

OCEAN HISTORY PANEL
6-8 OCTOBER 1993 BREMEN, GERMANY

EXECUTIVE SUMMARY

Meeting description. The Ocean History Panel held its fall 1993 meeting October 6-8 in Bremen, Federal Republic of Germany, hosted by Gerold Wefer. The NAAG II planning session had met 4 October 1993 in Bremen (see separate documents). (*Minutes, Table of Contents, item 1*)

North Atlantic and Arctic Gateways Drilling. The panel heard a 30 minute presentation by Annik Myhre, co-chief scientist, of the initial results of Leg 151 (North Atlantic and Arctic Gateways, Leg 1). Myhre discussed important findings of the leg, as well as logistical issues. (*Minutes, 3e*)

The panel reviewed and endorsed the recommendations of the NAAG II planning session. Primary sites include ones from the NAAG-DPG report, with several sites from proposals 372-Rev/372-Add/372-Add2 and 406/406-Add in order to give high resolution carbonate records for monitoring rapid climatic events (Heinrich-Bond cycles) and for recording mid-depth water mass characteristics over glacial-interglacial times. The ideal weather window for reaching the northerly sites is late August and September, and will be critical for the success of the leg. (*Minutes, 3f*)

Reviews of new proposals. We reviewed the twenty-five new documents, with panel views summarized in written reviews and in tabular form. We discussed clarifications around the assignment of panel interest values 4 and 5 prior to reviewing. (*Minutes, 4a and b*)

Caribbean initiatives. We constructed a hypothetical one-leg drilling program addressing high-resolution Quaternary, Neogene, and Paleogene-Cretaceous objectives of OHP interest from existing proposals of high interest (415-Rev/415-Add with 408-Rev/408-Add and 434). OHP intends to request permission to hold a one-day planning session just prior to its Spring 1994 meeting to formalize plans for such an effort prior to spring global ranking. (*Minutes, 4c*)

FY95 prospectus ranking. Eight proposals from the FY95 Prospectus were considered by OHP as being of some interest to the panel and were included in the ranking; the other proposals are of no OHP interest. Discussion of the proposed drilling plan for 391-Rev2 (Mediterranean sapropels) showed that, excluding a poorly chosen Alboran Sea site, the present plan (excluding logging) takes only 14-16 days drilling time. The panel therefore combined this half-leg program with a high-priority half-leg program, proposal 404 (Neogene West Atlantic sediment drifts) that will have complete site survey data after a December 1993 cruise. This combination favorably influenced 391-Rev2's standings in the rankings. [We acknowledge that this combination may not be logistically feasible, and that it does not formally meet the 1 November deadline.] The California margin program is unlikely to have complete site survey data by 1 November, and this influenced its standings in the ranking. (*Minutes, 5a and b*)

#	Proposal number and abbreviated title	Score awarded	Fraction available points
1	NAAG-II, North Atlantic/Arctic Gateways, Leg 2	6.66	0.95
2	391-Rev2 with 404, Med. Sapropels and W.N. Atl.	5.92	0.84
3	386-Rev2/422-Rev/386-Add, California Margin	5.00	0.71
4	346-Rev4, East Equatorial Atlantic Transform	3.21	0.45
5	323-Rev3, Tectonic evolution of the Alboran Sea	2.35	0.33
6	NARM Non Volcanic Leg II	2.14	0.30
7	423/423-Add, Gas Hydrate Sampling	1.42	0.20
8	380-Rev3, VICAP/MAP	1.07	0.15

We offer co-chief nominations for the highly ranked programs of OHP interest (1-3 above). (*Minutes, 5c*)

White paper draft. The panel broke into topical working groups to prepare draft sections for a new White Paper. Each group was asked to evaluate the success of ODP drilling to date in addressing ocean history objectives, to identify exciting new targets for drilling, and to propose new strategies or technologies that will be needed by ODP to achieve success in these thematic objectives in the future. Discussion by the entire panel followed brief presentations by each group. We will have a working written draft for circulation in the near future. (*Minutes, 6*)

Sea level report. The sea level group expressed some frustration that sea level proposals seem to fall between the cracks between panels (SGPP, OHP, and perhaps TECP). The panel concluded that there is considerable uncertainty about future drilling for sea level objectives until guidelines for shallow water drilling become clear. (*Minutes, 7*)

Panel membership. Five U.S. members are departing, and there have been recent and upcoming member nation rotations as well. We discussed nominees in the areas of magnetostratigraphy (one position), sea level (one position), and paleoceanography (3 positions, with a variety of emphases). These names are being conveyed to the PCOM chair in separate correspondence. (*Minutes, 8*)

Other Items. The panel decided by consensus to convey to the PCOM statements on several topics of great importance to OHP: the importance of improving information handling capabilities; the need for guidelines for shallow water drilling; the need for Site Survey Panel members with OHP interests; the need for avenues for less-than-one-leg science; and the importance of Borehole Research Group representation at OHP meetings. (*Minutes, 9a*)

The panel discussed the Push-in Pressure Core Sampler and the Vibro-Percussive Corer. (*Minutes, 9b*)

Future meetings. Spring 1994 meeting, March 29-31 in Amherst MA, hosted by Mark Leckie, preceded by one-day Caribbean planning session on March 28. Fall 1994, early October in Australia, hosted by Bob Carter. (*Minutes, 10*)

OHP MINUTES
TABLE OF CONTENTS

1. INTRODUCTION
2. PRIOR MINUTES
3. REPORTS
 - a. PCOM news
 - b. SGPP news
 - c. IHP news
 - d. ODP-TAMU news
 - e. Leg 151 results
 - f. NAAG II planning session
 - g. Borehole Research Group news
4. REVIEWS OF NEW PROPOSALS
 - a. Procedures
 - b. Summary of reviews
 - c. Consolidation of Caribbean drilling proposals
5. RANKING OF PROPOSALS FROM FY95 PROSPECTUS
 - a. Explanation
 - b. Ranking
 - c. Co-chief scientist nominations
6. WHITE PAPER
7. SEA LEVEL REPORT
8. PANEL MEMBERSHIP
9. OTHER ITEMS
 - a. Recommendations/comments:
 - i. The importance of improving information handling capabilities
 - ii. The need for guidelines for shallow water drilling
 - iii. The need for Site Survey Panel members with OHP interests
 - iv. The need for avenues for less-than-one-leg science
 - v. The importance of BRG representation at OHP meetings
 - b. Evaluations
 - i. Push-in pressure core sampler
 - ii. Vibro-percussive corer
10. FUTURE MEETINGS

**OCEAN HISTORY PANEL 6-8 OCTOBER 1993
DETAILED MINUTES**

1. INTRODUCTION

The Ocean History Panel held its fall 1993 meeting October 6-8 in Bremen, Federal Republic of Germany, hosted by Gerold Wefer. The NAAG II planning session had met 4 October 1993 in Bremen (see separate documents). The OHP meeting opened with the introduction of all present, and with welcomes from acting Panel Chair Timothy Herbert and from Wefer. In attendance were the following panel members:

Jan Backman, John Barron, Gregg Blake, Robert Carter, Jim Channell, Tim Herbert, Anne-Marie Karpoff, Alan Kemp (alternate for Philip Weaver), Mark Leckie, Al Hine, Hisatake Okada, Maureen Raymo, Gerold Wefer, and Jim Zachos,

with the following liaisons and guests:

Wolfgang Berger (PCOM liaison), Rainer Gersonde (future German OHP panel member), Herrut Koudras (future German PCOM representative), Brian Huber (IHP liaison), Peter DeMenocal (LDEO borehole group), Annik Myhre (Leg 151 co-chief scientist), Carl Richter (TAMU-ODP), and Peter Swart (SGPP liaison).

Regrets had been received from Margaret Delaney (chair) and Lisa Pratt.

2. PRIOR MINUTES

No comments or changes were required. Mark Leckie was thanked for his assistance in keeping minutes.

3. REPORTS

a. PCOM news Berger

The panel heard a summary from PCOM representative Berger of PCOM news. Berger mentioned that PCOM is considering the development of two sampling tools, the PPCS and VPC. The VPC may be of interest to OHP because of its potential to recover sandy sections, such as were encountered at one site by Leg 151. Berger fielded questions from the Panel on the criteria used to put together the FY 1995 Prospectus. Berger stressed the importance of having adequate site survey information on hand for proposals included in the Prospectus to be scheduled by PCOM for drilling. DCS land testing is scheduled for the end of November, 1993, but results will not be available for the PCOM meeting. Leg 157 may be a science leg, rather than a DCS test. Berger also summarized PCOM discussion of the Core Repository question. While PCOM is in favor of internationalizing the core collection, they are concerned about the safety of moving existing cores from the East Coast Repository.

b. SGPP News Swart

Peter Swart reviewed the discussions held by SGPP in their fall meeting and the Fall rankings of SGPP. The Bahamas Transect has now been moved to #2 ranking by SGPP, and will be added to the FY '95 Prospectus. Site survey data is available, and the project is potentially ready for scheduling. SGPP will emphasize 3 major thematic objectives in its revised White Paper contribution: sea level and facies architecture, fluid flow and geochemical fluxes, and carbon cycle dynamics.

c. IHP News Huber

Brian Huber presented the results of discussions of the IHP. Huber stressed that in IHP's opinion, many forms of data generated by ODP are not properly handled, and are not made accessible to potential users. In particular, Huber emphasized the need for a micropaleontological database, and for a micropaleontological digital atlas on board the Resolution. At present, there is no system of archiving biostratigraphical information for later retrieval. Huber reviewed some efforts at software development, and recommended that TAMU solicit outside proposals to improve the accessibility of ODP data.

d. ODP-TAMU News Richter

Carl Richter (TAMU-ODP) discussed developments at ODP. An underreamer for widening the borehole will be tried on Leg 153. Richter discussed several proposals that will require something near the total drill string capability of the Resolution: the Somali Basin proposal, the deep Galicia "S" target, the Newfoundland Basin site, and the Alboran Sea proposal. Richter mentioned that the drill string loss (circa 3500 m) during Leg 149 was caused by a microcrack developed since the last inspection. The natural gamma tool has been added to the MST logging suite.

e. Leg 151 Results Myhre

The panel heard a 30 minute presentation by Annik Myhre, co-chief scientist, of the initial results of Leg 151 (North Atlantic and Arctic Gateways, Leg 1). A total of 7 sites were drilled. Of the original East-West transect from Greenland to the Norway Basin, only 1 site was drilled. Myhre reviewed the difficult logistics imposed by weather and by the need to get approval from the Norwegian Petroleum Directorate for drilling in areas of high paleoceanographic interest. She stressed the need for greater flexibility in drilling these types of sites in high latitude environments. Major results include: the unexpectedly high sedimentation rates encountered on the Yermak Plateau, the discovery of ice rafted debris in sediments as old as 6 Ma at Site 907, the detection of overconsolidated sediments at Site 910, which imply a grounded ice sheet in what is now 570 m of water, and the recovery of thick Miocene sequences in the Fram Strait. High gas contents were encountered in some sediments. The lack of carbonate microfossils at some sites is a disappointment. However, it looks as if a high resolution stratigraphy can be developed at Site 907 from the cyclicity of logging data such as GRAPE.

f. NAAG II Planning Session Wefer

Gerold Wefer, together with Panel members Raymo and Backman, reported on the consensus of the NAAG-II planning session (which met 4 October 1993 in Bremen; see separate report for details) for future North Atlantic and Arctic Gateway Drilling. The group described its logic in prioritizing drilling sites and in selecting alternate sites. The 4 major areas proposed for drilling are: the Yermak Plateau-Fram Strait, the Greenland Sea, the Iceland Plateau, and the Northern Atlantic-Southern Gateway sites. The northernmost sites are considered essential to establishing the earliest age of Northern Hemisphere ice (existing holes bottomed in glaciogenic sediments of Pliocene age) and, by dating basement, to dating the formation of the Gateway. Sites from proposals 372-Rev/372-Add/372-Add2 and 406/406-Add will be incorporated in order to give high resolution carbonate records for monitoring rapid climatic events (Heinrich-Bond cycles) and for recording mid-depth water mass characteristics over glacial-interglacial times. The potential for closely coupling high-frequency paleoclimatic records from Greenland ice core drilling and from ODP was stressed at these sites. The group stressed that the ideal weather window for reaching the northerly sites is late August and September. It also suggested that ODP explore the possibility of having a Russian icebreaker "on hold" if one is in the area. The panel endorsed the proposed drilling plan, and used it in the FY95 prospectus ranking.

g. Borehole Research Group News DeMenocal

DeMenocal introduced the panel to "CLIP", an initial stage of a Core Log Integration Program. The aim is to develop user-friendly software for merging core-core and core-log data sets. Capabilities will include shifting GRAPE and other data from offset holes to account for coring gaps and to build complete composite sections by splicing data. The program will also be able to construct age-depth models from stratigraphic information, and to perform Fourier analysis. DeMenocal concluded with a demonstration of the initial version on a Sun workstation.

DeMenocal stated that further development of CLIP depended on JOI/NSF funding, as the BRG did not have the resources to continue the programming effort (an additional \$100 k would be needed). The panel response to CLIP was very positive. It was agreed that, in the future, a CLIP oversight group might be established to guide the package along. The panel strongly recommends that PCOM seek funding to continue development (see below).

4. REVIEWS OF NEW PROPOSALS

a. **Procedures.** Proponents are excluded from the room during discussion of their proposals. However, the Panel reserves the right to ask questions of proponents to clarify points that come up during review, and proposal watchdogs are encouraged to contact proponents. Proposals are evaluated with regard to their scientific maturity and their consistency with White Paper, COSOD, and Long Range Plan themes. Reviews reflect the collective opinion of the Panel.

We attempted to rationalize our numerical assignment of panel interest values to proposals. In particular, the use of "4" and "5" ratings by the panel is problematic--did we use these to indicate the degree of interest of the panel in a proposal alone, or also the maturity of the proposal? It was decided that the "5" value should only be used for proposals that are both highly regarded, and unlikely to evolve further in scientific goals and in site survey information. For example, this criterion was important in our evaluation of 354-Add2, for which our value of "4" reflects the fact that recent site survey data have not yet been integrated into the existing proposal, rather than a diminution in our enthusiasm for drilling in the Benguela-Namibia upwelling regime. Proposal 386-Add, Drilling on the California Margin, was given a "4" for similar reasons, in that some site survey data are still lacking.

b. Summary of Reviews. We then reviewed the 25 new documents, with panel views summarized in written reviews (circulated to all panel members, as well as submitted to the JOIDES office). Proposals 372-Rev2 and 406-Add were not reviewed again, because they were discussed in the context of NAAG II and several of the drilling sites proposed have been integrated into the NAAG II drilling program, with the endorsement of the Panel.

No.	Key Title	OHP Watchdogs	Proponents excused
-----	-----------	---------------	--------------------

Ranking -- Addresses high-priority objectives of this panel

434	Caribbean Quaternary climate	Blake, Karpoff, Weaver	
391-Rev2	Formation of sapropels in the Mediterranean	Leckie Zachos	

Referred to NAAG II Planning Session:

406-Add	North Atlantic climatic variability	Backman, Barron, Wefer	Raymo
372-Add2	Cenozoic climate and chemical gradients, N. Atlantic	Backman, Barron, Wefer	

Ranking -- Addresses high-priority objectives, but with deficiencies, as noted

415-Add	Caribbean ocean history, ocean plateau, and K-T impact	Herbert, Leckie, Zachos	
079-Rev2	Tethys and the birth of the Indian Ocean	Herbert, Hine	Channell
386-Add	California Margin	Blake, Channell, Raymo	Barron
427-Add	South Florida margin sea level	Carter, Channell, Okada	Hine
354-Add2	Benguela Current and Angola/Namibia upwelling	Carter, Karpoff, Raymo	Wefer
408-Add	Testing two new interpretations, N. Nicaragua Rise	Blake, Leckie	Hine
412-Add2	Bahamas Transect: Neogene/Quat. sea level and fluid flow	Carter, Karpoff, Hine	Swart

Ranking -- Is of secondary interest to this panel if it is of high priority to some other panel

NARM-Add	NARM-Add	Hine	
346-Rev4	Ivory Coast-Ghana transform margin	Okada	
323-Rev3	Tectonic evolution of the Alboran Sea	Channell, Raymo	

Ranking -- Proposal objectives are not within panel mandate

432	Galicia deep hole S-reflector
334-Rev3	Galicia margin S' reflector
433	East Mediterranean orogeny
423-Add	Gas hydrate sampling, Blake Ridge and Carolina Rise
NARM-Add2	NARM-Add2
400-Rev	Mass balance of Costa Rica accretionary wedge
435	Nicaragua/Izu-Marianas mass balance
333-Rev2	Evolution of pull-apart basin, Cayman Trough
330-Add3	Med. Ridge accretionary complex (Phase I)
SR-Rev2	Sedimented ridges II
425-Rev	Mid-Atlantic Ridge offset drilling

c. **Consolidation of Caribbean Drilling Proposals.** The panel felt that there are a number of worthwhile OHP objectives in the Caribbean that are contained in several existing proposals, but not all the sites from all the proposals are needed in their entirety to address high-priority questions. After having the panel watchdogs for Caribbean proposals meet separately, Jim Zachos led a discussion for the whole panel of how one drilling leg can be assembled to meet high-resolution Quaternary, Neogene, and Paleogene-Cretaceous objectives. Elements of proposals 408-Rev/408-Add, 415-Rev/415-Add, and 434 were examined, and a hypothetical drilling leg of about 60 days was constructed. Drilling a single site in the Cariaco Trench (434) is a good example of important, less-than-one-leg science that can be integrated into a longer leg dedicated to Caribbean ocean history. Some of the sites proposed in 415-Rev/415-Add can furnish Neogene histories relevant to questions posed in 408-Rev/408-Add. The panel will contact proponents of the above proposals, and would be enthusiastic about seeing further development of the plan presented by Zachos.

To that end, OHP intends to request permission to hold a one-day planning session just prior to its Spring 1994 meeting to formalize plans for a one-leg Caribbean drilling plan addressing high-priority OHP objectives. We note that Caribbean initiatives have been highly ranked in the past two spring global rankings by OHP (S93, 415-Rev was ranked number 4; S92, a package of Caribbean drilling based on 415 and, at that time, possibly 403-Rev was ranked #3). This coordinated planning session appears the most efficient route to bringing this high-priority science to maturity. Invitees would include: proponents of Caribbean proposals of high priority to OHP, OHP watchdogs for Caribbean proposals, SSP watchdogs for Caribbean proposals, and other experts (e.g., climate modelers with Caribbean interests) as appropriate. This one-leg plan could then be discussed by OHP in its spring meeting, and included in its spring global ranking.

5. RANKING OF PROPOSALS FROM FY95 PROSPECTUS

a. **Explanation.** Discussion of the FY95 prospectus reached the following consensus: the panel should try to give PCOM recommendations on the most exciting AND LOGISTICALLY REALISTIC targets from the ocean history perspective. In this light, we must judge that the California Margin program (386-Rev2/422-Rev/386-Add) will not have the requisite site survey data to the SSP by the November 1 deadline (nor will it in the immediate future after that), and so it would be difficult to schedule for drilling in FY '95. The resultant ranking of this package from the prospectus does not represent any decrease in enthusiasm for the proposal, but rather a realistic assessment of the logistical possibilities FOR FY95.

Discussion of proposal 391-Rev2 (Mediterranean sapropels) also led us to reshape drilling into a leg that could be of stronger interest to OHP. The Alboran Sea site proposed in 391-Rev2 is a deep (650 m) hole that should

mostly encounter Plio-Pleistocene turbidites. Coring these sediments will shed little light on the paleoceanography of the Mediterranean, but adds much time to the proposed leg. Our estimate of drilling and transit time between holes (but not yet including logging time estimates) for a Mediterranean sapropel leg is 14-16 days, clearly of the order of half a leg. We therefore combined in our ranking 391-Rev2 with 404, Neogene paleoceanography from Western North Atlantic Sediment Drifts (number 6 in S93 global ranking). The latter represents a very exciting half-leg program in its current form, in this case to recover a millennial-scale record of North Atlantic Deep Water History, for comparison with Greenland Ice Core and high resolution North Atlantic sediment cores. Site survey data is complete for one proposed area, and a December 1993 survey by Keigwin should complete the package (although clearly not by the 1 November deadline). **OUR RANKING OF 391-Rev2 SHOULD BE VIEWED AS A RANKING OF THE COMBINATION OF 391-Rev2 AND 404.** [Later editorial note: this package may not be logistically feasible given the transit times involved, and we acknowledge that it does not meet the 1 November deadline.]

b. Ranking. All programs in the prospectus and their interests to OHP were reviewed. Eight proposals from the FY95 Prospectus were considered by OHP as being of some interest to the panel and were included in ranking. The other programs are of no OHP interest, and were not ranked. Voting was conducted by each member ranking the proposals from highest (7) to lowest (0). Proponents of ranked proposals (Barron, 386-Rev2/422-Rev/386-Add; Backman and Raymo, NAAG-II) abstained from ranking their proposal and ranked the others from highest (6) to lowest (0). Vote tallies were then normalized to the maximum possible score, given the proponent abstentions. Listed below for each ranked program are the relative ranks, their scores, and the fraction of total points awarded to those available for each program. Fraction of available points awarded is best measure of ranking, with the highest possible score of 1.00 and the lowest of 0.0.

#	Proposal number and abbreviated title	Score awarded	Fraction available points
1	NAAG-II, North Atlantic/Arctic Gateways, Leg 2	6.66	0.95
2	391-Rev2 with 404, Med. Sapropels and W.N. Atl.	5.92	0.84
3	386-Rev2/422-Rev/386-Add, California Margin	5.00	0.71
4	346-Rev4, East Equatorial Atlantic Transform	3.21	0.45
5	323-Rev3, Tectonic evolution of the Alboran Sea	2.35	0.33
6	NARM Non Volcanic Leg II	2.14	0.30
7	423/423-Add, Gas Hydrate Sampling	1.42	0.20
8	380-Rev3, VICAP/MAP	1.07	0.15

From these results it is clear that the panel, having heard a report of initial results from Leg 151 and the revised drilling plan from the NAAG II planning session, continues to consider a second leg of high latitude North Atlantic and Arctic Gateways drilling of extremely high priority. We also reiterate our strong support of California Margin drilling, once adequate site survey data are presented to the SSP. From panel discussion, it was apparent that the combination of 391-Rev2, Med. sapropels, with 404, Western North Atlantic sediment drifts, increased panel enthusiasm for this package over that for 391-Rev2 by itself. Thus, California Margin and Mediterranean Sapropels (by itself) are probably closer in relative importance (and perhaps even reversed) in the panel ranking than represented by this vote. The other five programs are of major interest to other panels, and not to OHP.

c. Co-chief nominations.

For NAAG-II, Eystein Jansen is our definite top priority for non-U.S. nominee, with Rudiger Stein second. Bill Ruddiman and Maureen Raymo are the U.S. nominees.

For Mediterranean Sapropels, we suggest R. Zahn (non-U.S. nominee) and Robert Thunell (U.S. nominee).

For California Margin, we suggest Alan Mix and John Barron (U.S. nominees, although Barron may not be willing to serve) and Tom Pedersen and Rudiger Stein (non-U.S. nominees).

6. WHITE PAPER

The panel broke into topical working groups to prepare draft sections for a new White Paper. Each group was asked to evaluate the success of ODP drilling to date in addressing ocean history objectives, to identify exciting new

targets for drilling, and to propose new strategies or technologies that will be needed by ODP to achieve success in these thematic objectives in the future. Discussion by the entire panel followed brief presentations by each group. We will have a working written draft for circulation in the near future.

7. SEA LEVEL REPORT

Bob Carter summarized discussions by the three panel members with strong sea level interests (Blake, Carter, and Hine) on progress on sea level investigations relative to OHP interests. The sea level group expressed some frustration that sea level proposals seem to fall between the cracks between panels (SGPP, OHP, and perhaps TECP). Although each panel has representation of sea-level interests, they seem to have different conceptions of good proposals, with the result that no consensus between the panels emerges. Carter agreed with Backman that there is considerable uncertainty about future drilling for sea level objectives until guidelines for shallow water drilling become clear to panels and proponents.

8. PANEL MEMBERSHIP

Five U.S. members are departing: Barron, Channell, Herbert, Hine, and Pratt. There have been recent member nation replacements (e.g., Karpoff for Vincent) and upcoming ones (Gersonde for Wefer, Takahashi for Okada). We were not therefore looking for one-to-one replacements for the U.S. retirees, but considered instead the entire balance of panel expertise relative to OHP's current goals. We noted as well the relative junior nature of the panel in the face of the impending retirements, and the need for nominees with DSDP and/or ODP expertise. In addition, Delaney will serve one more year (1994) as chair, so we considered the need for recruiting a suitable chair by the end of 1994 from among recent or then-current panel members. We discussed possible nominees for one position with paleomagnetic expertise, one position with sea level expertise, and 3 positions with a range of paleoceanography interests. These nominations will be conveyed to the PCOM chair in separate correspondence.

We note that with a uniform policy of three-year rotations and a 16 member panel, a "normal" number of retirements per year is about 5-6; thus, although OHP will experience a substantial change in membership this year (7 replacements), it is not outside the normal boundaries of a system with this rotation interval. It does, however, have significant impact on the nature of "corporate memory" on a panel and on the continuity of its priorities, especially given the nature of progress through the system from initial drilling proposal to leg prospectus.

For example, Delaney, the current OHP chair, will have served an unusually long tenure on the panel by the end of her term as chair (three full years as a member starting in 1989, three full years as chair starting in 1992). Two of the three proposals which served as the basis for the NAAG-DPG drilling plan for two high-priority legs were first reviewed at her first meeting (S89) and the third proposal at her second meeting (F89). This package received number one global ranking in Spring 1990, and again in Spring 1991 based on an oral description of the NAAG-DPG report (met 2/91; report issued 4/91). At that point, OHP requested a 2-year interval between the two legs, so that the results from Leg I could be evaluated to help guide Leg II. The first NAAG leg was OHP's top priority in the FY93 prospectus and recently drilled as Leg 151; the second NAAG leg is OHP's top priority for FY95 drilling. Delaney is the sole remaining member of OHP who saw these proposals first enter the system in 1989, and the sole remaining member from their first #1 global ranking in S90. Five other current members of the panel, all retiring after this meeting, remain from the global ranking in S91. The outstanding scientific importance and significance of this drilling program, which has moved relatively efficiently through the system, has ensured that it remains at the top of OHP's rankings. It has, however, taken substantial and continuing education efforts to ensure that newer panel members are familiar with the history and the substance of this program. However, the issue of "corporate memory," the learning curve upon joining the panel, and the fact that not all proposals are able to move as quickly through the system are important considerations for long-term planning efforts.

9. OTHER ITEMS

a. The panel decided by consensus to convey to the PCOM statements on several topics of great importance to OHP.

i. The importance of improving information handling capabilities.

The Ocean History Panel strongly supports efforts by the Information Handling Panel and by the Borehole Research Group at LDEO to develop improved ways of archiving and manipulating data collected by ODP drilling.

We note that there is no system of organizing stratigraphic information so that it is readily available after a leg is completed. The success of future legs of drilling can often depend on a good understanding of the age and continuity of sediments previously drilled in a region. It is now extremely cumbersome to find this information. We also note that ODP data will continue to be underused, both by the ODP community and by non-sea-going scientists, until information can be accessed and manipulated easily.

Specifically, OHP urges PCOM, in consultation with the relevant service panels, to support funding a micropaleontology data base program, and to support developing the CLIP package. OHP believes that software is developed best not by programmers working in a void, but by groups that have expertise in the data involved. We note that several groups have made progress in developing software for an ODP micropaleontological data, and urge that a request for proposals be circulated to interested parties. OHP also believes that developing the CLIP package will be important to optimizing results from the many types of logs now acquired by ODP drilling.

ii. The need for guidelines for shallow water drilling.

OHP urges PCOM and the Science Operator to finalize and clearly promulgate guidelines for shallow water drilling to panels and proponents. A number of proposals contain plans for drilling on continental margins. Proposal proponents and panel members need to have criteria that will help them decide which targets are feasible.

iii. The need for Site Survey Panel members with OHP interests.

The panel noted that few members of the SSP have direct paleoceanographic interests in OHP-type proposals. Because the SSP plays a vital role in assessing the quality of seismic data in support of proposals, and in judging safety issues, it is a critical link in the chain that transforms a good idea into a drillable leg. Constructive criticism by the SSP can greatly improve a highly ranked proposal's chances of being scheduled (for example, steering proponents to existing sources of data, or to contacts with funded survey projects). OHP urges SSP and PCOM to increase the representation of paleoceanography in the panel membership.

iv. Less-than-one-leg science.

The panel reiterated its belief that exciting, topical targets of opportunity may present themselves for less-than-one-leg drilling. We have reviewed a number of excellent proposals that are mature scientifically, but fall well short of the 56 days that make an ODP leg. The panel feels that the present inflexible system stifles exciting science. OHP therefore seeks a further guidance from PCOM on how well-constructed, highly rated proposals for less-than-one-leg science can be most effectively handled by the Ocean Drilling Program and its advisory structure.

v. The importance of Borehole Research Group Representation at OHP meetings.

The panel values the presence of BRG representatives at its meetings. We urge JOI to pay for the travel and expenses of traveling to 1 OHP meeting per year by a member of the BRG.

b. Evaluations.

i. Push-in Pressure Core Sampler. This is an intriguing engineering development which apparently requires major extra-ODP commitment from members of the community. It is not a priority for OHP, with few/none applications relevant to our interests. Its evaluation should rest on the opinions of panels more directly affected.

ii. Vibro-percussive corer. This may be of importance to OHP in certain applications (e.g., one Leg 151 site which encountered sandy material or in sea level investigations in certain lithologies), but is primarily of concern for other panels.

9. FUTURE MEETINGS

Spring 1994: March 29-31 in Amherst MA, hosted by Mark Leckie, with a one-day Caribbean planning session to be requested for 28 March. (Note timing of this meeting is to ensure that current or new OHP members who will be on Leg 154 will be able to attend and is subject to change if the ship's schedule changes). Fall 1994: early October in Australia, hosted by Bob Carter.