MEETING OF THE JOIDES EXECUTIVE COMMITTEE  
October 2-4, 1990  
Laboratoire de Géodynamique Sous-Marine  
Villefranche-sur-Mer, France

MINUTES

Executive Committee (EXCOM):

H. Beiersdorf (for H. Dürbaum) - BGR (Federal Republic of Germany)
G. Boillot - Université Pierre et Marie Curie, Paris (France)
J. Briden - NERC (United Kingdom)
D. Caldwell - Oregon State University, College of Oceanography
R. Duce - University of Rhode Island, Graduate School of Oceanography
D. Falvey - BMR (Canada-Australia Consortium)
M. Fratta - European Science Foundation (Consortium for Ocean Drilling)
E. Frieman - University of California, San Diego, Scripps Institution of Oceanography
R. Gagosian (for C. Dorman) - Woods Hole Oceanographic Institution
C. Harrison (for B. Rosendahl) - University of Miami, Rosenstiel School of Marine and Atmospheric Science
C. Helsley, Chairperson - University of Hawaii, School of Ocean and Earth Science and Technology
D. Kent - Columbia University, Lamont-Doherty Geological Observatory
K. Kobayashi - ORI (Japan)
A. Maxwell - University of Texas at Austin, Institute for Geophysics
W. Merrell - Texas A&M University, College of Geosciences
A. Nowell (for R. Heath) - University of Washington, College of Ocean and Fishery Sciences

Liaisons:

J. Austin - Planning Committee
J. Baker - Joint Oceanographic Institutions, Inc.
D. Goldberg (for R. Anderson) - Wireline Logging Services (ODP-LDGO)
D. Heinrichs - National Science Foundation and ODP Council
R. Moberly - Planning Committee
P. Rabinowitz - Science Operator (ODP-TAMU)

Guests and Observers:

B. Biju-Duval - IFREMER (France)
E. Cailliau - IFREMER (France)
B. Harding - ODP-TAMU Engineering
F. Jarrige - ORSTOM (France)
Y. Lancelot - Université Pierre et Marie Curie, Paris (France)
J. Mascle - Laboratoire de Géodynamique Sous-marine, Villefranche-sur-Mer (France)
M. Moss - University of California, San Diego, Scripps Institution of Oceanography
T. Pyle - Joint Oceanographic Institutions, Inc.
B. Raleigh - University of Hawaii, School of Ocean and Earth Science and Technology

JOIDES Office:

P. Blum - Executive Assistant and non-US Liaison
C. Fulthorpe - Science Coordinator
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>CSDP</td>
<td>Continental Scientific Drilling Program</td>
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<tr>
<td>DCS</td>
<td>Diamond Coring System</td>
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<td>DPG</td>
<td>Detailed Planning Group</td>
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<td>FSDN</td>
<td>Federation of Digital Seismic Networks</td>
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<td>GSGP</td>
<td>Global Sedimentary Geology Program</td>
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<td>IGBP</td>
<td>International Geosphere/Biosphere Program</td>
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<td>ILP</td>
<td>International Lithosphere Program</td>
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<td>JAMSTEC</td>
<td>Japan Marine Science and Technology Center</td>
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<td>JAPEX</td>
<td>Japan Petroleum Exploration Company</td>
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<td>JGOFS</td>
<td>Joint Global Ocean Flux Studies</td>
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<td>KTB</td>
<td>Kontinental Tief Bohrprogramm</td>
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<td>LRP</td>
<td>Long Range Plan</td>
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<td>MCS</td>
<td>Multi-Channel Seismic</td>
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<td>NADP</td>
<td>Nansen Arctic Drilling Program</td>
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<td>OSN</td>
<td>Ocean Seismic Network</td>
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<td>PEC</td>
<td>Performance Evaluation Committee</td>
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<td>RIDGE, InterRIDGE</td>
<td>Ridge Inter-Disciplinary Global Experiments (US and international elements)</td>
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<td>ROV</td>
<td>Remotely-Operated Vehicle</td>
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<td>STA</td>
<td>Science and Technology Agency of Japan</td>
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<td>WCRP</td>
<td>World Climate Research Program</td>
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<td>WOCE</td>
<td>World Ocean Circulation Experiment</td>
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The meeting was brought to order at 9:10 AM with welcoming remarks by Helsley. Introductions around the table followed.

Boillot introduced B. Metayer, who was to record the meeting and provide logistical assistance, and J. Mascle. Mascle described the host institution, the Laboratoire de Géodynamique Sous-Marine, Villefranche-sur-Mer. He then explained the logistics of the meeting. He introduced F. Jarrige of ORSTOM and E. Cailliau of IFREMER.

Cailliau explained that P. Papon, the director of IFREMER, was unable to attend and, on his behalf, expressed best wishes to EXCOM. Cailliau continued by saying that France is "very cautious" but is interested in the future of the program. Everything seems clear until 1993, but what then? Knowledge of the past and present ocean is essential. France is "convinced that a major scientific drilling program, together with benthic observing systems, has to be set up very fast". This program must have the best technology, tools and platforms. The community must consider how best to organize the international earth science effort.

Helsley clarified the meeting time for the field trip the following day and brought the meeting to consideration of the agenda.

ADOPTION OF AGENDA

Beiersdorf said that he would have to leave on Thursday before noon and that he would like to be allowed to present the report of the FRG and discuss future business before the morning coffee break on Thursday. Helsley agreed.

EXCOM Motion

EXCOM adopts the agenda for the 2-4 October 1990 EXCOM meeting. (Motion D. Caldwell, second C. Harrison)

Vote: for 16, against 0, abstain 0

APPROVAL OF MINUTES OF PREVIOUS MEETING

Beiersdorf noted some corrections to the minutes of the June EXCOM meeting. On p. 026, paragraph 3, line 4, the date should read August 31, and not August 1. In the same paragraph Bayreuth is misspelled and the dates of the conference in Regensburg should be 10-11 September. Fratta noted that on p. 025, in the ESF report, Strasbourg should be replaced by Milan.

The minutes were approved by acclamation with the changes as noted.

497 LONG-TERM PROGRAM OBJECTIVES

PERSPECTIVES FOR RENEWAL

Heinrichs reported on activities at NSF of significance to the renewal process. Following the end, in August, of the term of Erich Bloch as NSF director, Dr. Walter Massey, of the
University of Chicago and Argonne National Laboratory, has been nominated for the post of director. His appointment is expected to begin in early 1991 and Frederick Bernthal is the interim director. Massey was a member of the National Science Board when ODP was approved and he will be briefed in the first quarter of 1991. Discussion at NSF, since the joint EXCOM/ODP Council meeting in Washington, has focussed on achieving internal agreement within NSF. General discussion with NSF management has established late 1991 to early 1992 as an internal time frame for moving ahead with discussion of MOU's. NSF will want to work further with JOI, Inc. to frame the request for a review of the Long Range Plan (LRP) by the Ocean Studies Board and Board on Earth Sciences and Resources (National Academy of Sciences (NAS)).

Briden (UK) stated that not much has changed there since the June meeting. A presentation had been given to the NERC on ODP. J. Baker, H. Jenkyns and P. Worthington led the presentation and the audience included representatives of UK government departments. The UK timetable for renewal stands. A decision should be possible within 13 months unless the process is complicated by, for example, budget increases, in which case extra time would be required in obtaining central government approval of the new conditions.

Boillot (France) outlined the French position on renewal. At a September meeting of the Comité Directeur de ODP France, interest in, and support for, scientific ocean drilling was reaffirmed. The Committee is concerned that the JOIDES Resolution may not be the best platform for the attainment of all of the objectives defined by COSOD II and the LRP, for example both deep drilling in hard rock and "high resolution drilling" in sediments. The specific recommendations of the Committee are given in Appendix 1. Boillot stressed the need for active international consultation in order to ensure that new tools and platforms are operational before the end of the decade.

Discussion

Heinrichs thought the recommendations consistent with the June (Washington EXCOM/ODP Council meeting) perception in which consideration of new technologies and an alternative drilling platform, or platforms, was to occur at the mid-point of the 10-year timeframe. Briden agreed that the presentation built on the Washington meeting but that the French proposal challenged the ODP to address the question of new technology within the confines of the present program, prior to renewal. In response to a question from Briden, Boillot expanded on recommendation 3 (Appendix 1) regarding the meaning of "economic-industrial returns". Some members of the Comité Directeur de ODP de France believe that new tools should be developed in several countries in order to distribute the resulting economic returns fairly. Cailliau added that this was a question of principle; a new and ambitious program will involve industrial developments, the economic returns from which should be distributed internationally.

AIDING THE RENEWAL PROCESS

Austin reported on the second meeting of the Strategy Committee (STRATCOM II) held at JOI, Inc. on 25 September, 1990 (Appendix 2), and chaired by Austin. STRATCOM is an ad hoc subcommittee of PCOM, established with the goals of showcasing the program in both the short and long terms. Following its first meeting, Austin coordinated the writing of a series of one page inserts for the LRP brochure packet. The first meeting also considered the desirability of focussing ODP on long-term themes consistent with the LRP, thematic panel white papers and existing highly-ranked drilling proposals. Following lengthy discussions with PCOM at its August meeting, it was decided that a second STRATCOM meeting be held, to focus on short-term, pre-1993, strategies for renewal. The recommendations of STRATCOM II are given in Appendix 2. Austin asked for EXCOM comments.
**Discussion**

Much of the ensuing discussion centered on the nature of the proposed meeting to showcase ODP and its ability to achieve its goals (Appendix 2, Recommendation IV).

Harrison felt that the Spring 1992 date of the meeting would be too late to influence the renewal process. Austin replied that the meeting was envisioned to be too large to be held any earlier. It would be about the size of COSOD II and STRATCOM felt that by advertising it well in advance enthusiasm might be generated for renewal. Baker asked whether the meeting was designed for interested parties to discuss planning, or was aimed at people outside ODP community. Austin said that the aim was to showcase ODP accomplishments and present ocean drilling as a means of solving problems to people from other earth sciences programs. It might take the place of COSOD III. Moberly and Heinrichs both commented that a COSOD III focussing on new technology and implementation, rather than scientific planning, has been proposed for 1995, after the renewal process. This is the general understanding at NSF. Raleigh expressed some confusion about the purpose of the proposed meeting. He stated that people must be persuaded that it was worthy or they would not attend.

Austin replied that it has not proved possible, to date, to generate enthusiasm for the publication of papers showcasing the thematic emphasis of ODP. The meeting would provide an opportunity for this if it involved a commitment to the generation and publication of such papers. It would also be important to establish formal liaisons with other groups in the earth sciences and to plan far enough in advance to ensure that the right people were involved. In response to a further query from Maxwell, Austin went on to say that although ODP has already adopted a thematic emphasis, this must be showcased, and that this would be the retrospective part of the proposed meeting. The meeting would also showcase the implementation of the LRP, including the role of new technology, and would be preferable to another COSOD.

Helsley said that while it would be useful to make past accomplishments more visible, this may not be the best format with which to attract people from other research groups outside ODP. He raised the possibility of two meetings, rather than attempting to accomplish both goals at once. Austin replied that the format has not been finalized and will be discussed further by PCOM. He added that while there might be advantages to having two meetings, it would add greatly to the expense. Briden also suggested a change of focus for the proposed meeting. If the goal was to influence decision-makers, he doubted that it would do so outside the country in which it was held. If it was to influence scientists, then it became another COSOD. He said that scientific meetings do not influence decision-makers. Furthermore, any resulting disagreement on scientific plans, especially if differing from the LRP, would be unhelpful at renewal time. To avoid confusion among scientists, it is necessary to work within the present structure provided by the LRP. A new conference may not be the best approach.

Beiersdorf, a member of STRATCOM II, said that he was concerned about the visibility of ODP as a global scientific initiative. He emphasised the need to attract other earth science research groups, which do not at present understand how ODP can be of assistance to them.

Austin said that most of the STRATCOM meeting focussed on the efforts of individual member countries to achieve renewal, and how to assist these efforts. He added that there is a division in PCOM between those who wish the ODP to remain proposal-driven and those who would like to see ODP more focussed around themes from the LRP. This discussion will continue, and while there will probably be more thematic focussing in the future, this may result in a loss of some grass-roots enthusiasm.
Raleigh proposed that the best way to reach other earth science research groups would be to give presentations directly to their governing bodies, rather than invite them to a general meeting at which they are not the focus. Baker expressed agreement and also asked what was meant by "popular" articles (Recommendation III, Appendix 2). He added that the editors of Science and Nature had approached JOI, Inc. recently and he felt that review articles in these journals would reach the right audience, perhaps more effectively than the proposed meeting.

Boillot stated that there are other international programs in competition with ODP (for example InterRIDGE) and that consultation between programs may reduce competition. He emphasized that ODP is a tool. Helsley suggested publishing articles in the equivalents to JOIDES Journal which are published by other research programs. The articles should emphasize what ocean drilling can contribute to these programs.

Austin said that by "popular" he meant, for example, Geo or Discovery but that he had no objection to using Science and Nature.

Heinrichs said that NSF is prepared to assist with renewal efforts by ODP partners, from the assistant director level to the program level, but must be invited. In his concluding comments Helsley added that many within EXCOM are prepared to assist the renewal effort and the support of the LRP, but that we are looking for ways to accomplish this that will be effective.

498 NEAR-TERM PLANNING (REMAINING PART OF FY89-92 PROGRAM)

STATUS OF THE OCEAN DRILLING PROGRAM (NSF REPORT)

Heinrichs presented the NSF report. NSF wrote to T. Pyle of JOI, Inc. on August 28 giving preliminary approval for a FY 1991 budget of $39,591,000. There is a clause making the budget subject to review in the event of sequestration as part of the U.S. federal government's deficit reduction program. (An agreement on the U.S. federal budget had not been reached at the time of the meeting.)

Assuming that the U.S. budget negotiations are successful and do not deviate from the present format, the outlook for NSF's Ocean Sciences Division looks positive (~14% increase). ODP should receive an increase of approximately $3 million for FY 1991, and should therefore be able to fund the proposed program plan. In response to a question from Harrison, Heinrichs said that the $39,591,000 figure includes this $3 million.

Heinrichs anticipated no problems with the present membership for FY 1991. Membership renewal Annex A's have been signed with all countries except France, the delay resulting because their council meets in early November.

Soviet participation has not yet been approved but Heinrichs was optimistic that approval will be forthcoming shortly. An unclassified cover letter, attached to a classified final report from the Science Advisor to the President (Dr. A. Bromley) completed in June, states that the U.S. should invite the USSR to join ODP provided that appropriate safeguards against the export of specified technology exist. Heinrichs outlined subsequent events as a guide to the potential timetable of acceptance. On August 14, E. Bloch of NSF wrote to Bromley to draw attention to the continuing delay. On August 31, Bromley replied that he agreed with the sense of frustration. On September 2, a formal request from Bromley was circulated to all agencies requesting government-wide approval and responses by September 11. All responses except those of the Defense Department and Navy have been received and are positive. Heinrichs hoped that the final, positive answer on approval would be received in the next two to three weeks. J. Knauss, the head of NOAA, discussed Soviet participation with Dr. Lavarov of the State Committee on Science and Technology, USSR. The Soviets have funds to participate as
ODP exists now. In the longer term, they are constructing a drilling ship and would like to
discuss cooperative work involving the new ship, deep drilling on land and other developing
technologies.

Discussion

Moberly asked when, if agreement is reached within the next few weeks, the Soviets would be
actively involved in planning, bearing in mind that panel membership is discussed at the
November meeting. Heinrichs replied that he doubted that the USSR would be able to
participate by November 1. They have to perform an internal review that will probably take
several months. Active participation in panels could not occur until early 1991 at the earliest. In
response to a question from Cailliau, Heinrichs said that he would agree to the USSR sending
observers to panel meetings as a first stage. Helsley asked if they would be invited to send
observers by NSF. Heinrichs replied that he will confer with the EXCOM chair and JOIDES.
NSF will not unilaterally invite Soviet observers except to EXCOM. Maxwell asked if there
were any actions EXCOM could take to speed the process. Heinrichs replied that EXCOM
could reiterate its earlier resolution regarding the desirability of approving Soviet membership
without delay and that, if EXCOM believes that JOIDES should invite the Soviets to panel
meetings as observers, then this should be stated explicitly.

An EXCOM motion concerning Soviet membership and the participation of Soviet observers in
JOIDES panel meetings was suggested by Helsley and supported by Maxwell, but discussion
and a vote were deferred by general agreement until a written version of the motion could be
produced. Frieman, Helsley and Maxwell were charged with writing the motion.

Austin asked what "observer" status meant. He preferred to have Soviet observers at PCOM
meetings first and then have them expand into other panels later, because of the need to identify
suitable individuals for panel membership. Moberly replied that such observers could not in
any case take part in panel meetings before the November PCOM meeting, since the other
panels meet too soon. He added that these observers would be present as guests, able to
participate in discussion but without voting status.

PROGRAM MANAGEMENT (JOI, INC. REPORT)

Pyle presented the report on JOI, Inc. He classified the present time as perhaps representing
"the calm before the storm" in terms of management of ODP. Significant investments in
technology and changes in the advisory structure have been made, but further progress may not
be possible for some time. Activities are listed in Appendix 3.

Expanding on some of the points in Appendix 3, Pyle said that progress with IGBP/PAGES
had not reached the stage of formal liaison, but this was being explored further. JOI, Inc. gave
a presentation to the ILP Coordinating Committee on Continental Scientific Drilling on how a
major, successful program works. The US/NAS Committee on Global Change made
comments on improving the quality of cores. InterRIDGE felt that it was not as yet a
sufficiently formal organization to be able to establish a liaison group with ODP.

In the area of high technology, the Diamond Coring System (DCS) is the most vital to renewal.
Plans for its future testing and development must be addressed. In its approval of the FY 1991
budget, NSF inserted a caveat to JOI, Inc. as to how money for this system will be spent.

Fuel prices are a major problem at the upcoming Townsville port call (end Leg 133). The costs
will be double the budgeted estimates, the shortfall being $250,000.
Pyle stressed the need to finalize the nominations for the third Performance Evaluation Committee (PEC-3), and reported that the film on ODP will be shown on US cable TV and also on French TV.

He concluded his report with some unofficial "food for thought" prompted by the current fuel crisis (Appendix 3). If budget shortfalls continue, the options at present are to ask NSF for more money, which would have to be taken out of the US science program, or to ask PCOM to make cuts in the program. The other option was to address the question of additional contributions. Pyle said that a small increase now might be politically preferable to a large increase at renewal. He presented several options for short and long-term contribution increases (Appendix 3). In conclusion, he said that events may make this the last "boring" report on ODP's management.

Discussion

Baker presented a list of proposed members of the PEC-3 committee (not for inclusion in the minutes) and asked for suggestions, noting that the membership must be finalized within the next month. The criteria for membership are: 1) no direct involvement with ODP at present, although indirect or partial involvement was acceptable, and 2) NSF and EXCOM must approve. In response to a question from Harrison, he added that the members can come from JOIDES institutions as long as there were no conflict of interests.

Briden suggested including someone from PEC-1 on PEC-3 and Beiersdorf suggested having more non-US members on PEC-3. Maxwell suggested an individual who has been critical of ODP. Moberly stated that Maxwell's suggested nominee has a desire to improve the program and is not antagonistic toward it. He added that some individuals may be involved in legs and therefore ineligible for PEC-3 membership. Maxwell suggested someone from PEC-2 if not PEC-1. The first meeting of PEC-3 may be Fall, 1990.

Helsley asked that suggestions for PEC-3 nominees be given to Baker. Heinrichs added that the JOI Board of Governors (BOG) meeting, following the EXCOM meeting, needed such a list for action and to enable invitations to be sent in timely fashion.

Maxwell asked about the timing of the proposed NAS committee which is to review ODP. Heinrichs replied that the PEC performs a review of management and not science, though it can be difficult to separate the two. There will be some overlap between the two reviews and they should complement one another. The NAS review is to look beyond 1993, while the PEC is to focus on the present and the next few years.

Helsley brought the discussion back to Pyle's "food for thought" suggestions. He said that these points were important in the light of rising oil prices and a falling US dollar and that EXCOM must not lose sight of them. These topics will become pressing to PCOM and BCOM and must be discussed now. EXCOM must anticipate hard decisions by BCOM in early 1991. Heinrichs commented that contributions must be in US dollars until at least 1993, since bilateral agreements for the current phase of ODP will not be renegotiated. Regarding fuel prices, the NSF also deals with other ships and has the matter under consideration. Helsley highlighted the suggestion of small additional contributions at an early stage and the importance of avoiding a quantum leap at renewal time. He reminded EXCOM of Briden's earlier comment that he saw renewal as not being a problem, for the UK, if there is no large leap in cost. Austin reported that STRATCOM thought that cost increases might best be considered with reference to particular initiatives, for example, technology development.

Helsley said that the lack of progress with JGOF and InterRIDGE is disturbing in view of the desire, expressed earlier in this meeting, to involve other earth science research groups with
ODP. Pyle replied that much of the problem was simply mechanical, that an international project such as ODP cannot easily correlate with a national initiative like RIDGE. He said that informal discussions are taking place, however, with the scientists involved. Baker added that most of these programs are small and not at the stage of ODP. Responses are therefore slow. He suggested that ODP representatives meet with the appropriate planning groups of these other programs to expedite their planning processes.

NEAR-TERM SCIENTIFIC OBJECTIVES (PCOM)

Moberly presented the PCOM report. He explained that PCOM decided upon the FY 1991 program plan, involving drilling in the western and central Pacific, at its November 1989 meeting. The plan is summarized in the EXCOM agenda book (p. 006-007) and on the map in Appendix 4. (Note that the leg numbers in the agenda book are incorrect. Leg 137 has been duplicated. The second 137 should read 138. Subsequent leg numbers should increase by one.)

Small adjustments have been made to the original proposal for Leg 135 (Lau Basin and Tonga forearc) to ensure that drilling in the forearc will be safe. Leg 136 was inserted into the original schedule. It comprises the drilling of the OSN-1 pilot hole for the first comparison between an ocean bottom seismometer with a nearby island station to evaluate whether the advantages of the borehole seismometer location are as expected. PCOM adjusted the site location to the southwest of Oahu in order to gain more scientific information from the sedimentary section. PCOM approved an extension to Leg 137 to allow a longer attempt to clear junk from Hole 504B. This will affect the schedule of the ship off the US. All legs through Leg 139 have been through the safety panel and are progressing. The last leg of FY 1991 is dependent on the cleaning efforts at Hole 504B. If these are successful, the hole will be deepened. Alternatively, the primary goal of the leg will be bare-rock drilling on the East Pacific Rise, at sites whose exact positions remain to be determined. The DCS will be tested. There will be scientists aboard this engineering leg.

Beyond FY 1991, PCOM has the stated aim of moving into the Atlantic by approximately October 1992. Before then, the program plan for FY 1992 will be defined by choosing 6 legs from a list of 11. The 11 possible legs were the most highly-ranked Pacific legs from each thematic panel. These rankings are given in Appendix 4 and the 11 legs are listed in the EXCOM agenda book (p. 007). Note that two of the scientific objectives involve more than one leg. PPSP thinks that the general guidelines for drilling clathrates require revision; there is therefore no safety reason for excluding the Peru Gas Hydrate proposal from consideration.

Thematic panels have been asked to refine their listings in the light of recent engineering developments, surveys, etc. PCOM will have this information when it selects a program for FY 1992, in November 1990.

Discussion

Raleigh asked if drilling to the Moho was an objective. He added that this would be good publicity for the program and thought that it should be the most highly-ranked target, especially considering that this proposal goes back to the early days of the program. Moberly replied that it was intended to sample the deep crust at Hess Deep by drilling uplifted blocks. This approach had been arrived at by LITHP as an objective achievable with existing technology and without deep drilling. Deepening of Hole 504B may not reach the mantle. The prospects for the success of such a direct approach may be greater in 5 to 7 years.

Briden commented that PCOM seems reluctant to prioritize, and asked whether they would indeed choose six legs. Moberly replied that they would have to and Harding added that it was
also essential to choose for budgeting reasons. Moberly noted that there have been changes to the schedule, for example addition of the OSN-1 hole and the removal of the Geochemical Reference Leg. Helsley said that transit distance would provide a constraint on the choice of legs. It would probably be necessary to drill a northern cluster or a southern cluster. Austin added, in response to Briden's comment, that PCOM was undecided on the thematic focus of the program, not on choosing specific legs.

PRESENT OPERATIONAL STATUS OF THE ODP - SCIENCE OPERATOR REPORT (ODP-TAMU)

Rabinowitz reported on science operations since the last EXCOM meeting (see Handout 1, distributed at the meeting, and Appendix 5) He summarized operations on Legs 132 and 133 and noted a minor change to the schedule involving the Suva port call. 20 volumes have been published this year. The time taken to produce the Initial Reports has decreased from 20 months post-cruise to 11 - 12 months post-cruise. The time to produce the Scientific Results has been brought down to 37 - 38 months and it is hoped to reduce this to 32 - 36 months.

Helsley, on behalf of EXCOM, congratulated TAMU on this publication record.

ENGINEERING DEVELOPMENTS (SPECIAL REPORT ODP-TAMU)

Harding began with a discussion of the DCS. The DCS is an application of mining technology to the offshore environment. Leg 124E tested the concept (a 2000 m system at that time) and Leg 132 extended the system to 4500 m (combined water depth and penetration). During Leg 132, three distinct lithologic environments were targeted: the Bonin back arc, the Shatsky Rise and MIT Guyot. However, only the first two of these targets were drilled, because of time constraints. While many problems were encountered, there were more successes than failures. Seven new changes to the surface equipment and five to the seafloor equipment were tested. All surface systems operated well (see Handout 1). Goals are to cut the deployment time and to operate the system from the rig floor, to remove the need for personnel in the derrick and increase safety. However, at the next deployment the present configuration will be used. Harding reported that at the last TEDCOM meeting, an oil industry representative had said that there may be industry interest in the system and the possibility of industry investment. Perhaps a sales presentation to industry would be appropriate.

At this point, a discussion of the DCS system arose. Helsley asked if it would be possible to provide better weather protection for the platform. Harding replied that there are plans to do so. In response to a question from Kent, Harding said that the depth limitation on the DCS was caused by the inability to use multiple nested strings. Kent suggested that since the strength of the inner string controlled the depth of penetration, perhaps the inner string could be clamped to, and driven by, the outer string. By clamping and unclamping the two strings, the outer string need only repeatedly move over a limited stroke, removing the need for it to core actively while driving the inner string. Austin and Harding doubted that the outer string could be rotated rapidly enough, however, since the DCS operates at 200 - 300 rpm. In response to a question from Heinrichs, Harding stated that the total DCS penetration on Leg 132 was at the Bonin site and comprised 79.2 m drilled with 11.1 m core recovery. Boillot asked about the status of logging in DCS holes. Harding and Goldberg answered that slimhole logging on Leg 132 was stopped above the bit. The combination of narrow width and high temperature capability in a single tool is difficult to achieve.

Harding continued his presentation with a discussion of the Vibro-Percussive Tool (VPC). The tool is now on the ship. It works in conjunction with the piston corer, by fluidic hammering of a corer with a partial stroke. The success rate to date has been 50%. Leg 134 will test the Sonic Core Monitor (SCM) for the third time. It is run with the XCB and uses a sound signal to
detect the top of the core within the barrel. When recovery is partial, it enables the core to be placed in the correct interval since it can be detected entering the barrel. It has also been adapted to work during rotary coring to provide hard rock orientation. The Motor-Driven Core Barrel (MDCB) (previously known as the NAVIDRILL) will also be tested on Leg 134. A down-hole fluid-driven motor drives the core barrel ahead of the bit. The Pressure Core Sampler (PCS) was successfully tested on the Nankai leg (Leg 131). The next step is to transfer the core to a test chamber. This is still under development. The Geoprops probe is being land-tested at the present time. ODP-TAMU is assisting in its development but theirs is not the major role. Design of the Reentry Cone Plug or seal is almost complete. It will prevent fluid from flowing into or out of the hole. Fluid samples can be taken through a port via Remotely-Operated Vehicle (ROV). It will be tested in the OSN-1 hole in March 1991. Work is also being done on the problem of drilling and coring in high-temperature environments. Finally, under development is the Drilling Parameter System, which matches drilling parameters to lithology.

Discussion

In response to a question from Beiersdorf, Harding said that it may be possible to patent the MDCB. Raleigh asked for clarification regarding the DCS deployment and core recovery. Harding replied that it was only deployed at the Bonin site. Moberly added that the correct core catcher was not available for the loose lithology encountered (breccia). This limited the recovery. Raleigh asked when EXCOM could expect a good test. Helsley answered that it has been demonstrated that the system can be deployed and operated at sea. As for recovery of hard rocks, the DCS is known to be capable of this. ODP-TAMU does have to think about core catchers, however. Austin added that understanding of the targeted geological environments is incomplete. He added that the next DCS test will be in a location where many people would like to see results - the East Pacific Rise. This will combine science and engineering. Harding said that the sentiment among industry members of TEDCOM was that there should be more engineering legs to speed the progress of technological development. Engineering tests could be carried out from a barge or the sister ship of the JOIDES Resolution.

Briden asked, in view of the prospects of benefits, whether the right protocols exist for industry involvement and reaping the benefits from patents and for distributing the benefits within ODP and between countries. Helsley and Heinrichs agreed that it may be time to reexamine the options. Beiersdorf cited Schlumberger involvement as an example. Moberly said that TEDCOM was designed for this purpose with the change from IPOD to ODP. TEDCOM members have limited time, however, and also rotate off the panel. ODP is getting competent advice and, indeed, all the program can expect from TEDCOM under the present advisory system. Further options involve hiring a consultant or dividing TEDCOM to examine specific problems. Helsley commented that ODP may need to move beyond advice. Heinrichs said that ODP-TAMU, through JOI, Inc., have the rights to develop patents; there is a formal clause in their contract. The rights of the parties involved in joint developments are more difficult to define. They should be examined case-by-case, but ODP has a right to a share.

Heinrichs asked Harding if he was confident that the engineering problems related to East Pacific Rise DCS drilling will be overcome, in particular, the move to the drill floor. Harding answered that a new mechanism will have to be provided to support the drill pipe. He was fairly confident. The surface system works well but it is necessary to get the bugs out of the seafloor system. Austin said that PCOM discussed an intermediate test in shallower water but felt that it was important to get to an environment such as the East Pacific Rise where scientific attention is focused. Kent asked if there would be an opportunity for a test of the DCS at Hole 504B during engineering Leg 137. Harding replied that there was insufficient time for a new hole and that the location of Hole 504B is too deep for the 4500 m system. Moberly added that time would be lost for working on the DCS ashore if it were retained on the ship. Raleigh asked about the possibility of deploying the DCS on a barge on an atoll and whether PCOM
could trade off costs. Austin agreed that many options would open up if a second platform is used.

NEAR-TERM SCIENTIFIC AND TECHNOLOGICAL PLANNING (PCOM)

Moberly said that a number of the highly ranked proposals (Appendix 4) involve deep drilling. On the advice of TEDCOM, therefore, a Deep Drilling Working Group (DDWG) was formed to advise PCOM on how to attack deep drilling. The group had met during the previous week and Austin and Pyle were present. There were presentations of problems with, and results of, continental deep drilling in the USSR, Sweden and FRG. Additional members may be needed. Costs and time frames have not yet been defined.

Austin said that the DDWG felt that it was important for the thematic panels to provide TEDCOM with more information on the environments of proposed deep drilling. Harding agreed adding that he was surprised that panel members had not come up with more specific requests. The consensus of TEDCOM was that the technology to drill 2 to 2.5 km exists, but that more information is needed on specific sites. In response to comments from Moberly and Harrison, Harding said that it was not yet possible to drill 6 km in a water depth of 4 km (as required by one proposal), but that 2 to 3 km of penetration is straightforward in sediments and that hard rock would simply take longer. Austin said that there had been liaisons from TECP and LITHP at the DDWG and that they would take the recommendations back to those panels.

Moberly continued with a discussion of other working groups. Study of sea level variation has been a focus of COSOD I and II. A Sea-Level Working Group (SLWG) has been set up. All panels have some interest in the problem, in particular SGPP and OHP. OHP wants drilling in a location where there are abundant seismic data and shallow drilling results, for example the North Atlantic margins. For Neogene comparisons, a distant site should be drilled, for example Australia or New Zealand. For the older record, drilling would be located where Mesozoic rocks are exposed.

In approximately two years, the JOIDES Resolution will go to the Atlantic. Though there are a number of Atlantic proposals (Appendix 4), some of the proposals are very ambitious and PCOM felt that some planning assistance was required. The North Atlantic Arctic Paleoceanography Detailed Planning Group (DPG) was formed to address problems related to drilling in proximity to the Arctic ice, and a Rifted Margins DPG has been formed to develop a strategy for studying volcanic versus non-volcanic passive margins. Moberly added that Working Groups (WG) and DPG's contain proponents and neutral members. Kent asked for clarification of the relationship of the WG's and DPG's to the thematic panels. He felt that the need for the Sea Level group was clear, since that theme falls between two panels, but felt that in other cases perhaps the panel itself was sufficient. Moberly replied that DPG's are set up to make the most efficient use of the ship when two or more proposals have similar objectives. They report to PCOM with a detailed and specific plan for a leg or legs. WG's are formed to address how to approach a broad objective, for instance deep drilling, or sea level. They are dissolved after they report to the advisory structure. Each panel proposes members and the decision on membership is made by PCOM.

Moberly concluded by saying that the next, April 1991, PCOM meeting will set the direction of the vessel for the next four years, so that there will be time to set up additional WG's and for thematic panels to consider proposals. The existing plan will be refined and the new fourth year added. The plan depends on the weighting of highly-ranked proposals. Proposals continue to be received, but at a slower rate. Austin added that new four year plans will continue to ignore 1993 program renewal as an issue.
FEDERAL REPUBLIC OF GERMANY

Beiersdorf began by recognizing that from the next day (October 3, 1990) a new Germany would exist (with the uniting of the DDR and FRG). This would result in an expanded number of marine scientists with interests in ODP. The result will be greater competition for funds, since the DDR can provide little. However, there is a strong commitment to ODP within the earth sciences community and there will therefore be little change regarding participation. Total research funding will probably remain at the present level. The community prefers the international style of ODP and perceives the benefits from ODP as being greater than those from a wholly European effort (NEREIS). Beiersdorf cautioned, however, that if renegotiation of MOU's is too extended they may be forced to make the case for ODP once again. "Competitors are not sleeping", he added.

The combination of KTB and ODP has been highly beneficial and is an excellent example of industrial returns associated with ODP. Reconstruction of the research vessel Sonne is expected to take place between March and September 1991, with the addition of the Hydrosweep swath mapping system and new laboratories, increasing its potential for contributing to ODP. Franz Goerlich has been nominated by the FRG to the PEC. He is well-qualified to act as a judge of the program. One cruise this year studied hydrothermal processes in the Lau Basin and may contribute to ODP drilling in that area (Leg 135).

UNITED KINGDOM

Briden made available copies of the biannual UK ODP Newsletter, edited by H. Jenkyns. He went on to report that, decoupled from the renewal process, NERC had been briefed on ODP (see these minutes, page 3). Briden had pointed out to NERC that ODP was larger than the largest UK earth sciences institute, the British Geological Survey. All of the questions from NERC were related to industrial involvement, particularly BP involvement, and intellectual property rights. Briden suggested to the other international members of EXCOM that acquainting their authorities with ODP and its strengths before renewal might be beneficial.

Briden moved on to a review of UK national participation. He commented that a NAS review of the LRP has the great strength of being independent from the funding body of ODP (NSF). By contrast, the review in the UK is an internal NERC review, but the individuals involved will be independent of both ODP and the earth sciences community. As a contribution to the review, a meeting is being planned for May 2, 1991 at the Royal Society to celebrate the achievements of ODP and examine future challenges. The program is being planned by the UK/ODP Science Committee, comprising all of the UK panel members, and they will probably request international speakers. The NERC review committee will attend the Royal Society meeting.

The Southampton Deep Sea Oceanography Project has now been funded (by both NERC and the University of Southampton). Occupation of the building is scheduled for 1994 and research vessels will be moving to Southampton shortly thereafter.

In response to a question from Austin, Briden said that the meeting planning group would have to decide whether there will be a publication following the Royal Society meeting. Briden hopes that there will be one.

FRANCE
Boillot said that the Comité Directeur de ODP France foresees no problems for membership prior to the end of 1993. A new process for national review, which will examine French participation, begins next year. Boillot said that the main decision to be made concerns the future of ODP and that we must begin that discussion now.

Two scientific meetings have been held recently, one on subduction zones in Paris and the Société Géologique de France meeting on the geodynamics of ocean basins and margins near Nice. Recent cruises were a site survey cruise to the Galicia margin, and a cruise to test the NADIA shuttle for instrumenting abandoned holes. Boillot added that these cruises demonstrate French concern for ODP. He concluded by reporting that France will have the same amount of money as last year available for next year.

Austin asked if the JOIDES structure could play any role in assisting renewal in France, for example by providing speakers. Austin added that STRATCOM had recommended that PCOM members and others should be available to assist the renewal efforts of other countries. Boillot replied that this will be a subject for discussion.

**CANADA-AUSTRALIA CONSORTIUM**

Falvey began by announcing that there would be no Canadian contribution to this report. He reported on follow-up work by the BMR to Leg 122. This leg documented the non-existence of Jurassic rocks below an unconformity where, instead, Triassic reefs were encountered. Two subsequent cruises have made the exciting discovery of Jurassic and Triassic reefs all along the northwest margin of Australia.

The ship will be in Townsville during the week following EXCOM. This will be used as part of the renewal strategy. Significant media coverage is expected, and at the same time, a meeting of the Australian ODP Council and the Canadian ODP Board will be held to decide on strategies. The Australian equivalent of JOI, Inc. will also be meeting (comprising the Australian Institute of Marine Science (AIMS), the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Bureau of Meteorology, and the Defence Science and Technology Organisation (DSTO)). Falvey stated that it was important in Australia to stress paleoclimatic studies and their importance to global climatic studies.

The refit of the seismic research vessel *Rig Seismic* has been completed. The ship now has a 240 channel seismic system, with a GECO streamer replacing the old Teledyne streamer, and can deploy a 28 gun array, totalling 4500 cu. in. The shakedown cruise is scheduled for the next few weeks, with the first seismic cruise in November. A geochemical sniffer is also operational.

Regarding renewal, Falvey stated that the Australian Research Council (ARC) is the biggest source of funds and that they need to review their contribution early next year. This will be a science review; industry-oriented considerations will be reviewed a year later. Falvey did not anticipate any problems since spin-off from ODP drilling on the Exmouth Plateau and off NE Australia has been good. A seminar to be held in Canberra next year, and targeting political advisors, is under consideration.

Falvey reported on a change for the better in the attitude of the Indonesian authorities since the confusion over Leg 124 clearances. Indonesia might now be amenable to ODP drilling in their waters.

**EUROPEAN SCIENCE FOUNDATION (ESF) CONSORTIUM**
Fratta said that Prof. Cita-Seroni and the majority of the consortium are enthusiastic about ODP. MOU renewal negotiations have not yet really begun. In the Milan secretariat, a report is being prepared for the pocket in the LRP. A committee meeting in Brussels on November 13 will discuss a first draft version and it should be possible to circulate the 400 copies of the LRP received from JOI, Inc. early next year.

The Scientific and Management committees will concentrate on actions within the next six months. By the Management Committee meeting, presently scheduled for June 14 1991, the ESF will have a good idea of how to proceed and preliminary reactions from the partners will have been received. There are a few unenthusiastic members. They provide only a small percentage of the total contribution, but this still causes problems. It may be necessary to re-allocate the fees among the more enthusiastic partners, even before renewal time. Fratta hoped that the unenthusiastic countries will have clarified their positions by the time of the General Assembly in mid-November.

JAPAN

Kobayashi thanked EXCOM for its condolences and expressions of sympathy following the death, last August, of Dr. Nemoto, a past-director of ORI. He was a member of EXCOM for four years.

The batteries of the downhole seismometer in the Sea of Japan were changed last month and it should operate for a further six months before requiring new batteries. From September 11 to 26, the Tansei-maru operated in the Sea of Japan with the Soviet vessel Pogorov. Two scientists from each country were exchanged between ships. The Tansei-maru was refused a port call in Vladivostok for political reasons, but the scientists cooperated well. The Hakuhomaru will operate in the Bismarck Sea in late November. The main purpose of the cruise is the observation of hydrothermal vents and it may lead to a drilling proposal.

Kobayashi said that Japan will be pleased to be able to host the post-cruise meetings of legs 127 and 128 in Tokyo from October 15 - 20. An open discussion of the results of the legs was scheduled for October 17. LITHP would meet in Tokyo during October 11 -13.

The Japanese government considers it too early to give a definitive answer on extension of ODP. The new drilling ship is in the planning stage; there have been no promises of funds as yet. The basic concept is that of a ship capable of drilling in deep water with a riser. The target is to drill, with a riser, in 4000 m of water and achieve 4000 m of penetration, involving 2000 m of sediment and 2000 m of hard rock. This goal may require more than seven years to achieve.

UNITED STATES OF AMERICA

Heinrichs reported that little has changed at NSF since the June EXCOM meeting. A MCS survey of the New Jersey margin aboard the research vessel Maurice Ewing is planned for Fall, 1990. The East Pacific Rise site survey by the research vessel Atlantis II is scheduled for 1991. In conjunction with the Division of Polar Programs, an Antarctic MCS survey aboard the Ewing is planned for early 1991. A deep tow sidescan survey of the Vema Transform is planned for 1991, but may be postponed to 1992 because of the uncertain availability of the research vessels Knorr and Melville.

A review panel meeting in Washington will consider elements in the continuation of the US Science Support Program (USSSP). Malfait and Heinrichs have spent most of their time working on Soviet membership. The NSF is presently understaffed.
The NAS review is the primary science review of ODP in the USA but NSF will also carry out a review of both the LRP and the NAS review. The NSF review will be an amalgamation of the science review with a review of other elements of the international program. The earliest date for presentation of a formal request for renewal to the National Science Board is November 1991.

Dr. Massey will probably be confirmed as the new NSF director shortly. Mr. Takagi of JAMSTEC and Dr. Takawa, a naval architect, visited NSF during the week preceding EXCOM. They informed NSF that the proposed Japanese drilling ship is in the feasibility study stage, and they were supportive of continuing Japanese participation in ODP.

Pyle outlined the funding activities of the JOI/USSSP. A list of projects funded is given in Appendix 6. The most important item is the funding of the building of the Wireline Reentry Capability.

Merrell asked the purpose of the NAS review. Heinrichs replied that the intention was to place ODP in the context of other science activities, to examine the LRP and to give a broad overview.

Summary of topics for discussion on Thursday

Helsley summarized the additional issues for discussion on Thursday (in addition to outstanding agenda items) as being: Soviet membership, industrial participation, BCOM membership, Pyle's ideas on the fuel crisis and membership contributions, and the future EXCOM meeting schedule. Frieman proposed further discussion of Raleigh's idea of drilling to the mantle as a means of providing an exciting project to publicize ODP. Briden proposed further discussion of points raised by Austin: focussing the program and approaching other scientific constituents. Helsley suggested that it would be beneficial to discuss some of these issues in smaller groups before Thursday.

Thursday, 4 October 1990

PRESENT OPERATIONAL STATUS OF THE OCEAN DRILLING PROGRAM.  
WIRELINE LOGGING SERVICES REPORT (ODP-LDGO)

Goldberg presented the report. A written report was provided (Handout 2; see also Appendix 7). The new hire mentioned in the report started during the week of EXCOM. There are now five log analysts at the Borehole Research Group (BRG), ODP-LDGO.

In response to a question from Raleigh, Goldberg said that the shear wave logging tool is based on an existing design. Raleigh said that BRG had done well in getting advice from industry. Goldberg added that there are only a small number of Maxis systems in the US and that it is remarkable that one will be available for the JOIDES Resolution. Beiersdorf asked how the revised logging manual could be obtained. Goldberg said that they would be available through ODP-LDGO but that they would also be distributed.

500 EXCOM ACTION ON NEAR-TERM PLANNING

FILLING BCOM

Helsley asked for nominations to fill the BCOM chair vacancy for a US member from EXCOM. Restrictions are that the member cannot be from either TAMU or LDGO, and Maxwell, the next EXCOM Chair, is also excluded.
Maxwell nominated Nowell. Kent seconded. There were no other nominations and Helsley declared the nominee elected by consensus.

Later in the day, Helsley inserted a clarification based on subsequent discussions. He said that the chair of BCOM does not have to be a US EXCOM member. Briden will, therefore, be the chair of BCOM and Nowell will take Briden's place on the committee.

OTHER ACTION

The first item for discussion was the motion on Soviet membership (see page 16), which had been drafted by Frieman. The motion was presented for discussion by Moberly.

Merrcll suggested that a Soviet observer be invited to EXCOM in addition to PCOM. Helsley agreed that this would probably be necessary since the USSR would still probably not be a formal member before the next EXCOM meeting. This was the general consensus and the motion was altered to include this.

Briden asked whether it was the intent that panel participation by representatives from the USSR should occur before full membership is achieved or afterward. If the latter, he added, then the motion as originally written should be altered. Kent suggested deleting the last sentence, which read "EXCOM urges that PCOM work with its observer to identify USSR participants for the advisory panels." He said that Soviet participation in EXCOM and PCOM may lead to a variety of discussions about their participation in the advisory structure. Beiersdorf said that Soviet participation on panels is acceptable as long as they remain guests and observers, without a vote, and Merrell added that the statement simply asks that participants be identified: they would not necessarily attend the panel meetings. Helsley said that the sentence was needed to ensure that PCOM does work with its Soviet observer to identify future panel participants, rather than having to wait until its next meeting to do so. Kent, however, said that the list of panel members would be an internal Soviet matter. Gagosian agreed with Kent that there may be other things that PCOM would wish to discuss with the observer. The sentence may unnecessarily limit discussion and Soviet panel membership would be one of PCOM's responsibilities anyway. Helsley said that although the country is allowed to name panel members, he hopes that PCOM could identify appropriate individuals who would interact well with ODP, rather than just have individuals show up at panel meetings. Moberly suggested deleting the sentence and allowing the minutes to show the intent. There was a general consensus to this effect. There followed a vote on the motion.

EXCOM Motion

The EXCOM reaffirms its desire to have the USSR Academy of Science re-establish membership in the ODP at the earliest possible date. Provided that an invitation for restoration has been extended by the NSF, the EXCOM requests that the USSR send observers to the future PCOM and EXCOM meetings. (E. Frieman, second A. Maxwell)

Vote: for 16, against 0, abstain 0

Maxwell asked whether NSF or JOIDES would inform the USSR about sending observers to PCOM and EXCOM. Heinrichs replied that the invitation should come from EXCOM.
Helsley reported that the date of the California port call of the JOIDES Resolution has changed from late June to 5-9 July, 1991, and that the port may change from San Diego to Los Angeles. The "June" EXCOM meeting, which is also a joint meeting with the ODP Council, therefore becomes a July meeting. He said that EXCOM must at least decide the time of the meeting and that the place be the west coast of the USA. The remaining details could be worked out with Scripps and the JOIDES Office.

There followed a lengthy discussion of options. Rabinowitz said that the ship could come in to San Diego but that it had to go to Los Angeles to refuel. It would probably have to leave San Diego on Monday, July 8. He added that it might be possible to shift the schedule a day later, incorporating an extra science day before the port call. Austin and Maxwell, however, made the point that the meeting time should be adjusted rather than the ship schedule. Briden agreed that EXCOM serves ODP, not the reverse. Helsley pointed out that the previous weekend is the Fourth of July holiday and that this could make travel difficult. Beiersdorf said that the ODP Council members should also be consulted. Frieman made the point that it would be much easier for Scripps to host the meeting in San Diego than in Los Angeles, and that EXCOM should decide both the timing and location of the meeting now so that hotels can be booked around the holiday period.

The final consensus, outlined by Helsley, was that the 1991 EXCOM meeting would be held from Tuesday July 9, to Thursday July 11, in San Diego. Hotel reservations should begin on the night of Monday, July 8. Some flexibility should be built into the schedule so that participants can visit the ship in Los Angeles, by bus from San Diego, on July 8 or 9. The details of the ship visit would be announced later. A visit to the ship on the morning of July 9 with the meeting beginning at noon was suggested as one possibility by Baker. Rabinowitz indicated that it might be possible to have dinner on the ship on the evening of either July 8 or 9. He added that the ship would actually be located somewhere between San Diego and Los Angeles during its port call (probably Long Beach).

**SPACING THE TWO EXCOM MEETINGS PER YEAR**

Helsley said that there are at present usually two EXCOM meetings per year: one in Washington D.C., and the other in one of the international member countries. The rotation is: France (this meeting), FRG (next meeting), Canada/Australia, Japan, UK, ESF, and possibly the USSR. For 1991, EXCOM has been invited to the FRG. Beiersdorf added that the meeting is scheduled for early October and that the room has been reserved.

Helsley asked if someone would report on the discussion at an ad hoc meeting, held the previous evening. Briden began by expressing his personal view that the timing of the Spring EXCOM/ODP Council meeting is fixed and that a second meeting is essential. He felt, however, that the spacing of the meetings is important and that the agenda for the second meeting has been somewhat "soft" in recent times, in part because the "May" meeting has drifted to June, and next year will be in July. If EXCOM is to meet in June, the second meeting should be approximately six months later. He felt that, at present, the two EXCOM meetings were poorly placed relative to the three PCOM meetings and that the second EXCOM meeting should fall between the November and April PCOM meetings. Briden then said that the feeling at the ad hoc meeting had been that the Fall EXCOM meeting should be in January, after the annual PCOM meeting, or alternatively that PCOM and EXCOM have an adjunct meeting, with a one-day overlap, at the time of the PCOM annual meeting. In both cases, PCOM would be able to report to EXCOM on the results of the annual meeting. Boillot expressed French support for these suggestions.

Austin said that an adjunct PCOM/EXCOM meeting would impose impossible logistical problems on the JOIDES Office. Moberly said that PCOM and EXCOM had met one week
apart long ago, but that things had been simpler then. Beiersdorf supported overlapping PCOM and EXCOM meetings, saying that it would enable both to discuss matters simultaneously. Baker said that making the EXCOM meetings six months apart is a good idea independent of the issue of a joint PCOM/EXCOM meeting. He supported a January EXCOM meeting, which will enable PCOM to report on their annual meeting and allow time for an initial input to budget discussions, since BCOM meets in March. Helsley suggested that if EXCOM is to play a more active role in the renewal process it may be necessary to meet in member country capital cities before 1993. This would require a third meeting per year in order to meet in countries outside the normal rotation.

Heinrichs reviewed the rationale for the present system, which was set up in 1986, when it was assumed that the budget process could be completed by March. This proved to be optimistic, so that the Spring EXCOM meeting has been pushed back to June. Meanwhile, the Fall meeting in October has remained fixed, so that the gap between the two is now substantially less than six months. He added that the October timing was chosen so that EXCOM could advise PCOM, but that a January EXCOM meeting might be appropriate.

Austin said that the primary purpose of the April PCOM meeting is to set the four-year schedule. Therefore, input from EXCOM in January would be useful. Moberly pointed out that six months from May/June is November/December. Merrell said that the primary role of EXCOM is to respond to PCOM. He asked if the PCOM schedule is fixed. Moberly said that the PCOM Fall meeting is scheduled at the latest possible date at which a program plan can be developed and still leave time for the JOIDES Office to get it into shape to go to JOI, Inc. for budgeting. The necessity of working around the US Thanksgiving Holiday and the AGU meeting resulted in a latest November timing. If a year's notice was given, it would be possible to move the PCOM meeting to late October. The Spring and Summer PCOM meetings should then also be advanced by one month. Moberly added that the JOIDES Office may prefer this schedule when production of the JOIDES Journal is considered.

Pyle noted that if the Spring PCOM meeting is too early, this may leave insufficient time to discuss the budget with PCOM, which may be necessary if financial problems and the need for cuts arise.

Merrell moved a coffee break to allow further informal discussion of this issue. Approved by consensus.

Upon reconvening Briden proposed that the next year's Fall EXCOM meeting be deferred to January 1992. Beiersdorf had previously indicated that this change could be accommodated by the FRG. Kent supported this suggestion. Maxwell indicated that appropriate dates would be January 14 to 16, 1992 (Tuesday to Thursday). Helsley suggested that the consensus be that EXCOM meetings remain at two per year, in June and January. Baker added that this was a good idea for 1992, but that we should reserve the possibility of calling a 1991 Spring meeting early, to follow BCOM in the event that there remain outstanding issues unresolved by BCOM, for example related to increased fuel prices. Helsley concluded by saying that PCOM should not be expected to meet prior to the second week of November.

**502 OTHER BUSINESS**

**JOINT DEVELOPMENTS WITH INDUSTRY AND INTELLECTUAL PROPERTY RIGHTS**

Helsley introduced the issue and said that it might be a good idea if someone were charged with bringing back a statement on this subject to the next meeting.
Briden agreed that joint developments are a problem; other types of industrial participation, in contrast, are covered by various articles in our constitution. Raleigh doubted that EXCOM had any influence over the issue of patent property rights, and that the policies of individual JOIDES institutions govern the behavior of their employees in this regard.

Austin reiterated that TEDCOM had proposed that ODP improve its contacts with industry. Heinrichs said that the MOU and prime contract contain development clauses, but that joint development issues are not addressed. Falvey said that if there is a serious proposal for joint developments, then a more serious statement on property rights should be developed for the next meeting.

Helsley thought that such a document would be useful, since according to TEDCOM there are going to be opportunities for joint developments. He asked if Pyle or Baker would prepare such a document by the next EXCOM meeting. Pyle replied that it would be easy to summarize the present situation, but that if EXCOM would like changes, they should provide input.

Frieman said that the number of options is enormous and that it would be preferable to wait for a specific issue and then act on it. For now, he added, a summary of the present state of affairs would be sufficient. Heinrichs said that the issue of intellectual property rights concerns the US Government and that the MOU with the USSR will include a property rights clause. The NSF will provide a framework under which the US Government will be prepared to operate. Helsley directed the committee to come to the next EXCOM meeting prepared to discuss a summary of this issue, to be prepared by JOI, Inc.

FOCUSSING OF ACTIVITIES TOWARD RENEWAL

There were no further comments on the issue of additional contributions raised by Pyle on 2 October.

Regarding the issue of interaction with other research groups, Heinrichs said that he would shortly be meeting with JGOFS and could pass on informal messages. Helsley asked Heinrichs to inform them of ODP's interest in interaction and in the development of a more formal relationship between ODP and JGOFS.

Drilling through the lower crust and upper mantle/program flexibility

The next issue for discussion was that of drilling to the mantle as a means of providing an exciting project to publicize ODP. It was raised initially by Raleigh on 2 October. Kent brought a draft written motion before the committee for its consideration. The motion was in the form of a recommendation to PCOM and was specific about the goal of sampling through the lower crust and upper mantle and about the timing: before mid-1992. He emphasised the need to make an active search for a proposer and an appropriate site or sites at which to drill through the Moho.

In response to a question from Caldwell, Austin said that such sites exist but that the issues are time and technology. Raleigh said that it was his understanding that at uplifted sites it was unnecessary to penetrate the entire crust to reach the mantle. This should be within existing technological capabilities. Timing is crucial, he added. We must persuade the world that we are doing something wonderful, especially as renewal approaches. It is important both for member countries and for the US as the budgeting process proceeds.

Moberly said that this idea was discussed at STRATCOM, along with others of broad interest, such as drilling a major ore body, and the atoll/guyot drilling initiative, which addresses a problem that has been an issue since Darwin's time. LITHP had as a top priority the location of
sites to drill the lower crust and upper mantle. However, specific sites where this might be achieved have yet to be located in the Hess Deep proposal area. The planning structure, he said, may resent such an attempt to change the schedule, especially as no specific site exists. Also, we select proposals, not proposers.

Maxwell agreed, saying that Moberly had understated PCOM's objections to such a statement. He suggested that the motion be less specific and simply say that PCOM keep in mind the need for high-visibility science. Austin said that STRATCOM had recommended against being too specific on paper lest we be viewed subsequently as having failed in an initiative. In addition, he was reluctant to put such a motion on paper unless it had been reviewed and had broad support. The motion as written would be a signal to LITHP that this was to become a major focus, and that this hole would be favored relative to other highly-rated programs.

Boillot asked whether the seismic or petrologic Moho was the target. He said that Layer 3 can comprise mantle rocks. Harrison said that to reach either without drilling through 6 km of crust would mean drilling in an anomalous area. He questioned what this would tell us about the real Moho. Raleigh replied that we cannot be sure anywhere that a standard section is being sampled. ODP should establish a scientific initiative that is scientifically important and also publically visible; this is EXCOM's job. Even an anomalous section would bring attention. Also, we should not go to press before the hole has been drilled. Austin agreed with the last point, noting that while drilling the Moho has historical significance, the original Project Mohole was a large failure. He added that there is a proposal on the schedule to drill the axial magma chamber on the East Pacific Rise. This is potentially newsworthy. Baker asked if ODP could repeatedly return to a site, deepening it and making progress toward the objective without distorting the rest of the program. No completion date need be promised.

Moberly said that the proposal ranked highest by LITHP has as one of its objectives the goal outlined by Raleigh. However, no site at which the Moho can be reached has yet been identified. Similarly, in the Atlantic, some proposed legs may be able to achieve this goal. Therefore, drilling of the Moho may simply come about as part of the normal planning process. He agreed, however, that we must try to do some things that generate excitement outside the ocean drilling community.

Helsley said that EXCOM should encourage PCOM to continue to seek out scientifically appropriate targets, achievable with current technology, that will be very visible to the public at large and also of interest to the scientific community. One such target would be the drilling of the lower crust and upper mantle. This could just be left, he added, as a general note in the minutes.

Gagosian said that this is exciting scientific work that is also of interest to the public. It is essential to carry out good scientific research: EXCOM should avoid encouraging PCOM to pursue public interest. Briden said that it would be preferable for PCOM to give the program visibility by what ODP does rather than what it says. Frieman said that he believed that it was within the rights of EXCOM to make specific suggestions to PCOM, and such a motion is appealing. We are moving into tough times for science support and need to demonstrate a first class achievement to the world. He added that he would like to "push hard". Falvey said that EXCOM should ask PCOM to note that it is necessary to get a high profile outcome in the context of renewal. Austin said that PCOM is aware of this need and that there are moves to get the ship, at the right time to aid renewal, to an area where high-profile work can be done: the eastern Pacific. Baker acknowledged that PCOM is doing the job well but said that on this specific topic (Moho drilling), PCOM may not have pushed hard enough. If the target is approached by repeated visits to a site, the program will not be disrupted. Drilling to the Moho has the virtue of being a goal that is easy to understand, making it easier to sell ODP.
Helsley noted that ODP is conducting exciting research already, though it is not necessarily exciting to the general public. ODP needs to convince them. He expressed concern about the concept of drilling a complete section, involving perhaps two years on site. If this is attempted one leg at a time it could take ten years. The complete section, therefore does not accomplish the goal of aiding renewal. Drilling should target the lower part of the section. Frieman said that it would be possible to maintain a long-term objective and achieve it step by step, without distorting ODP.

Raleigh said that not to drill to the mantle would be a failure of will, rather than of technology. The ship was sitting on the Atlantis II Fracture Zone drilling in lower crustal rock, that was already showing signs of the type of deformation that would be expected in the uppermost mantle, and stopped because it had to go somewhere else. He added that ODP needs a mechanism for capitalizing on opportunities and it needs visionary, even glamorous, science. The complete section approach will not suffice. We must choose an uplifted block within the capabilities of current technology. EXCOM should be able to tell PCOM that this is important.

Lancelot agreed with Raleigh. The planning structure, he said, reacts to proposals, but this should not prevent EXCOM from defining major topics to catch public attention. At the Paris PCOM meeting, PCOM recommended focussing on about six topics so that people can easily grasp "...what ODP does." Austin said that the issue of focussing had also been brought up at the last (Scripps) PCOM meeting. However, PCOM is strongly divided into two groups: the "top-down", focussed program supporters, and the "bottom-up", proposal-driven program supporters. Caldwell asked how much would have to be given up in order to pursue the Moho objective.

Moberly said that there is interest in pursuing the Moho objective but reiterated that no suitable site had yet been defined at Hess Deep. It might be possible at the Vema Fracture Zone or Hess Deep. There is a good chance that this goal will be achieved, but EXCOM should not specify that this is what PCOM should do since no site has been defined. Raleigh asked whether the ship would leave the site as planned at the termination of the leg if, at Hess Deep, drilling had penetrated to within 100 - 300 m of the lower crust to upper mantle transition. Moberly replied that fuel supply and the contract with SEDCO must be considered. He added that a two-week extension was allowed in the Nauru Basin (DSDP) but that such extensions have rarely been granted. Rabinowitz said that an extension to a leg had not occurred during ODP. It is very difficult to make changes during a leg. A hole exists, however, at the Atlantis II Fracture Zone, where the lower crust has been drilled with good recovery and perhaps the ship could detour back to that site in the Indian Ocean.

Helsley said that he had attempted to avoid making specific recommendations but that EXCOM keeps returning to specifics. EXCOM needs to identify high-visibility targets, and achieve them within the next few years. Nowell said that there seems to be a reluctance to take advice from EXCOM, many members of which are not geologists, on action to aid renewal. Last June, PCOM said that EXCOM was not being supportive. Here, however, EXCOM is offering some advice on how to help ODP; let's be specific. Kent said that the element of boldness makes deep drilling to the upper mantle attractive. He believed that there was a necessity for boldness and risk-taking and recommended being specific. He added that the statement of the goal may be sufficient and that it may not be necessary to accomplish everything in 1992, but that the final achievement of the objective should not be too far off. Raising the stakes will generate excitement.

Heinrichs was not convinced that ODP needed a spectacular achievement prior to renewal. ODP is recognized as having a sound scientific base. He said that the key is the ability to articulate a focussed, bold strategy in the approach to the renewal period. The LRP identifies broad strategies but is not an implementation plan. ODP requires top-down direction so that the
bottom-up input can be acted upon appropriately. The motion as written (to drill through the Moho) is too specific and would discourage scientists. ODP does, however, need a clearly articulated strategy, he concluded.

Maxwell reiterated the need for flexibility, so that if a worthwhile drilling goal is within reach the site is not abandoned. Moberly said that, at its last meeting, PCOM asked the panels to integrate proposals into the themes of the LRP. He had no objection to the motion as written, except that there are other topics, which also have a history of broad, general interest. For example, deep drilling in sediments was suggested before Moho drilling historically. EXCOM should direct PCOM to select sites but not to find a proposer. He added that the minutes will show that the main interest is in publicity rather than in the finding of a specific site. Regarding the flexibility of the schedule, Austin said that ODP should try to be as flexible as the contracts will allow. Unfortunately it cannot be as flexible as Raleigh would like. Falvey added that ODP cannot be so loosely defined as to accommodate unwieldy extensions. This must be done at the initial planning stage. For instance, PCOM could give drilling of the upper mantle priority within an upcoming leg to ensure that the objective is reached. Raleigh summarized his perception of the situation by suggesting that "...if we had our equivalent of a supernova, we would certainly not point any radio telescopes at it from this community ..... the planning process would be ruined if we did that". Harrison noted that great flexibility used to be a feature of scientific ocean drilling. Perhaps PCOM could look into the reintroduction of this flexibility. Moberly said that JOI, Inc. and some of the panels had requested that PCOM find more flexibility. There have been some changes to the program plan and modest changes should be easy to make in the future. He hoped that large changes could be accommodated and accepted by the community, but noted that any change has cascading effects.

Helsley suggested from the group consensus a slight rewording of the original Kent motion. Baker said that the issue of flexibility goes along with this. ODP must be able to accommodate changes. He characterised Raleigh's earlier statement on the program's lack of flexibility (supernova analogy) as a devastating remark.

Lancelot queried the 1992 completion date in the motion and Helsley said that achievement of the goals should not be too distant. Boillot suggested removal of the date since there are some possible sites for such work in the Atlantic, which will not be reached before late 1992. Austin said that the wording of the motion implied a Pacific target. He then read an alternative motion written by Briden and seconded by Maxwell. This became the basis for the final EXCOM motion (below).

Menell said that no ideas had been presented on how to make ODP more flexible. Constraints are imposed as a consequence of the way the ship operates. Co-chiefs always want more time and PCOM must maintain some order. Austin said that a proposal had been submitted, immediately following Leg 118, to return to Site 735 drilled on that leg. The proposal was turned down as part of the normal review process. Raleigh said that it was turned down because there was no general plan to drill the Moho. Austin countered that the mechanism for handling the request existed and that it was handled within the context of the rules at that time. Falvey agreed, adding that it was not desirable to have a strategy that allowed legs to have unlimited flexibility once underway. Moberly said that the panel chairs will be meeting before PCOM and will discuss flexibility. One proposal is for a "wild card" leg each year. Alternatively, if another panel has an interest in an area where the ship is located, a site or sites could be added. He said that he would prefer a leg (or legs) in between multiple visits to a site (or sites) rather than back-to-back continuations of a single leg.

Helsley asked for a vote on the following motion.

**EXCOM Motion**

23
EXCOM commends PCOM for its development of the program and encourages PCOM to pay special attention to truly major scientific issues that would bring the program greater visibility in the period prior to renewal. In particular EXCOM urges that no opportunity be missed within the Program Plan to drill through the lower crust and upper mantle. (Motion J. Briden, second A. Maxwell)

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

Implementation of the Long Range Plan

Briden, referring to p. 77 - 79 in the August PCOM minutes, suggested that it would be helpful for EXCOM to voice an opinion encouraging PCOM to address the implementation of the LRP. Austin added that it would be beneficial for EXCOM to give direction for focusing of the program in the early-mid 1990's. This would help clear the top-down/bottom-up differences of opinion evident within PCOM at its last meeting. STRATCOM came up with six themes, while the LRP outlines 18 themes. Falvey commended STRATCOM for further focusing the LRP in order to implement it effectively.

Moberly asked whether a new set of themes should be identified, or those in the LRP used. The LRP includes both goals that are within the capabilities of current technology and also others that require more engineering work. Briden replied that he did not have a copy of the LRP but that his intention was to build on what is in the LRP. Austin added that the LRP has implementation plans for the following time periods: 1989-1993, 1993-1997 and 1997-2000. Heinrichs said that EXCOM, at its last meeting, expressed an interest in a five-year window for review purposes and that the LRP only sketches the broadest outline of implementation. Raleigh suggested consecrating two months per year for drilling associated with a particular theme. Austin pointed out that this would be possible if we could agree on six themes. Each would occupy two months per year.

EXCOM Consensus

EXCOM urges PCOM to develop strategies for implementation of the Long Range Plan with particular attention to identifying themes for special emphasis in the mid-90's.

Adjournment

Merrell complimented the Chair, Helsley, and thanked the Chair and the University of Hawaii for their stewardship and efforts during the last two years. EXCOM expressed consensus by applause.

Helsley thanked the host for providing facilities, the field trip, and all assistance. EXCOM again expressed approval by applause.

The meeting was adjourned at 12:45 PM.
APPENDICES ATTACHED TO THE 2-4 OCTOBER 1990 EXCOM MINUTES

1. Recommendations of the Comité Directeur de ODP France
2. Executive summary: Strategy Committee II (STRATCOM II)
3. Program Management (JOI, Inc. Report) summary
4. Near-term Scientific Objectives (PCOM)
5. Leg 133 operations summary
7. Wireline Logging Report summary

LIST OF HANDOUTS DISTRIBUTED AT THE 2-4 OCTOBER EXCOM MEETING

1. Science Operator Report
2. Wireline Logging Services Report
The "Comité Directeur de ODP France" reaffirms its great interest and support for the scientific ocean drilling, considered as an irremplacable means for the knowledge of the global ocean. However the Committee notices inadaptations between technical capabilities of the current drilling tool (the JOIDES Resolution) and certain scientific objectives of the Ocean Drilling Program defined by the COSOD II Conference and Long Range Plan. Some of these objectives can only be attained by several kilometers long drilling within hard rock or by "high resolution drilling" within the soft sedimentary cover (i.e. keeping the fine sedimentary structures). To get over that difficulty, the Committee recommends:

1. To undertake (or develop) active international concertation in order to have at geoscientists disposal a new generation of convenient drilling platforms and tools before the end of the 20th Century. If no advancement occur in that way, the Committee will be cautious on the French participation to ODP beyond 1993.

2. In a transitional stage (1993-1995 or 1998), and waiting until new drilling platform are ready to work, to continue technological efforts improving drilling capabilities of the JOIDES Resolution.

3. To keep watch at an equilibrated repartition of technological efforts and economical-industrial returns as well between ODP partners at the time of the renewal of drilling tools and platforms.

These recommandations imply a clear distinction between the definition of scientific objectives for the drilling program, and the definition of tools and platform adapted to these objectives. Especially, it seems desirable that the drilling legs will be distributed between at least two platforms, one for the deep drilling within hard rock, another for high resolution drilling within soft sediment.

Doing these recommendations, the Committee wish to contribute to the birth of the third phase of international Ocean Drilling (after IPOD and ODP).
EXECUTIVE SUMMARY: STRATEGY COMMITTEE II
(STRATCOM II)
ad hoc subcommittee of JOIDES PLANNING COMMITTEE
at Joint Oceanographic Institutions, Inc.
Washington, D.C.
25 September 1990

As decided upon by PCOM during its August meeting at Scripps Institution of Oceanography, the purpose of the second meeting of STRATCOM was two-fold:

1.) To facilitate renewal of ODP.
   • by examining and implementing ways to enhance the program’s effectiveness, both within the U.S. and among the international partners
   • by presenting such strategies to PCOM at its November, 1990 meeting

2.) To examine various means of showcasing ODP's accomplishments.

STRATCOM emphasized short-term (i.e., pre-1993) strategies with a series of recommendations:

I. Members of STRATCOM (Austin, Beiersdorf, Leinen, Malpas, Moberly, Pisias) and other members of PCOM as appropriate or desirable should make themselves available for oral presentations on ODP in aid of renewal.
   (Note: EXCOM input on timelines for renewal necessary and desirable for such activity.)

II. Members of PCOM will be asked to submit summary slides (or art which can be converted to slide copy, perhaps by JOI, Inc.) for such presentations, and to showcase themes summarized by the LRP.

III. Members of PCOM, perhaps in consultation with outside parties (e.g., members of some of ODP's formal liaison groups) will be asked to prepare short, popular articles based upon the 1-page inserts in the LRP brochure.
These inserts emphasize ODP's relationships with other, ongoing initiatives in the earth sciences.

IV. PCOM will be asked to endorse a JOIDES-sponsored meeting showcasing the thematic impact of ODP on the international earth sciences community.

- similar to COSODs in form and size
- will emphasize ODP's accomplishments, but not be limited to them
- probable date: spring, 1992 (would require BCOM action 3/91)
- several mega-themes discussed, to be discussed further at 11/90 PCOM meeting
- potential members of both scientific and general organizing committees discussed, to be contacted prior to 11/90 PCOM meeting for their preliminary response and input
FY91 PROGRAM PLAN APPROVED BY NSF

LRP & BROCHURE DISTRIBUTED

RENEWAL

- LIAISON GROUPS

* PCOM met with FDSN and GSGP

* PCOM appointed members of Liaison Group with Nansen Arctic Drilling Program

* JOI met with IGBP/PAGES (Paris, September)

* JOI met with ILP Coordinating Committee on Continental Scientific Drilling (Windischeschenbach, September)

* JOI correspondence with US/NAS Committee on Global Change

* No response from JGOFS (May letter)

* No progress in Inter RIDGE — informal contacts continue

- TECHNOLOGY

- HIGH TEMPERATURE LOGGING AND SAMPLING

* JOI met with JAPEX; agreement to lease temperature tools

* Water sampling tool from Los Alamos/Sandia

* LDGO will dewar slimline tools from ARCO

* Other responses to "Dear Member" letter being evaluated

* Informal working group may be needed
- DIAMOND CORING SYSTEM
  * Deployed on Engineering Leg
  * FY91 plans under discussion with TAMU

- OTHER
  * Vibra-percussive drilling/coring
  * Pressure core barrel

• CURRENT EVENTS
  - FUEL PRICES
    * Townsville port call
    * PPI?

• PROGRAM EVALUATION COMMITTEE
  - PEC-3 NOMINATIONS

• MISCELLANEOUS
  - FILM ON ODP DUE IN OCTOBER
• Food for Thought...

• Unapproved, unofficial thoughts prompted by current crisis...

Additional contributions?

• Voluntary, involuntary

• Temporary, permanent

• Small bites vs. quantum step

Permanent change?

• Contributions in national currency—not dollars

• Contributions in market basket of currencies (e.g., ECU)?

• Tie to purchasing power?
Programs in FY 1991 Schedule

Candidate Programs for FY 1992

North Atlantic Candidate Programs
<table>
<thead>
<tr>
<th>Lithosphere Panel</th>
<th>Ocean History Panel</th>
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<tr>
<td>2. East Pacific Rise Bare-Rock Drilling Program</td>
<td>North Pacific Neogene Transect</td>
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<td>3. Mid-Atlantic Ridge Kane FZ Area Drilling Program</td>
<td>New Jersey Margin Sealevel Change</td>
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<td>4. Trans Atlantic Geotraverse Hydrothermal Area</td>
<td>Mesozoic Guyots</td>
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<td>5. Sedimented Ridges Leg 2</td>
<td>Bering Sea</td>
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<td>6. Vema FZ layer 3/mantle transition</td>
<td>Marshal Atolls and Guyots</td>
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<td>7. Vema FZ layer 2/3 transition</td>
<td>S. Equatorial Atlantic Neogene Transect</td>
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<tr>
<td>8. OSN Pilot Hole N. of Oahu</td>
<td>California Current</td>
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<tr>
<td>9. Geochemical Reference Sites</td>
<td>SW Pacific Sea Level Change</td>
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<td>10. Deepen Old Pacific Hole 801C</td>
<td>Shatsky Rise Anoxia</td>
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<td>Sedimentary &amp; Geochem. Processes Panel</td>
<td>Tectonics Panel</td>
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<tr>
<td>1. Cascadia Accretionary Prism</td>
<td>Chile Triple Junction</td>
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<td>2. Chile Triple Junction</td>
<td>North Atlantic Non-volcanic Rifted Margins</td>
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<td>3. Atolls and Guyots</td>
<td>Cascadia Accretionary Prism</td>
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<td>4. Sedimented Ridges Leg 2</td>
<td>OSN Pilot Hole N. of Oahu</td>
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<td>5. New Jersey Margin Sealevel Change</td>
<td>North Atlantic Volcanic Rifted Margins</td>
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<td>6. Peru Gas Hydrates</td>
<td>Barbados Accretionary Wedge</td>
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<td>7. East Pacific Rise Bare-Rock Drilling Program</td>
<td>Equatorial Atlantic Transform Margins</td>
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<tr>
<td>8. Gulf of California Hydrothermalism</td>
<td>North Australian Collisional Margin</td>
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<tr>
<td>9. New Zealand Margin</td>
<td>Antarctic Peninsula Margins</td>
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<tr>
<td>10. Barbados Accretionary Wedge</td>
<td>Cayman Trough</td>
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</table>
Leg 133 is investigating 14 sites offshore northeastern Australia to study the evolution of carbonate platforms and adjacent basins.

Thus far:

13 Sites have been completed.
29 Holes have been spudded.
5,995 meters of sediment has been cored.
5,065 meters of core has been recovered. (84.5%)
841 meters of sediment has been drilled. (not cored)
6,836 meters of sediment had been penetrated.
Appendix 6, page 1

Contract Year 6 - JOI/U.S. Science Support Program

• Workshops Funded:

Warren Prell (Brown): Evolution of Upwelling Systems Since the Miocene.

Mike Coffin (UTIG): Large Igneous Provinces: A Workshop to Develop Scientific Drilling Initiatives on Volcanic Margins, Ocean Plateaus, and Seamount Chains.


Michael Arthur (URI): Travel Support for Participants in Cretaceous Resources, Events, and Rhythms Research Symposium (Co-Sponsored by SEPM and GSGP/CRER).

Robert Duncan (OSU): Proposal for a USSAC-sponsored Workshop and Publication to Synthesize ODP Results from the Nine-Leg Indian Ocean Program. (CY 7 funds)

James Kennett (UCSB) and John Barron (USGS): The Role of The Southern Ocean and Antarctica in Global Change: An Ocean Drilling Perspective. (CY 7 funds)

• Graduate Fellowships

Teresa Hagelberg (OSU): Leg 138 GRAPE Data as a Carbonate Proxy: Potential for Use to Study Linear and Nonlinear Characteristics of the Neogene Climate.

Steven Hovan (U. Michigan): Late Cenozoic Atmospheric Circulation and Hemispheric Asymmetry.

• Wireline Reentry

USSAC is funding Fred Spiess (Scripps) to build a wireline reentry capability. The system should be available for use next year.
Appendix 6, page 2

• Site Survey Augmentation Proposals funded:

Bobb Carson (Lehigh): A Proposal to Analyze GLORIA Side Scan Imagery to Define Locations of Fluid Expulsion on the Oregon Accretionary Complex.

Frederick Duennebier (HIG): Surveying and Sampling for Lo-En and Ratak Guyots of the Marshall Islands.


Steve Cande (LDGO): Pre-Stack Depth Migration of Seismic Lines Intersecting Proposed Drill Sites of the Chile Margin-Chile Ridge Collision Zone.


• Proposals Under Review

Maurice Tivey (WHOI): High-Resolution Magnetics Over a Sedimented Hydrothermal Vent System in Middle Valley, Northern Juan de Fuca.


Laurie Autio (U. Mass): Geochemistry of Ocean-Floor Basalts Recovered by the Deep Sea and Ocean Drilling Programs.

Alan Mix (OSU): Leg 137 Site Augmentation: Reflectance Spectroscopy.
Appendix 7, page 1

Wireline Logging
(since last EXCOM)

Status of BRG

- New hire: Log analyst/archivist (5)
- FMS system upgrades
- Two half-time TANU technicians trained at BRG

Statistics and Participation

- 13 Logging Schools; next week in Townsville
- 99 data requests (2x last trimester)
- Logging Schools → data requests
- Country participation in usual proportion (except Japan)

Publications Summary

- Std. log summaries (thru leg 129) → Part A.
- FMS microfiche data (126 → 129) → Part A.
- Geochem. data papers (122 - 124) → Part A.
- 2 Part B papers (leg 128); Tech. Note (leg 129) → Log Analyst
- New ODP Logging Manual - 7 volumes (Oct 90)
Appendix 7, page 2

L32 & L33 Logging Results

L32: DCS test discouraging; recommend reaming all DCS holes for hi-temp logging

L33: 9 holes logged (record meters logged)
3 more planned - 823, 824, + 811 return
-evidence of sea level changes
-intense correlation

Status of Tool Development

New SES: test planned for leg 133 (Site 823?)

Wine line packer: 1 site 816 test (leg 133)
- basic operational success only

Slim hole ARCO tools: truck and tools delivered and tested at Lamont (Resist., GR)

Digital Televiener: tested at Lamont in September; deploy on ship for leg 134

Shear-wave sonic tool: development funded by NSF ('92)

Shipboard RMS proc.: 2. half-time DNRU techs - leg 134
New Schlumberger MUXLS system - June 1991 delivery