempted to get the TAMU Operations Supervisor to enforce fishing for lost tools (required by the terms of the insurance) but there are obvious conflicts with the Co-chiefs for fishing vs. lost science. Jarrard said that lost science must be weighed against long-term liability and efficiency in ODP. He added that increased insurance costs may eat into engineering development funds.

J.Weissel explained that his decision to fish for the seis/strat tool on Leg 122 was prompted by the advice from SEDCO/TAMU, plus the fact that the tool was needed on another hole. Jarrard said that spare tools are usually on board but specialty tools may take months to replace.

Jarrard advocated that JOIDES and JOI devise a standard policy which would anticipate cases where fishing would be possible and advised. The policy should clearly state which tool incidents will not be covered by insurance, and weigh lost tools against lost primary science. T.Pyle responded that it was JOI policy that all reasonable efforts will be made to fish for lost tools.

## 730 NEW JOIDES PANEL STRUCTURE

### Response to the JOIDES Subcommittee

As a result of the recommendations of the JOIDES subcommittee for reviewing the JOIDES panel structure, the panel and committee mandates had to be revised. At the April 1988 PCOM meeting, PCOM members were assigned to review mandates for the current and proposed thematic panels and the new Shipboard Measurement Panel. The assignments were:



- Lithosphere Panel: J.Malpas and T.Francis
- Tectonics Panel: D.Cowan and B.Tucholke
- Ocean Paleoenvironment and Paleobiology : S.Gartner and G.Brass
- Diagenesis and Sediment Processes - M.Kastner and A.Taira
- Shipboard Measurements Panel - M.Langseth and M.Leinen, plus input from TAMU.

N.Pisias explained that those revisions received by the JOIDES Office were incorporated into a draft set of mandates for PCOM review. A full set of the original panel mandates was also available to PCOM. Written comments from tardy PCOM assignees were available at the meeting.

At its May meeting, EXCOM endorsed the suggested changes, namely the expansion of the thematic panels and deletion of regional panels. PCOM was to provide draft terms of reference and mandates for the panels as well as suggestions for chairmen of the new panels at the October EXCOM meeting.

To accomplish this task, Pisias asked that the original drafting committees plus panel liaisons form subgroups to review the revisions. In drafting the mandates, the JOIDES Office attempted to address the operations and reporting of the proposed Detailed Planning Groups (DPGs). The "leaky" advisory structure was also addressed, especially to properly channel advice from the service panels which may have budgetary impact for ODP.

#### Revisions to JOIDES Panel and Committee Mandates

PCOM subgroups reviewed and suggested changes to the mandates and the results were reviewed by the full PCOM. Issues which arose during this discussion were:

- Need to maintain balance of expertise and representation on the panels.
- The need for the shiptrack to be defined well in advance as ODP moves to a more thematic program.
- Recognition that the panel mandates guide but do not restrict the panels' science input

Results of PCOM's deliberations are attached as Appendix F: Draft Terms of Reference of the JOIDES Advisory Structure. Key items included in this draft are:

- Renaming the Ocean Paleoenvironment and Paleobiology Panel to **Ocean History Panel (OHP)**
- Changing name of the proposed Diagenesis and Sediment Process Panel to **Sedimentary and Geochemical Processes Panel (SGPP)**.
- Recognition that the Shipboard Measurements Panel (SMP) should have enough members to cover pertinent disciplines, maintain close liaison with TAMU and other service panels, and meet only when major shipboard instrumentation issues arise.
- Inclusion of a draft mandate for the Budget Committee (BCOM) which was reviewed by Pisias and Brass, current BCOM members.

PCOM adjourned for the day, with first order of business the next day to continue review of the mandates and nominate members to the new panels.

Wednesday, 24 August 1988

## 731 NEW JOIDES PANEL MEMBERSHIP

### Transition to New Panel Structure

During PCOM's further discussions of the panel mandates, issues and suggestions arose which are summarized below:

- 1) The current WPAC and CEPAC panels should operate like DPGs in their future planning.
- 2) Creation of the new panels and designation of chairmen are essential to keep on track for the long-range planning document.
- 3) Recognition that the non-US members needed to consult with their national organizations before final membership recommendations can be made.
- 4) CEPAC should report on its further planning to all thematic panels.

The status of the disbanding regional panels was discussed at length. PCOM favored an additional meeting of the Indian Ocean Panel as an important aspect of programmatic review (achievements vs. goals) and as input to the long-range planning document. The roles of workshops from these panels was also discussed.

PCOM agreed that at the Annual meeting, reports from the regional panel chairmen should clearly address the thematic opportunities which exist in their regions and whether existing ODP proposals address them. Piasias agreed to draft a letter to the Chairmen of ARP, SOP and IOP with instructions for these reports (Appendix G).

Finally, PCOM discussed how the need for DPGs would be determined, their duration and how they would report. Piasias pointed out that there would be no conflict of interest problems in including proponents on the DPGs and this would add a valuable element of geophysical and other regional data sets as background for planning.

### Panel Membership

The following recommendations for panel membership were made:

#### - Sedimentary and Geochemical Processes Panel (SGPP):

Chairman:     1. Erwin Suess  
                  2. H.Elderfield (now on LITH)

(Note: Suess has accepted Chairmanship. He will attend the next meeting of SOHP in October.)

Members:	(New nominations)	(SOHP transfers)
	Peter Swart (U. Miami)	R.Garrison
	Ray Siever (Harvard)	F.Froehlich *
	Dorick Stow (UK)	M.Goldhaber *
		B.Normark *

(Note: \* Indicates that they have agreed to transfer to SGPP)

- Ocean History Panel (OHP)

Chairman: 1. W. Prell (Brown)  
2. N. Shackleton (UK)  
3. W. Ruddiman (LDGO)

Members: Peter Davies (Australia)  
Ed Boyle (MIT)

SOHP needs to make additional nominations for this panel.

(Note: L. Mayer notified the JOIDES Office that he would like to step down as Chairman of SOHP. Shackleton has tentatively agreed to serve as OHP Chairman.)

- Shipboard Measurements Panel

Chairman: 1. Kate Moran (Atlantic Geo. Cen., Canada)  
2. Joris Gieskes (SIO)

Members: John King (URI - paleomagnetism)  
Mike Rhodes (U. Mass - XRF, instrumentation)  
Ellen Thomas (Wesleyan - micropaleo, sediments)  
Johanna Resig (HIG - micropaleo)  
Roy Wilkins (HIG - now on DMP - phys. properties)  
R. Larson (URI - geophysics)  
J. Mutter (LDGO - now on LITH - geophysics)  
Ian Gibson (U. Waterloo - now on IHP - computers)

(Note: Kate Moran has agreed to chair this panel.)

- Lithosphere Panel

Chairman: 1. C. Langmuir (now on LITH)  
2. R. Batiza (now on LITH)

(Note: Bob Detrick notified the JOIDES Office that he will step down as LITHP chair after the September meeting, but will attend the PCOM Annual Meeting with the new chairman. Rodey Batiza has agreed to chair LITHP.)

Other Membership Issues

J. Malpas briefly discussed the representation to PCOM and other panels when the 2:1 Canada/Australia consortium is in effect. The consortium would like to arrange for a Canadian and Australian to share PCOM representation, but is aware of problems with continuity that may result.

## 732 EXCOM REPORT

N.Pisias attended the 25-26 May joint EXCOM/ODP Council meeting in Washington, DC and a written report appeared in the agenda book (p.5).

Issues of importance to PCOM were:

- EXCOM's additional input to instructions for the long-range planning document: 1) identification of practical "spin-offs" from ODP; 2) identification of science achieved with varying levels of effort (steady-state, 10% and 50% increases); 3) indication of earliest significant budget impact in the 1993 time frame; 4) identification of COSOD II goals achieved in ODP thus far; 5) discussion of needed technology, including use of alternate platforms.
- EXCOM's request to NSF to reexamine its target contributions to ODP in FY91 and 92 to achieve BCOM's recommended figures.

PCOM briefly discussed EXCOM's decision not to support a Lesser Developed Country fellowship (\$50K/yr) at this time. Pisias said that EXCOM did not necessarily want the fellowships to be tied with clearances from coastal nations.

## 733 LONG-RANGE PLANNING DOCUMENT

N.Pisias presented a method for PCOM's initial input to the long-range planning document, a 10-year plan for ODP which will be submitted to NSF and used for the new MOUs past 1993.

PCOM split up into groups to review the White Papers and long-range planning input that resulted from the special summer meetings of the thematic panels. These groups were to:

- 1) Discuss the scientific priorities for the long-range plan, considering the input from COSOD II, thematic panels and other sources.
- 2) Develop a strategy for defining the technical/logistical requirements of the program(s).
- 3) Adapt the scientific priorities to several possible levels of effort to achieve these priorities, clearly indicating the trade-offs.

Summaries of the subgroups deliberations appear below:

### TECTONICS OBJECTIVES

PCOM subgroup: D.Cowan (leader), J.P.Cadet, O.Eldholm, J.Ewing, T.Shipley, M.Wiedicke and D.Falvey

D.Cowan presented the results of the subgroup's discussions on tectonic themes in ODP long-range plans. The group reviewed the TECP white paper and tried to evaluate its general philosophy for long-range plans.

The group saw several major themes for this drilling:

- Investigations of GLOBAL SYSTEMS
  - \* stress measurements
  - \* in-situ seismometers
- Passive Margins
- Convergent margins

To address these themes, well-designed experiments answering specific questions must be formulated rather than "stamp-collecting."

The subgroup suggested ways to approach these themes:

- **Global systems:** Initially, make stress measurements and deploy seismometers in restricted and critical areas where the boundary conditions are known.
- **Convergent margins:** Building on DSDP/ODP results, the program must now focus on specific holes, including deep ones (up to 3 km), to measure stress and effective stress. Examples of these settings are fore-arcs and trench wedges. Evaluate the existing models, e.g. what are the effects of underplating versus subduction?
- **Divergent margins:** Need deep holes (2 km) to sample pre-breakup sections and a series of holes to explore seaward dipping reflectors.

In order to solve these questions, deeper holes with better recovery are needed. Deep holes at convergent margins should be maintainable for long-term monitoring. Before investing in riser drilling, the capabilities of the current drillship should be explored. One approach would be to attempt a deep hole (2 km+ ?) at a convergent margin as a test for feasibility and recovery.

### Discussion

Cowan emphasized the engineering needs of hole stability and recovery in those tectonic settings where differential stress will be encountered. He said that Nankai will be a critical test for these capabilities. Piasias added that TAMU must be well informed of the types of problems that will arise in these settings so that they can develop drilling strategies (e.g casings, circulation systems, safety considerations). Eldholm emphasized that ultradeep holes would need a completely different strategy than 1-2 km holes, and would probably require riser drilling.

Other issues arising from PCOM's discussions included:

- What scientific objectives will be lost if ODP can only drill 1 km holes in the next 8-10 years?
- Better definition of the stress experiments are needed. Specific target areas mentioned were Nazca and Juan de Fuca plates.
- Coordination with on-going relative motion monitoring as suggested in COSOD II document; IRIS input.
- Leg 121 results - stress models do not always fit!

- Better utilization of SEABEAM and other imaging technology in conjunction with seismic images.

PCOM agreed that better experiments, focussed on three or four settings with 2 km holes, would be a reasonable approach for TECP. The major models and hypotheses for the settings should be listed, as well the type of drilling and hole conditions expected to address them. N.Pisias agreed to write a letter summarizing these discussions to send to TECP and liaisons (Appendix H).

### LITHOSPHERE OBJECTIVES

PCOM subgroup: J.Malpas (leader), T.Francis, M.Langseth, M.Kastner

J.Malpas presented the results of the subgroup's discussions. Malpas said that LITHP has consistently provided clear priorities responsive to and consistent with both COSODs. Their two top priorities, however, depend heavily on successful technology developments. These are: 1) deep crustal penetration, and 2) investigations of magmatic processes at ridge crests.

LITHP's second-priority themes can largely be addressed with current technology. Examples of these are: old ocean crust, flexural moat, and hot spot drilling. Young hot spot drilling (Loihi, e.g.) was one White Paper topic not covered by COSOD II.

Malpas reviewed the implementation plan, with multi-phase drilling objectives out to the year 2000, as presented in the White Paper. Malpas said that LITHP should clarify the number of legs per year required for its objectives, especially those in the Phase II of the plan (begin deep crustal holes, start Mid-Atlantic Ridge drilling, establish seismic observatories). Malpas pointed out the seismic observatories and geochemical reference hole objectives could piggyback with other thematic drilling.

Technology which must be available to achieve these priorities includes:

- Penetration to 1500 m by 1992, to 3000 m by 1996 and to the Moho by 2000.
- Drilling to submagmatic temperature holes (up to 700<sup>o</sup>) by the mid-90s.
- Better recovery, stable hole conditions, especially in fractured rock, and development of logging tools capable of withstanding 300<sup>o</sup> as soon as possible.

Malpas concluded that LITHP must clarify how the first priority objectives can be achieved given LITHP's estimate that 2 legs/year would be available to implement their Phase I drilling.

### Discussion

G.Brass asked that TAMU be informed as soon as possible on what temperature, corrosion and fluid control conditions will be expected for the deep crustal drilling.

Malpas summarized "level-of-effort" issues. With a 50% increase or second platform, it probably would be possible to carry out LITHP's entire program. 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. The intermediate depth holes and ridge crest drilling could be achieved. With a steady-state budget, the two highest priorities would be lost, with a default to the second priority objectives.

M.Langseth noted that the Phase I program might reconsider hot spot drilling along with the planned 504B and EPR objectives.

PCOM in general commended LITHP for its Phase I, II and III approach and recognized their long-range planning input as a model for the other thematic panels for expanding their White Papers.

M.Langseth added that PCOM might want to consider the overlap of LITHP's second-string objective, volcanism at initiating rifts, with TECP's divergent seaward-dipping reflector problem. Combining these might effectively "upgrade" their priority.

A letter to LITHP summarizing these discussions was drafted by N.Pisias (Appendix I).

#### SEDIMENTS AND OCEAN HISTORY OBJECTIVES

PCOM Subgroup: G.Brass (leader), B.Coulbourn, S.Gartner, M.Leinen, U.von Stackelberg, A.Taira

G.Brass presented the results of the subgroup's discussions. He reviewed the six drilling priorities listed in SOHP's draft White Paper, but noted that very little in the way of a plan for the drilling was presented. Three topics were referred back to SOHP:

- 1) The White Paper needs to address the COSOD II Working Group V themes on biological evolution. Although it is not straightforward how to operationally carry out this theme, there are opportunities to use ODP cores to answer important questions on evolution. SOHP should look at long-range plans for addressing this theme, designate where critical transects are needed and which environmental effects may have been important (isolation of water masses, e.g.)
- 2) SOHP needs to expand the paleo-upwelling and productivity theme and concentrate on specific processes such as carbon cycling.
- 3) SOHP's Theme #6, depositional manifestations of continental uplift and erosion should also be expanded - - reconstructions of tectonic effects on land, importance of bioturbation, etc. Splitting SOHP into the new panels may better focus for this topic in the future.

The PCOM subgroup recommended an interdisciplinary group to expand the White Paper on problems of fluid circulation and its importance to marine geology (as TECP is focussing on alteration of crust at geothermal systems, etc.). N.Pisias noted that the Fluid Processes Working Group to be chaired by Graham Westbrook is being formed to address this area and suggested that the EPR Working Group might be able to look at processes at ridgecrests. PCOM agreed that the fluid system studies crossed the boundaries of several panels and specific issues must be defined.

PCOM noted that fluid circulation at passive margins was not covered adequately in the current panel structure. PCOM agreed to proceed with the Fluids Working Group (25 September in Italy in conjunction with a NATO advanced research workshop on fluids in accretionary wedges). Their mandate, to establish criteria for evaluating proposals on fluid processes in prisms, was expanded to include a review of fluids drilling proposed in the SOHP White Paper. LITHP should also more clearly define which processes of fluid interaction with the lithosphere should be investigated.

A.Taira recommended that PCOM use the upcoming COMFAN meeting on deep-sea fans (September in Italy) as a resource for questions relating to sedimentary processes and how drilling can answer them. PCOM agreed that Bill Normark be asked to meet with a group after the COMFAM sessions to provide input to SOHP's White Paper. Taira added that this group might be potential members of the new Sedimentary and Geochemical Processes Panel. [Normark has agreed to have a

small group meet at COMFAN and expand the sedimentary processes section of the SOHP long-range input.]

Brass outlined the additional comments on SOHP's draft white paper:

- Specific drilling plans should be provided. LITHP's phased-in drilling approach was strongly encouraged.
- Interaction with global programs like WOCE should be emphasized.
- Outline ways to approach transform and transport mechanisms in the oceans.
- Investigations of sea level changes - how to use seismic stratigraphy, submerged continental margin studies, and the EDGE program studies.
- What is the status of deep stratigraphic tests listed as a previous SOHP priority?

A letter to SOHP summarizing these discussions was drafted by N.Pisias (Appendix J).

### Long-Range Planning Document

PCOM agreed that a group consisting of N.Pisias and the three leaders of the white paper reviews (Brass, Cowan and Malpas) meet the third week of October 1988 in Corvallis to focus the PCOM and panel input for the long-range planning document. PCOM also suggested that an NSF representative attend.

## 734 INDIAN OCEAN PLANNING

### Leg 123:

Sites AAP1B and EP2A are now scheduled for Leg 123. L.Garrison reviewed the changes in the Leg 123 due to the exchange of Leg 123 site EP9E for Leg 122 site EP2A. With these changes, Leg 123 may be about three days too short to complete all AAP1B objectives (drill 900 m sediment, 250 m basalt; packer, hydrofracture, BHTV, VSP, standard logging and magnetic susceptibility test).

PCOM discussed the importance of basement objectives at both sites; reaching basement is essential to address rifting mechanisms at EP2A, but AAP1B basement objectives are of higher overall importance.

### PCOM Consensus

The drillship should start and complete plans for Site AAP1B, as described in the Leg 123 Prospectus, before undertaking EP2A (and complete as many objectives as possible there).

## 735 WESTERN PACIFIC PLANNING

### FY89 PROGRAMS

### Leg 124:

PCOM reviewed the priorities of sites of Leg 124 as previously determined by PCOM: (BNDA-2, CS-1, SS-3, and Cagayan Ridge, equivalent to Sulu Sea 4). B.Taylor (WPAC Chairman) has asked that SCS-10 (moved east of SCS-9) not be dropped as a priority objective as it is an equivalent



site to SCS-5, which could not be drilled due to lack of clearance. PCOM reviewed the tectonic objectives of SCS-5 ("zipper" opening in basin), maps and paleomagnetism imaging in the basin, and Taylor's letter.

PCOM Consensus:

The priorities for Leg 124 will not change from those previously determined by PCOM at the Annual Meeting. These are the three basin sites with basement penetration: Banda (BNDA-2), Celebes Sea (CS-1), and a Sulu Sea Site (SS-1, SS-2, or SS-3, all equivalent sites) and a Cagayan Ridge site proposed by SOHP, now numbered SS-5 in the Prospectus.

Logging plans for Leg 124 are listed in Appendix D.

**Thursday, 25 August 1988**

Leg 125:

There is no change in status from PCOM's previous recommendations on the leg. Garrison reported that a preliminary prospectus and most staffing is complete for the leg.

Leg 126:

PCOM reviewed the update on increased drilling depths for the leg provided by B.Taylor. Of major concern to PCOM are reports of high heat flow at proposed site BON-1 (estimated basement temperatures of up to 300° C).

PCOM Consensus:

WPAC, TECP and LITHP will be asked to provide a secondary site to BON-1 if the November safety review determines that the site can not be drilled safely.

M.Langseth suggested that the HPC heat flow device might be used during the drilling process and drilling stopped if a steep heat flow gradient is determined. Piasias added that PPSP might recommend additional drilling strategies. L.Garrison asked that BON-3 and BON-4, alternate sites for the leg, be prioritized.

Leg 127 and 128:

No further changes to these programs were made. L.Garrison reported that Ken Pisciotto will join Ken Tamaki as co-chief on Leg 127. Leg 129:

Piasias said that DMP was asked to evaluate the Nankai logging program. The Borehole Research Group had devised plans both with the GEOPROPS tool and without it as it may not be available for the leg in time. DMP had asked for a working group to review these plans.

PCOM agreed that, in conjunction with the DMP 6-7 October 1988 meeting, a DMP subgroup should review the Nankai logging plans. A few additional experts may be invited to attend, including a TAMU Operations representative and the Leg Co-chiefs. The group should outline 20 days of logging, and the scientific priorities for them, to be completed on Leg 129, and also note which scientific objectives could be gained if an additional leg were available in the future.

R.Jarrard noted that three tools of the eleven tools planned for the leg will not have been used by ODP before this leg ("vaporware"). Malfait added that the GEOPROPS proposal is still under review at NSF ("paperware").

Concerning proposals for fluid studies at Nankai, TECP has not yet responded to them but the fluids working group will look at them. An early safety review (potential gas problems) has been scheduled for November.

## FY90 PROGRAMS

### Geochemical Reference Holes:

PCOM discussed LITHP, TECP and CEPAC's recommendations for a geochemical reference hole leg, as well as G.Mountain's input on site surveys. PCOM agreed that the chert drilling results from Leg 124E would be important input on siting for the leg (especially MAR-4).

PCOM determined that the geochemical reference drilling can not be combined effectively with the Old Pacific crust objectives. The BON-8 site is a priority as a first look at the problem, and WPAC will be asked to develop one leg (to follow Nankai drilling) which would include BON-8 and MAR-4 and MAR-5. PCOM will review the program at its annual meeting in November. M.Kastner agreed to formulate questions on this program for LITHP's consideration.

### NE Australia Margin

No changes were made to the existing program, but an early final safety review from PPSP is recommended. SOHP will be asked to prioritize and give alternates to sites in the transect (NEA 10 and 11 may be lower priority, e.g.).

### Vanuatu

No changes to the previous six-site program were made.

### Lau Basin

PCOM members reviewed the GLORIA data, displayed in the meeting room, which was collected during the recent Darwin cruise in the Lau Basin. The model suggested for the basin opening must be re-evaluated and the proposed sites relocated since they are in a complex area of spreading. WPAC will be asked to work with the proponents to provide new sites in light of the new data. No guidebases are planned for the leg.

## 736 CENTRAL PACIFIC PLANNING

### Review of CEPAC Prospectus

PCOM had been provided with the July 1988 CEPAC prospectus in which 14 programs were outlined. PCOM noted that detailed site descriptions and a drilling plan are missing from the document.

Each of the CEPAC watchdogs gave an overview of their assigned CEPAC programs.  
[Note: D.Cowan was assigned as future watchdog of the Cascadia Margin Drilling. M.Leinen and J.Malpas will serve as watchdog for the Early Hot Spot Volcanism theme.]

The attached memo (Appendix K), written to the thematic panels, CEPAC, and the two relevant working groups (EPR/Sedimented Ridges and Fluid Processes in Accretionary Prisms), summarizes PCOM's concerns with and instructions for further developing the CEPAC drilling plans.

[Note: As a proponent on the Equatorial Pacific and North Pacific Neogene programs, N.Pisias absented himself from discussions of these proposals. J.Malpas, who had recently raised the possibility of the JOIDES Office rotating to a non-US member, was appointed PCOM Chairman pro tem, and he served with distinction.]

Scheduling for CEPAC Programs.

The CEPAC programs were assigned probable number of legs for their completion and the following tally made:

Lithosphere Objectives

Program	Legs Needed
504B	1.5 (inc.engineering)
EPR	2.5 (engineering; 5 guidebases)
Sedimented Ridge	2.0
Loihi (young hot spot)	1.0 (2 guidebases)
	=====
	7.0

Tectonics Objectives

Program	Legs Needed
Chile Triple Junction	1
Lith. flexure	1
Accretionary Prism (M-series and Old Pacific Crust?)	1 (program not evaluated)
	=====
	3

Sediments/Ocean History Objectives

Program	Legs Needed
Shatsky Rise	1 (possibly .5)
Atolls and Guyots	1
Eq.Pacific transect	2
North Pacific Neogene	1
	=====
	5 <b>TOTAL LEGS = 15</b>

PCOM discussed the possibilities of inserting mature CEPAC legs into the Western Pacific FY90 programs (Atoll/Ontong-Java Plateau drilling before Lau Basin, e.g). An obvious problem will be scheduling out the 504B and EPR drilling as they depend on "piecemeal" engineering (conditioning 504B, setting guidebases) and engineering developments (success of the diamond coring system, success of deep drilling and chert penetration/recovery).

N.Pisias suggested a timeline for scheduling in which all other legs work around these engineering-dependent legs.

PCOM had originally proposed a planning framework of 18 months of drilling in the Central Pacific, in obvious conflict with the number of programs developed in the prospectus.

G.Brass and M.Kastner moved that the planning framework for the Central Pacific be changed to 12 legs (motion withdrawn later in discussions). Various options of scheduling the drillship based on maturity of technology and mature proposals in other oceans were discussed. PCOM agreed that a mechanism for evaluating Atlantic Ocean proposals must be set up soon and the ocean drilling community notified of future plans for the drillship. J.Malpas reiterated LITHP's concern that its global priorities are best addressed in the Central Pacific.

N.Pisias noted the exciting science proposed in the LITHP white paper, with many years of well-justified lithosphere drilling possible in the Central Pacific. He suggested, however, that PCOM limit drilling there to 18 months, with the ship at the Panama Canal at the end of that time; the direction of the ship would then be determined by thematic priorities. Also, he suggested that 12 legs of priority science be identified so PCOM can effectively plan for 18 months of drilling to begin in FY92. PCOM agreed that this proposition would pressure proponents to submit mature proposals. B.Malfait added that lining up Atlantic Ocean site surveys must have sufficient lead time as well.

D.Cowan strongly disagreed with arbitrarily cutting three of the 15 CEPAC programs at this meeting. R.Moberly suggested that a statement in the JOIDES Journal, EOS and other resources be made to notify the community that thematically-mature proposals should be submitted for drilling as soon as FY91. He added that with so many technology-dependent legs scheduled in the next 24 months, good Atlantic proposals might impact scheduling even sooner.

Pisias proposed the following schedule, tied to PCOM Annual meetings, for review of upcoming drilling programs:

Nov. 89	Finalize 6 legs for FY91 in the Pacific
Nov. 90	Finalize 6 legs in the Pacific and elsewhere, depending on thematically reviewed drilling proposals submitted to JOIDES
Nov. 91	Finalize 6 legs for FY93

PCOM discussed the implications of this proposal in regards to PCOM's mandate to plan four years in advance of the drillship, the conclusion of the current MOUs in September of 1993, and the need for advance site surveys. Cowan recommended opening the last 12 months of the current MOUs up for "competition." The obvious hardships to TAMU for logistics and engineering planning were discussed.

W.Coulbourn, in consultation with R.Moberly, made the following proposal:

At the November 1989 Annual PCOM Meeting, and at subsequent meetings, PCOM will examine thematically-reviewed proposals in the central and eastern Pacific, Atlantic and elsewhere in order to plan a general direction of the vessel in the period after 1991.

PCOM did not vote on this motion. Instead, G.Brass, D.Cowan and R.Moberly were instructed by N.Pisias to hammer out a compromise statement during PCOM's already long-delayed afternoon tea break. Upon return, the following motion and instructions were finalized by PCOM:

PCOM Motion:

The Planning Committee solicits and will evaluate proposals for approximately 12-18 months of drilling, in all oceans, to be conducted in FY92 and FY93. This drilling will complete the present phase of the Ocean Drilling Program. (Motion Cowan, second Kastner)

Vote: 14 for, 0 against, 2 abstain

Based on the previous motion, PCOM formulated the following instructions:

PCOM Consensus:

In order to move the JOIDES Planning structure into the thematic mode, future planning will proceed in the following manner:

1. At the annual PCOM meeting in November, 1989, PCOM will choose a firm schedule for FY91, consisting of drilling in the Pacific.
2. At subsequent annual meetings, schedules will be chosen based upon the thematic values of the proposals which have reached the mature stage by that time. Modifications may be made in order to adapt the schedule to the logistical and technological capabilities of the Ocean Drilling Program.
3. PCOM will actively solicit proposals, responsive to the themes in the white papers, for drilling in all ocean basins.
4. Thematic panels will reconsider those proposals already submitted for drilling in regions outside of the central and eastern Pacific area.

G.Brass presented the consensus and also pointed out that the motion takes into account that ODP is in transition. Once mature proposals have been received from all oceans, PCOM can proceed with a realistic four-year planning cycle.

### 737 DOWNHOLE MEASUREMENT ISSUES

PCOM has not received the Downhole Measurements Panel's update to its draft policy on third-party tool development and no action was taken on this item.

M.Langseth, DMP liaison, alerted PCOM to upcoming problems for logging holes cored with the new diamond coring system (DCS). With a 4" diameter bore, some Schlumberger and most specialty logging tools will be excluded. Pisias said that the Borehole Research Group should do a cost comparison of slimming ODP logging tools versus increasing the hole diameter with the DCS. Jarrard said that such an analysis would require close work with TAMU engineers and many man-

months of calculations, and could not be done before the test run of the DCS on Leg 124E. T.Pyle requested that JOI, Inc. be notified as soon as possible of how the study will be conducted and of any budget impact.

PCOM agreed with DMP's recommendation #12 that a representative from the German deep continental drilling program (KTB) should be invited to give a presentation at an upcoming PCOM meeting.

### 738 INFORMATION HANDLING ISSUES

Several issues forwarded by the Information Handling Panel and their PCOM liaison, S.Gartner, are summarized in Appendix L, along with PCOM's recommendations on them.

### 739 FUTURE MEETING SCHEDULE

The schedule for the upcoming Annual PCOM Meeting will be as follows:

Sunday, 27 November 1988	Panel Chairman's Meeting
28 November - 2 December 1988	PCOM Annual Meeting

As G.Brass will be at sea, Keir Becker will host the meeting at RSMAS, University of Miami. A field trip (carbonates) is tentatively planned. PCOM nominated R.Detrick (LITHP) or T.Moore (IHP) to chair the Panel Chairmen's meeting. [Note: Detrick has accepted.]

The international meeting was moved forward so that outgoing PCOM member, Olav Eldholm, can host the meeting for ESF. The meeting will be held:

2-3-4 May 1989	ESF to host in Oslo, Norway
----------------	-----------------------------

A field trip (which Olav says will cover all themes) is tentatively planned.

As a testament to PCOM's long-range planning, the following dates and locations were chosen tentatively for future meetings:

22-23-24 August 1989	U.Washington to host in Seattle
November 1989	Annual Meeting - Woods Hole ?

## 740 CONCLUSION OF MEETING

As outgoing PCOM Chairman, Nick Piasias thanked PCOM and the PCOM liaisons for their efforts during his two years at the helm. He wished all the best to the new JOIDES Office at HIG and to Chairman Ralph Moberly.

PCOM Toastmaster-general, Garry Brass, presented tokens of PCOM's appreciation to the OSU JOIDES Office staff (including a poster of the Titanic for Nick) and wished them well in future endeavors.

PCOM toasted meeting host, Tim Francis for his organization of the meeting at Oxford, and congratulated outgoing HIG PCOM representative, Bill Coulbourn, for all his efforts.

There being no further business to consider and lots of wine to drink, the PCOM meeting was adjourned at 6:00 PM.

NSF REPORT

PLANNING COMMITTEE MEETING  
OXFORD  
AUGUST, 1988

APPENDIX A



1. STATUS FY1989 PROGRAM PLAN

BUDGET TARGET INCREASED FROM \$36.0M TO \$36.15M  
\$15.0M-INTERNATIONAL \$21.15M-NSF  
INCREASE IN RESPONSE TO 3rd PPI INCREASE  
ADDENDUM TO PROGRAM PLAN SUBMITTED TO NSF BY JOI  
FUTURE PROBLEMS- PPI INCREASES. MINING CORING SYSTEM

2. RESULTS EXCOM/COUNCIL

NSF ANNOUNCED INTENTION TO INCREASE INDIVIDUAL  
CONTRIBUTION LEVEL BY 10% TO \$2.75M/year BEGINNING IN 1990.

PRELIMINARY TARGET BUDGET OF \$38.0M FOR 1990 ASSUMES 6  
PARTNERS AT \$2.75M. OFFICIAL TARGET BUDGET WILL BE GIVEN TO  
JOI IN EARLY JANUARY.

COUNCIL AGREED WITH EXCOM CONCERNING ADDITIONAL MATERIAL TO  
BE INCORPORATED INTO LONG-RANGE PLANNING DOCUMENT.

CANADA ANNOUNCED NEGOTIATIONS WITH AUSTRALIA CONCERNING  
CONSORTIA ARRANGEMENT

EXCOM REQUESTED NSF TO RE-EVALUATE TARGET BUDGETS FOR FY  
1991 AND 1992.

3. STATUS NSF BUDGET FOR 1989

APPROPRIATIONS BILL IS AT PRESIDENT FOR SIGNATURE

OCEAN SCIENCES AND DRILLING PROGRAM PROTECTED AT REQUESTED  
LEVEL

OCEAN SCIENCES INCREASE (8.2% OR \$11.1M)  
OCEAN DRILLING INCREASE (4.6% OR \$1.4M)  
IDENTIFIED NEW OCEAN ENGINEERING RESPONSIBILITY  
INCREASED SUPPORT FOR EDUCATION/HUMAN RESOURCES

4. REVIEW OF 1989-1992 PROGRAM PLAN

NSF REQUIRED TO PERIODICALLY REVIEW LARGE PROJECTS FOR  
FUNDING AUTHORITY.

FY89-92 PLAN REVIEWED BY A PANEL IN EARLY JUNE  
PRESENTED TO NATIONAL SCIENCE BOARD LAST WEEK

PANEL REVIEW SUMMARY

OVERALL REVIEW POSITIVE WITH RECOMMENDATION FOR CONTINUED FUNDING

PANEL COMMENDS PROGRAM FOR CLARITY OF PRESENTATION

PANEL NOTED IMPORTANCE OF:

- \* PROGRAM'S SCIENTIFIC OBJECTIVES AND PROGRESS
- \* PROGRAMS'S ROLE IN STIMULATING INTERNATIONAL COOPERATION AND PLANNING IN THE GEOSCIENCES
- \* PROGRAM'S ROLE IN TRAINING AND EDUCATION
- \* RESPONSIVENESS OF THE PROGRAM TO NEW SCIENTIFIC DIRECTIONS AND INPUT
- \* PROGRAM'S PUBLICATIONS, DATA BASES, AND SAMPLES TO FUTURE RESEARCH

PANEL IDENTIFIED SEVERAL AREAS REQUIRING INCREASED EMPHASIS, INCLUDING:

- \* DEVELOPMENT OF APPROPRIATE INTERFACES WITH OTHER NEW INITIATIVES IN EARTH AND OCEAN SCIENCES
- \* DEVOTION OF SUFFICIENT TIME AND RESOURCES TO SOLUTION OF SPECIFIC PROBLEMS - AT THE EXPENSE OF NUMBER OF PROBLEMS BEING ADDRESSED
- \* SUPPORT FOR IMPROVEMENTS IN DRILLING TECHNOLOGY
- \* PRESENTATION OF RESULTS IN THE FORM OF THEMATIC SYNTHESSES TO BOTH THE SCIENTIFIC COMMUNITY AND GENERAL PUBLIC

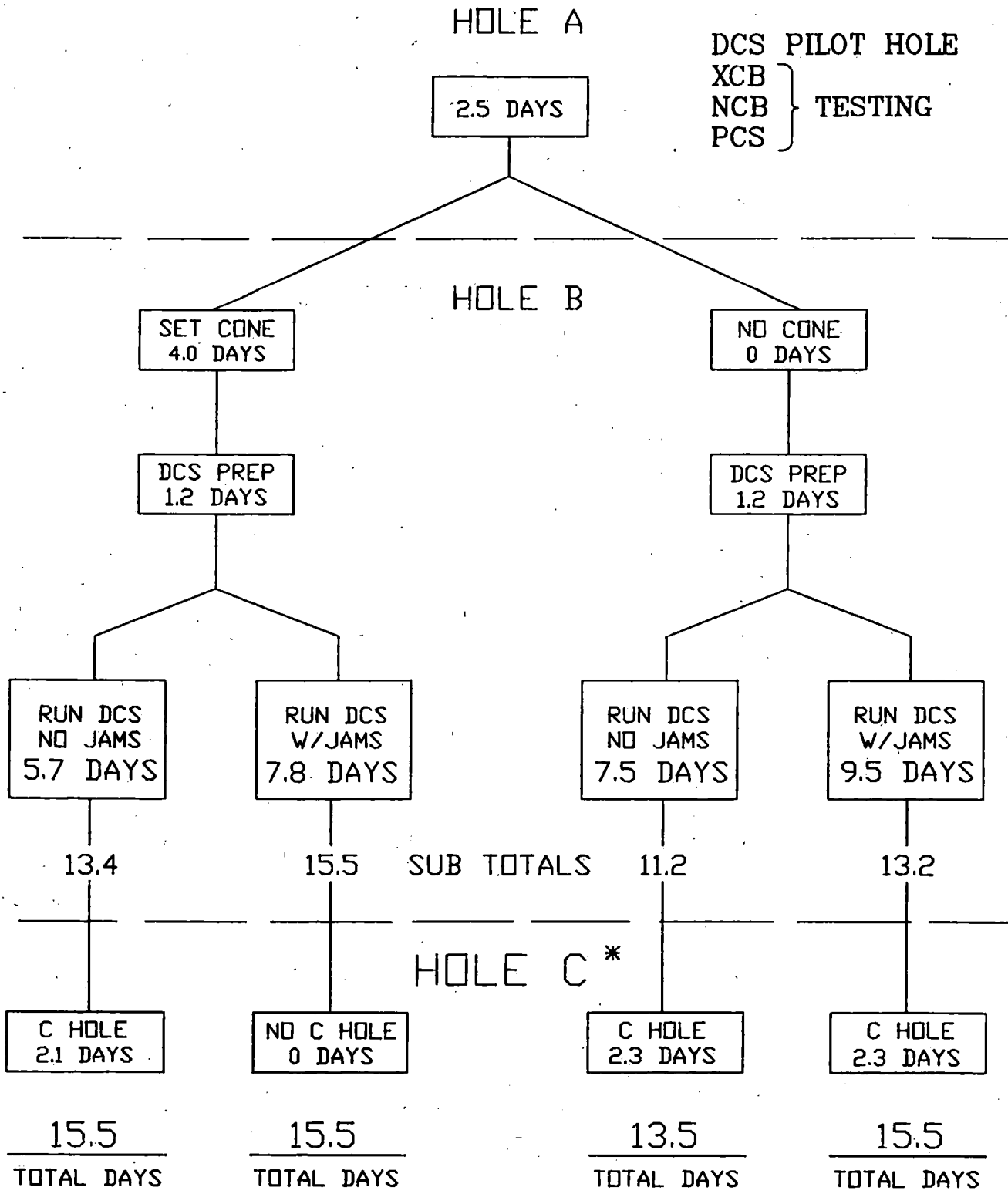
NATIONAL SCIENCE BOARD

- \* APPROVED RECOMMENDATION FOR FOUR YEARS OF FUNDING AT A LEVEL NOT TO EXCEED \$156M.
- \* REQUESTED FURTHER DISCUSSION ON ROLE OF ODP IN SCIENCE AND PLANS FOR THE FUTURE

ODP OPERATIONS SCHEDULE

Leg	Objective	Departs		Arrives		Port Days	Days at Sea
		Port	Date	Port	Date		
121	Broken Ridge & Nintyeast	Fremantle	5/06/88	Singapore	6/28/88	6/28-7/02	53
122	Exmouth Plateau	Singapore	7/03/88	Singapore	8/28/88	8/28-9/01	56
123	Argo Abyssal Plain & Exmouth Plateau	Singapore	9/02/88	Singapore	11/01/88	11/01-05	60
124	SE Asia Basins	Singapore	11/06/88	Manila	1/04/89	1/04-08	59
124E	Engineering I	Manila	1/09/89	Guam	<sup>15</sup> <del>2/13/89</del>	<sup>15-17</sup> <del>2/13-17</del>	<del>35</del> 37 (12)
125	Bon/Mar	Guam	<sup>20</sup> <del>2/18/89</del>	Tokyo	<sup>18</sup> <del>4/16/89</del>	<sup>18-22</sup> <del>4/16-20</del>	57 CK (no chgs)
126	Bon 2	Tokyo	<sup>23</sup> <del>4/21/89</del>	Yokohama	<sup>19</sup> <del>6/18/89</del>	<sup>19-23</sup> <del>6/18-22</del>	<del>58</del> 57 (-1)
127	Japan Sea I	Yokohama	<sup>24</sup> <del>6/23/89</del>	Hakodate	8/20/89	8/20-24	<del>58</del> 57 (-1)
128	Japan Sea 2	Hakodate	8/25/89	?	10/5/89		41
- - - - - D R Y D O C K (14 D A Y S) - - - - -						10/5-10/18	
129	Nankai	?	10/19/89	?	12/18/89	12/18-22	60
129E	Engineering II	?	12/23/89	?	1/21/90?	?	30?

# ENG-1 DECISION POINTS/TEST OPTIONS



\* XCB } COMPARISON TESTING  
 NCB }  
 PCS }

## Changes in Logging for Upcoming Legs

### 123 (Argo/Exmouth):

- 1) drilling strategy at AAP-1B changed to XCB A hole, case that interval in rotary B hole; requires 1.3 extra days for logging.
- 2) PCOM had added 4 days for VSP(1 day) and extra basement penetration, but change of ports absorbs 3 of those days.
- 3) DMP and 123 Operations Superintendant request that AAP-1B be completed before Exmouth site.
- 4) planned logging on track, including staffing of needed expertise in hydrofrac, VSP, and susceptibility.
- 5) stress-related experiments are also on ODP test of techniques: stress direction from televiwer breakouts and tube-wave anisotropy; stress magnitude from hydrofrac, breakout morphology, and core expansion.

### 124 (SE Asia Basins):

- 1) drilling strategy changes to XCB A hole, case that interval in rotary B hole; requires 2 extra days for logging.
- 2) WPAC had dropped DMP-recommended televiwer stress because of time constraints; cochiefs strongly favor televiwer.
- 3) CMP recommendation to log shallow SUL-4 (if drilled); cochiefs think unlikely that time will permit drilling it.

### 124 (Engineering Test)

- 1) most logging experiments on track.
- 2) probably add a brief test of ability to get logging tools down a mining/coring hole; DMP recommendation that the mining/coring system be designed with logging compatibility.
- 3) FMS test dubious, too soon.
- 4) Japanese request for 2 days to test deployment system for Nankai temperature string; 1/2 day feasible in present plan.

### 125 (Bonmar):

- 1) no change, wireline packer on track

### 126 (Bonin):

- 1) no change, FMS (Formation microscanner) on track.
- 2) no plans for high-temperature logging capability at Bon-1 (except 124E test of cooling hole with sidewall entry sub).

### 127 & 128 (Japan Sea I and II):

- 1) most logging plans on track.
- 2) some uncertainty about which leg to put J1b VSP and packer in,

to minimize costs and maximize shipboard expertise.

129 (Nankai):

- 1) PCOM had asked DMP for a logging operations plan; DMP response was that a combined drilling/logging operations plan is warranted, requiring a 1-1.5 day meeting; DMP requested a working group for this.
- 2) major debate on whether one leg is sufficient for drilling and logging of NKT-1 and NKT-2; no analysis done of implications of drilling/logging delays on scientific returns.
- 3) DMP response to proposal for temperature string deployments, DMP continues to endorse experiment, but recommends extra hole and conditioning of scheduled reentry hole instead of proposed dedicated hole.
- 4) DMP response to proposal for VSP and offset seismic experiment: DMP continues to endorse both.
- 5) geoprope probe: PCOM postponement of Nankai leg makes tool development before leg feasible; development proposal pending; proponent thinks Jarrard strawman has too few geoprope measurements; DMP recommended running lateral stress tool for soft sediments.
- 6) known deficiencies in Jarrard strawman (Appendix K of April PCOM minutes): safety panel will not approve washing NKT-2 before coring; temperature string requires reentry cone.

ODP WIRELINE LOGGING TOOL LOSS

History:

Leg	String	Cause	Tool Recovered	Tool Cost	Deduct.
101	#1 lithopor	caught by cave-in of 100 m of hole	no	151K	5K
113	#1 seis strat	pumping while tool in BHA with SES in place	no	92K	10K
117	#1 seis strat	caught in bridge above tool	no	187K	10K
117	#2 lithopor	tool caught entering BHA by excenteralizer	yes		
121	#1 seis strat	tool caught by broken caliper entering BHA, weak point severed	yes		
122	#3 lithopor	tool caught in BHA by fouled minicone cable	no	117K	20K

Preventive Actions Taken:

1. Assumed responsibility for logging winch and cable (starting Leg 123)
  - a. removes conflict of TAMU cable expense (max. \$25K) vs LDGO logging tool expense (max. \$290k); e.g. Leg 122 cut & strip cost us \$4K in cable.
  - b. permits greater risk to cable to reduce risk to tools (e.g. cut & strip).
  - c. permits stronger weak point to emphasize recovery of logging tool vs. previous practice of returning cable intact even if tool is lost.

2. Increased LDGO logger training on preventing tool loss (minor impact because Schlum. engineer and TAMU Ops. Superintendent are quite experienced and the Ops. Superintendent is in charge of recovery).
3. Prevent recurrence of specific types of tool loss:
  - a. bridge problem reduced by better hole conditioning, filling hole with mud, using salt muds.
  - b. prevent density tool sticking by shortening and welding bowsprings, replacing tool with hydraulic tool on Leg 124E.
  - c. development of "crimp & cut" technique.
  - d. using SES to pull pipe while logging (successful on Leg 122).
  - e. stress analysis of SES (to hopefully permit SES use in deeper water and poorer hole conditions).

Present Status:

1. Impacts of each tool loss:
  - a. \$20K deductible (sure to rise steadily), and risk of insurance cancellation
  - b. Some tools (e.g. ACT, FMS, HLDT, phasor) take many months to replace.
2. Insurance of Schlumberger tools:
  - a. On Eastern Hemisphere group policy through Schlumberger, so our losses do not have a large effect on the huge pool of users.
  - b. Premium cost \$8K/yr (sure to rise), claims about \$140K/yr.
  - c. Cancellation possible any time; result would be "self insurance".
  - d. Insurance requires drill pipe fishing (actually done in only 2 of 6 tool problems, 1 of 4 losses).



3. Insurance of specialty tools (televiwer, MCS, wireline packer, temperature): none, "self insured".
4. Tool risk is still much higher than in industry, because of much less hole conditioning (no mudcake) and riskier fishing effort (no riser).
5. Decision on whether to fish at all is now delegated by ODP operations manager to cochiefs.

**Proposed Policy:**

In the event that a logging tool is lost downhole, the Operations Superintendent will ensure that drillstring fishing is undertaken.

**Estimated ODP Impact:**

1. About 3 days per year of lost science (primarily logging data)
2. About 50% reduction in tool losses
3. No insurance cancellation.

## 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 Working 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 recommends to the Executive Committee, 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) 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 the 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 Thematic 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, and 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 the 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 to the Planning Committee one member 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

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.

- 4.1 Specific Responsibilities of Thematic Panels. 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 at 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.

- 4.1.1. In the course of the work specified in paragraph 4.1., 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.
- 4.1.2. 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.
- 4.1.3. 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.

#### 4.2 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; ageing 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.

#### 4.3 Tectonics Panel: Mandate

Tectonics Panel is concerned with large-scale structural features and processes of deformation, including those that are active today at plate boundaries and those that are recorded in the 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 (atoll, guyot) 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.

#### 4.4 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 effects 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.

#### 4.5 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 sediments to rocks; geochemistry of interstitial and formation

waters; petrology, mineralogy, thermal, magnetic and other physical properties, and geochemistry of diagenetic phases and 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 oceanic 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. Detailed Planning Groups: Mandate

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. DPG's 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 panels.

### 5.1 Structure of the 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.

## 5.2 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.

## 6. Technology and Engineering Development Committee: Mandate

The Technology and Engineering Development Committee (TEDCOM) is responsible for advising as to the proper drilling tools/techniques necessary 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.

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

## 7. Service Panels

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, 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.

#### 7.1 Site Survey Panel: Mandate

7.1.1. 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.

7.1.2. The Site Survey Panel is mandated to:

- (a) Receive mature proposals from the Detailed Planning Groups and thematic panels, to review site survey data packages prepared by the ODP Data Bank and to make recommendations as to their adequacy to the Planning Committee.
- (b) Identify data gaps in proposed future drilling areas and to recommend appropriate action to ensure that sufficient site survey information is available for pinpointing specific drilling targets and for interpretation of drilling results.
- (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.

7.1.3 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.

#### 7.2 Pollution Prevention and Safety Panel: Mandate

7.2.1. The general purpose of the Pollution Prevention and Safety Panel is to provide independent advice to the Planning Committee and to

the Science Operator with regard to safety and pollution hazards that may exist because of general and specific geologic circumstances of proposed drill sites.

- 7.2.2. **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.

- 7.2.3 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.

### 7.3 Information Handling Panel: Mandate

- 7.3.1 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.
- 7.3.2. The Information Handling Panel is mandated to advise POCM on:
- (a) (1) types of publications to be produced; (2) publication formats; (3) schedules and deadlines; (4) publications policy and goals of the ODP publications program.
  - (b) (1) the operation of the core repositories; (2) curatorial policy; (3) filling of sample requests; (4) curatorial data management; (5) long-term goals for the preservation of the core materials and other physical samples obtained by ODP and DSDP; and (6)

establishment and operation of the various micropaleontology reference centers.

- (c) (1) the types and contents of the data bases to be maintained by ODP; (2) the treatment of raw data; (3) the establishment of uniform procedures and standards for data handling and processing; (4) the structure, philosophy and goals of the information systems produced by the program; and (5) the management of data bases, 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) (1) shipboard and shore-based computer facilities, equipment and procedures; (2) software development; (3) data collection techniques; and (4) meeting the computational needs of shipboard and shore-based scientists, as well as providing access to data bases for all interested parties. Coordination with the Shipboard Measurements Panel on these issues is necessary.
- (f) Advise on (1) long-term preservation of the raw data generated by ODP and DSDP; (2) preservation of all past records bearing on sample history; and (3) preservation of any other records of the program which might benefit future workers.
- (g) Advise on 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.

#### 7.4 Downhole Measurements Panel: Mandate

7.4.1. 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).

7.4.2 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 scientific desirability, technical feasibility of proposed programs
- (d) Advise the Science Operator on scheduling and operational requirements of proposed programs.
- (e) Monitor progress reports, results, tools and techniques from U.S. and international downhole instrumentation development groups.
- (f) Solicit and expedite new logging capabilities and experiments.
- (g) Evaluate new technology and recommend future measurement directions.

7.4.3. Membership consists of a well-balanced representation, and 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.

## 7.5 Shipboard Measurements Panel

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

7.5.1 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 equipment on the RESOLUTION.
- (c) To direct, via PCOM, panel activities toward acquiring and maintaining the best possible shipboard scientific capability within the constraints of the ODP budget.

7.5.2 Scope. 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, 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.

7.5.3 Membership. The panel will consist of members from U.S. institutions and from non-U.S. JOIDES member countries. 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.

7.5.4 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.

7.5.5 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.

Terms of Reference for  
JOIDES EXECUTIVE COMMITTEE  
FOR THE OCEAN DRILLING PROGRAM

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 initial membership of this committee will be comprised of one representative of each of the four non-U.S. countries participating in International Phase of Ocean Drilling (IPOD) under active Memoranda of Understanding (MOU) with the National Science Foundation (NSF) [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] which are currently participating in the JOIDES Executive Committee for IPOD. The appointment of additional members will be determined by the 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 two non-U.S. members. A quorum shall constitute two-thirds of the Executive Committee. Notices of meetings and agendas will be sent to members 60 days prior to the time of the meetings. 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 from his or her institution, 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. The Planning Committee shall be composed of one member (with an alternate) designated by each member of the Executive Committee. The Planning Committee shall act on the basis of a vote of a majority of all members. The Budget Committee shall operate in accordance with item 7 below.

7. 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 the Planning Committee and the JOIDES advisory structure, is presented. The 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 their 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 periodically, 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 Joint Oceanographic Institutions, Inc. and the subcontractors if budget questions or problems arise. BCOM reports to the Executive Committee (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 the Planning Committee.

Mandate. The Budget Committee acts on behalf of EXCOM and PCOM for preliminary reviews of the ODP Program Plan and budgets therein. BCOM evaluates how well the program plan and budget address the scientific priorities which have been defined by PCOM (and the JOIDES advisory structure). BCOM can act on behalf of the entire EXCOM on budget matters which EXCOM delegates to it.

BCOM reviews the ODP Subcontractor Budgets and draft Scientific Program Plan, as well as budgets provided by JOI Inc. based on them and on projections for ODP funding received from NSF.

If necessary, BCOM will also indicate that a given or projected funding level is not sufficient to achieve an ODP scientific priority.

BCOM can request that liaisons from the ODP subcontractors, JOI or NSF attend its meetings.

Meetings. The Budget Committee 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.



Membership. The Budget Committee 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 of the Budget Committee is a U.S. Member, ideally the immediate past Chairman of PCOM.

Members to BCOM are appointed by EXCOM. EXCOM or PCOM members representing JOIDES institutions with major ODP subcontracts will not be appointed.

8. The Executive Committee, and all subcommittees thereto, shall keep written records of their proceedings.
9. 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 the corporation 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.
10. These Terms of Reference, upon ratification by members of the existing JOIDES Executive Committee for IPOD and adoption by JOI as an amendment to its By-Laws, will supercede all previous JOIDES agreements.

JOIDES Executive Committee  
for the Ocean Drilling Program

Appendix 1

Time table for developing Budget and Program Plan:

Aug/Sep	EXCOM advice to PCOM
Dec	PCOM plan & advice to JOI/EXCOM
Jan 5	NSF budget to JOI/JOIDES
Feb 2	JOI outline to NSF/JOIDES budget committee (BCOM) If no problems, mail to EXCOM, if problems, BCOM proposes solution
Feb	EXCOM meeting (if necessary)
April 1	JOI plan for NSF administrative review (includes JOIDES suggestions, if required)
April 7	JOI Revisions
April 15	JOI plan and NSF concerns to JOIDES BCOM, EXCOM and ODP council (Note: This is a <u>draft</u> program plan)
May 10	JOI review with JOIDES BCOM*
May 15	EXCOM/ODP Council meeting: JOI/BCOM give their input to EXCOM, EXCOM gives advice to NSF/JOI, ODP Council is consulted
July 15	NSF final review of revised JOI plan
July 22	JOI final modifications (if necessary)
Aug 1	NSF executes contract, JOI informs EXCOM and ODP Council (justifies changes), JOI informs PCOM
Oct 1	Start of contract year

\* Meeting Scheduled only as needed.

# JOIDES Planning Office

College of Oceanography  
Oregon State University  
Corvallis, OR 97331  
Telephone: 503-754-2600

30 August 1988

TO: J. Austin, Atlantic Regional Panel Chairman  
R Schlich, Indian Ocean Panel Chairman  
P. Barker, Southern Ocean Panel Chairman

FROM: N. Piasias, PCOM Chairman and SOP liaison

RE: PCOM Recommendations for Long-Range Planning

At its August meeting, PCOM drafted new mandates for the JOIDES panels and discussed the transition period to a more thematically-driven program. PCOM agreed to the following instructions for the next phase of ODP:

## PCOM Motion:

The Planning Committee solicits and will evaluate proposals for approximately 12-18 months of drilling, in all oceans, to be conducted in FY92 and FY93. This drilling will complete the present phase of the Ocean Drilling Program.

Based on the previous motion, PCOM formulated the following instructions:

## PCOM Consensus:

In order to move the JOIDES Planning structure into the thematic mode, future planning will proceed in the following manner:

1. At the annual PCOM meeting in November, 1989, PCOM will choose a firm schedule for FY91, consisting of drilling in the Pacific.
2. At subsequent annual meetings, schedules will be chosen based upon the thematic values of the proposals which have reached the mature stage by that time. Modifications may be made in order to adapt the schedule to the logistical and technological capabilities of the Ocean Drilling Program.
3. PCOM will actively solicit proposals, responsive to the themes in the white papers, for drilling in all ocean basins.
4. Thematic panels will reconsider those proposals already submitted for drilling in regions outside of the central and eastern Pacific area.

## APPENDIX G

With these instructions, I am asking those regional panels not actively planning drilling programs to:

- 1) Identify existing ODP proposals, based on previous evaluation by your panels, that should be considered by the thematic panels for drilling plans beyond the present Pacific program.
- 2) In view of PCOM's motion, I would like the Chairmen, in consultation with panel members if necessary, to identify a small set of programs which address the scientific objectives of the thematic panels and which are near maturity in their development. Enclosed are copies of the thematic panels' White Papers and long-range planning input.
- 3) Identify upcoming workshops which may be useful input for developing long-range plans for ODP. You may want to notify appropriate thematic panel chairmen of these.
- 4) Make scientists working in your community aware of ODP's "request for proposals" for thematic drilling in areas beyond those currently planned.

At the next PCOM Annual Meeting in Miami (Chairmen's Meeting on 27 November, PCOM Meeting 28 November through 2 December), I would like you to provide a written response to these items for inclusion in the document mailed out for the annual meeting. These should be available at the JOIDES Office no later than 15 October 1988. Remember that the JOIDES Office will have rotated to Hawaii Institute and PCOM Chairman, Ralph Moberly, by that time.

I realize that asking you this advice, in absence of a formal panel meeting, may be difficult, but I feel that your reports will ensure that we make headway toward defining post-Pacific drilling plans without losing the current panel expertise.

At its September meeting, EXCOM will be asked to approve the draft mandates for the new planning structure. After that, we can begin to set up Detailed Planning Groups that will be looking at important science in all ocean basins and help ODP move to a new phase of thematic drilling. Please contact me if you have any questions about PCOM's direction in this matter.

cc. J.P.Cadet (ARP liaison)	R.Detrick (LITHP)
U.von Rad (IOP liaison)	I.Dalziel (TECP)
R.Moberly (PCOM Chairman designate)	L.Mayer (SOHP)

# JOIDES Planning Office

College of Oceanography  
Oregon State University  
Corvallis, OR 97331  
Telephone: 503-754-2600

29 August 1988

To: Ian Dalziel, Chairman of TECP  
From: Nick Piasias, Chairman of PCOM  
Subject: Tectonics Panel White Paper

At its August meeting PCOM discussed the first draft of the Tectonics Panel White Paper to evaluate its usefulness as a tool for long range planning and as input to the Long Range Planning Document which will be used to justify the extension of ODP beyond 1993.

In light of the available time to prepare this draft the PCOM found the document to be well done. We ask, however, that when the document is discussed and revised at your next panel meeting that you address the following issues:

1. For each of the major thematic categories (e.g. convergent margins, plate dynamics etc.) provide a limited number (up to 3) of the most important problems or models that can be tested by drilling, and specify how drilling will address them. For example: "to test the Davis et al. wedge model by measuring in situ stresses and fluid processes"; "to establish the history of vertical motions accompanying the rifting process by sampling a pre-breakup section to test models of rifted margins."
2. Discussion of technical developments and their relationship to problems that can be addressed is needed. Specifically, what are the requirements in terms of drilling depths (1000 m holes, 2000 m holes and very deep holes). In addition the specific nature of the drilling sites need to be defined with sufficient information for the TAMU engineers to provide input on the technical feasibility and cost. (It might be useful to have a TAMU engineer at your next meeting). Down hole measurement requirements also need to be defined for the Bore Hole Group to provide similar input. It isn't necessary to specify actual sites - just generic ones are required with statements of expected ranges of water depth, sediment type etc.
3. An expansion of the introductory section of the seismic experiments section be made to summarize the scientific issues and problems to be addressed. Especially, develop the merits of a restricted vs. global deployment of seismometers.

## APPENDIX H

Joint Oceanographic Institutions for Deep Earth Sampling  
Telex: (BCA) 258707 (JOIDES)      Telemail: JOIDES@OCU

4. An example of a focused stress experiment be presented. This example should emphasize how stress measurements can be used to solve important scientific problems. For example, can stress measurements throughout a small plate constrain models for driving forces?
5. Finally, enclosed is a copy of the LITHP document for long range planning which can serve as an example which PCOM found very useful. Specifically the section on a "Phased" implementation of a drilling plan should be included in the TECP paper.

On a personal note I found the meeting in Austin and the White paper to be very informative and I may have actually learned some tectonics. I think what is needed now is a more focussed discussion of problems and where they may be addressed. I realize the difficulty of having a panel do this and appreciate the view that TECP would be happy wherever the ship goes, unless I can find the place in the ocean where a geophysicist has never been!

cc: PCOM Sub-group on Tectonics

D. Cowan  
O. Eldholm  
T. Shipley  
B. Tuchołke  
J. Ewing  
R. Moberly

# JOIDES Planning Office

College of Oceanography  
Oregon State University  
Corvallis, OR 97331  
Telephone: 503-754-2600

29 August 1988

To: Bob Detrick, Chairman of LITHP  
From: Nick Piasias, Chairman of PCOM  
Subject: Lithosphere Panel White Paper

At its August meeting PCOM discussed the first draft of the Tectonics Panel White Paper to evaluate its usefulness as a tool for long range planning and as input to the Long Range Planning Document which will be used to justify the extension of ODP beyond 1993.

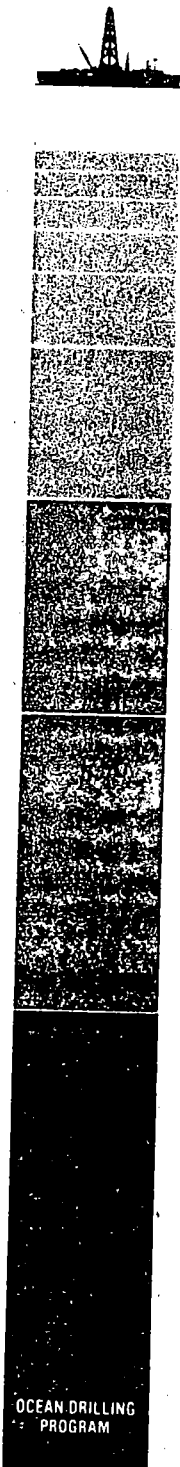
In short PCOM found the document to be an excellent presentation of LITHP scientific objectives and found the "Phased" research plan extremely useful. We have sent copies to the other thematic panels as an example of how to present an implementation plan. During the PCOM discussion a couple of items came up which should be discussed at your next panel meeting that you address the following issues:

1. The phased plan suggests that if we consider a long term program of approximately 2 leg/year that the highest priority program can be addressed given the engineering development are completed. Is this a correct inference?
2. What options should be investigated if technological developments necessary for the first priority program can not be achieved for financial or technical problems - i.e. What is would the implementation plan be if we can not drill deep holes in fractured rock etc?
3. LITHP is asked to more clearly define the aspects of fluid interactions at ridge crest that will be addressed by ridge crest drilling.
4. The relationship between Ocean Drilling and global initiatives such as RIDGE should be addressed.

cc: PCOM Sub-group on Lithosphere Objectives

J. Malpas  
M. Kastner  
T. Francis  
M. Langseth  
R. Moberly

APPENDIX I



# JOIDES Planning Office

College of Oceanography  
Oregon State University  
Corvallis, OR 97331  
Telephone: 503-754-2600

30 August 1988

To: Larry Mayer, Chairman of SOHP  
From: Nick Piasias, Chairman of PCOM  
Subject: Sediments and Ocean History Panel White Paper

At its August meeting PCOM discussed the first draft of the Sediments and Ocean History Panel White Paper to evaluate its usefulness as a tool for long range planning and as input to the Long Range Planning Document which will be used to justify the extension of ODP beyond 1993.

The discussions at PCOM examined questions such as whether there were topics identified in COSOD-I and COSOD-II not presented by the white papers, which topics in the white papers identified problems not discussed by COSOD conferences and whether topics were presented in a adequate way. Based on these discussiond, we ask that when the document is discussed and revised at your next panel meeting that you address the following issues:

1. The white paper should address the objectives of COSOD-II Working Group 5 and discuss any specific drilling strategies needed that are not satisfied by drilling objectives discussed in other sections. Also, opportunities to be exploited by existing core material for these objectives should be addressed.
2. The paleo-upwelling and productivity sections should be recast in terms of specifically examining the global geochemical cycle of organic carbon and related nutrients.
3. Section 6 on sedimentary processes should be presented to cover broader aspects of sedimentary processes.
4. The PCOM asks what happened to Deep Stratigraphic Tests?
5. Enclosed is a copy of the LITHP long range planning document which can serve as an example which PCOM found very useful. Specifically a comparable section on a "Phased" implementation of a drilling plan should be included in the SOHP paper for long range planning.
6. Specific pre-drilling site requirements should be discussed in greater detail. "Site survey" could be discussed beyond the need

## APPENDIX J

Joint Oceanographic Institutions for Deep Earth Sampling  
Telex: (PCA) 258707 (JOIDES)



of just seismic lines but also regional understanding of sediment distributions etc.

7. Discussion of connections between the Ocean Drilling Program and other global initiatives such as WOCE and GOFs should be discussed.

Item 3 above will be helped with input from a group headed by B. Normark. PCOM recommended and JOI has agreed to provide some support for a group of sedimentary processes people to have a one day meeting associated with the COMFAN II conference being held this September in Italy. This group will hopefully provide you and PCOM with further input on sedimentary processes problems.

We have drafted new Mandates for the JOIDES Panel Structure. For the Ocean History Panel we made an effort to divide the scientific concerns of the panel along the lines of time resolution.

"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 effects 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...."

It may be useful to use this time resolution division in the white paper. For example problems associated with the geochemical cycle of nutrients in the ocean can be discussed in terms of long time period cycling and burial of sediments as well as oceanic cycling on shorter time scales that effect carbon dioxide and global climate.

Finally, Item 5 is critical for planning engineering developments needed to address the technically more difficult problems of interest to SOHP e.g. deep holes, chert/chalk sequences etc.

cc: PCOM sub-group on Ocean History

G. Brass  
M. Leinen  
M. Kastner  
S. Gartner  
B. Coulbourn  
R. von Stackelberg  
R. Moberly

the advice of the panels that geochemical reference drilling cannot be adequately covered by Old Pacific Drilling. Given the maturity of proposals for drilling in the Old Pacific CEPAC is asked to formulate a one leg mature program with Jurassic Quiet Zone and M-37 drilling to be the highest priority.

6. **Sea Level and Subsidence: Atolls and Guyots** - This program was not discussed in detail as the PCOM watch-dog was absent from the meeting. Based on the written input this program is worthy of a leg and remains immature until site specific information is provided by proponents. Drilling in this environment is likely to be extremely difficult. It is possible that logging could greatly enhance the success of this program if sediment recovery remains low. SOHP is asked to provide input as to the value of this program if recovery can not be greatly improved.
7. **Ontong Java Plateau Depth Transect** - This program is recognized as high priority but still remains an immature proposal. Given the upcoming site survey cruises this deficiency is expected to be corrected and this leg may possible be inserted in the early part of CEPAC drilling. CEPAC is asked to focus the discussion of Ontong Java drilling to the depth transect. Tectonic objectives have not been highly ranked and upcoming site survey work will not be able to add new insights on tectonic objectives.
8. **Neogene Paleoceanography of the Eastern Equatorial Pacific** - This is a nearly mature program. Site survey data is needed for the WEQ-1 and WEQ-2 sites. Logging and drilling time need to be updated; logging times seem to be overestimated by a factor of 2. SOHP is asked to examine the impact on this program if WEQ-1 and WEQ-2 cannot be drilled.
9. **North Pacific Neogene** - The sites in the northwest Pacific and central gyre seem to be adequate to address problems in this region. It is not clear that the objectives in the northeast Pacific can be addressed by a single site. SOHP needs to better define the objectives of this drilling program and how they are addressed by the proposed sites.
10. **Bering Sea High Latitude Paleoceanography** - This program is not sufficiently supported by the Thematic Panels and should be removed from the Prospectus.
11. **Shatsky Rise Anoxic Events** - PCOM recognizes the importance of understanding the nature and cause of anoxia in the world's oceans during the Cenozoic, however this program is considered immature. A number of questions arise with respect to this programs ability to test models of anoxia and to document changes in the oxygen minimum zone. Specifically: a) the SHAT-1 site may not be in the correct position to determine the paleo-position of the top of the oxygen minimum zone; b) Insufficient site survey data are available to determine the regional context of the proposed sites and whether the correct sections are represented in both sites and; c) severe technical difficulty is expected in drilling the chert/chalk sequences of the Shatsky Rise. SOHP and CEPAC are asked to determine if shallower sites can be found on the Shatsky Rise which have sufficient site surveys to be drilled. Results from Leg 124E will provide important information on our ability to drill in the environments expected on the Shatsky Rise. It is possible that logging could greatly enhance the success of this program if sediment

recovery remains low. SOHP is asked to provide input as to the value of this program if recovery can not be greatly improved.

12. **Lower Crust: Penetration of Layer 3** - PCOM recognizes the high priority objectives of this program and accepts the outlined 1.5 legs needed to solve the "junk" problem at site 504B, and then to deepen the site. LITHP is asked to provide some input on scientific advantages of twinning 504B rather than diverting the present hole.
13. **East Pacific Rise Bare Rock Drilling** - PCOM again recognizes the high priority objectives of this program. A meeting of the EPR/dpg is requested after the completion of the engineering Leg 124E. At this meeting the planning group is also asked to begin site selection for drilling on EPR and to address the question of what temperatures will be expected during the drilling of this program. It is viewed by PCOM that 400 degree temperatures are an underestimate if deep drilling is successful.

Together 504B and EPR drilling are expected to require on the order of 3.5 legs of drilling exclusive of the engineering developments needed for the mining-coring system.
14. **Hydrothermal Processes at Sedimented Spreading Centers** - The extensive drilling times outlined in the Prospectus were not clearly justified. For example no justifications for triple APC was given. LITHP is asked to examine the input from the sedimented ridge working group. LITHP is asked to provide two options: a) what are the scientific objectives that can be achieved with a single leg program and b) what is the optimal two leg program? Finally, LITHP is asked to comment on sedimented ridge drilling in the case that bare-rock drilling on the EPR cannot be completed because of technical problems - i.e. Sediment ridges as a backup to EPR.
15. **Early Stages of Hot Spot Volcanism: Loihi** - PCOM watchers of the dogs were named for this program (M. Leinen and J. Malpas) and a report is expected for the next PCOM meeting. PCOM notes that in the four year program plan funds for the additional guide bases for this program are not included in the long range budget figures. LITHP is asked to define the number of guide bases and bare-rock sites it expects to require prior to the end of FY1992. Finally, the success of drilling on Loihi is fully dependent on our ability to drill in very young, fractured, hot rock.

cc: J. Malpas      M. Kastner  
U. von Rad      G. Brass  
O. Eldholm      T. Shipley  
W. Coulbourn    M. Leinen  
R. Moberly

# JOIDES Planning Office

College of Oceanography  
Oregon State University  
Corvallis, OR 97331  
Telephone: 503-754-2600

6 September 1988

To: Chairmen of LITHP, SOHP, and TECP, CEPAC/dpg, EPR/dpg, FPAP/dpg  
From: Nick Piasias, PCOM Chairman  
Subject: PCOM initial evaluation of CEPAC Prospectus

At the Oxford PCOM meeting the Planning Committee discussed the status of the programs presented in the CEPAC Prospectus. In our discussions we concentrated only on those aspects of the Prospectus which were ranked by the Thematic Panels. PCOM examined the deficiencies identified by CEPAC and other panels and examined the "maturity" of each program. In the view of PCOM, we can only drill mature proposals and any program considered to be immature will not be considered for drilling until deficiencies are corrected. Based on the PCOM discussions the following issues need to be addressed by your panels:

1. In general, CEPAC should focus the prospectus to emphasize only the programs put forward by PCOM and the Thematic Panels.
2. **Flexure of the Lithosphere** - This program is considered 'immature with two major deficiencies: a) the resolution with which the sediments need to be dated to test different models of lithospheric flexure needs to be more precisely defined and b) information as to the ability to date sediments collected in the Hawaiian moat must be determined. TECP is asked to provide to CEPAC and PCOM an evaluation of the models and determine the criteria by which they can be differentiated and to examine the validity of the assumption of the models with respect to the loading history of the lithosphere. The proponents must provide evidence on the nature of the sediments and the degree to which they potentially can be dated. Site selection for this program needs to be evaluated in light of the new Gloria survey data from the region. CEPAC should consider requesting an updated proposal from the Proponents.
3. **Chile Triple Junction** - This is an immature proposal. The PCOM recognizes the importance of examining the collisional processes represented by this region. The existing proposal does not adequately define the drilling strategy required to address these problems. PCOM asks TECP and CEPAC to contact proponents to encourage the submission of a mature drilling proposal.
4. **Cascadia Accretionary Prism** - This is a very highly ranked theme but at present the proposals are immature. Input from the Detailed Planning Group on Accretionary Prisms is needed.
5. **Old Pacific: M-series dating and Jurassic Crust** - It is viewed by PCOM that the objective of dating anomaly M-18 is of lowest priority. Significant data is available for dating this anomaly. PCOM accepts


## APPENDIX K

Joint Oceanographic Institutions for Deep Earth Sampling  
Telex: (BCA) 258707 (JOID UP)      Telex: JOIDES OC

# JOIDES Planning Office

College of Oceanography  
Oregon State University  
Corvallis, OR 97331  
Telephone: 503-754-2600

1 September 1988



Dr. Ted Moore  
EXXON Production Research Co.  
P.O. Box 2189, Room PT 1785  
Houston, TX 77252-2189

RE: IHP ISSUES FROM THE 23-25 AUGUST PCOM MEETING

Dear Ted:

PCOM discussed on-board computer graphics and the new ODP Publications costing at the August meeting. PCOM has asked that IHP address the following at your September meeting:

## Computer Graphics:

The reports from Ian Gibson and Dave Rea were reviewed by PCOM, as well as reports of first-hand experience on the Resolution by PCOM members. PCOM recognized community dissatisfaction with the current PICSURE program. An option that should be investigated other than adding only Apple computer to do graphics is acquisition of graphics software for the IBMs and the necessary high quality printers. Lou Garrison mentioned that Apple is donating several Macs for the ship; IHP may want to investigate ways to utilize these effectively.

## ODP Volumes Costing

IHP liaison Steve Gartner reported on the new pricing structure set up by TAMU. PCOM has no opposition to pricing the volumes according to page count and selling them at cost (\$ 06.1/page for Part A, \$ 05.7/page for Part B). PCOM does want to know whether these costs estimates fully account for extended press runs and costs of maintaining inventory on the volumes. IHP may want to clarify this issue with Russ and report its findings to PCOM.

As you know, both PCOM liaisons have conflicts with your upcoming meeting dates. Ellen Kappel at JOI has agreed to attend the meeting and the meeting materials were forwarded to her. I hope you have productive meeting in Boulder.

Sincerely,



Nick Pisias

APPENDIX L

cc. S.Gartner  
R.Merrill

E.Kappel  
R.Moberly