

**JOIDES Operations Committee Meeting
Shanghai, People's Republic of China
20 March 2001**

ATTENDEES

Members:

Keir Becker (Chair)	University of Miami – RSMAS, USA
Kevin Brown	Scripps Institution of Oceanography, Univ. of California at San Diego, USA
W.W. Hay	GEOMAR Research Center, University of Kiel, Germany
Nick Piasias	College of Oceanic & Atmospheric Sciences, Oregon State University, USA
Alastair Robertson	Department of Geology and Geophysics, University of Edinburgh, UK
Thomas Shipley	Institute for Geophysics, University of Texas at Austin, USA

Liaisons:

Jack Baldauf	Science Operator (ODP-TAMU)
John Diebold	Lamont-Doherty Earth Observatory, Columbia University, USA (SSP Chair)
John Farrell	Joint Oceanographic Institutions, Inc.
Dave Goldberg	Wireline Logging Services (ODP-LDEO)
Thomas Janecek	Florida State University, USA (SCIMP Chair)
Bruce Malfait	National Science Foundation
Alister Skinner	British Geological Survey, Edinburgh, United Kingdom (TEDCOM Chair)

Guests and Observers:

Steve Bohlen	Joint Oceanographic Institutions, Inc.
J. Paul Dauphin	National Science Foundation
P. Jeff Fox	Science Operator (ODP-TAMU)
David Rea	University of Michigan (SCICOM liaison to Arctic DPG)
Aleksandra Janik	JOIDES Office, Science Coordinator
Elsbeth Urquhart	JOIDES Office, International Liaison

Apologies:

Mahlon Ball	U.S. Geological Survey, Denver (PPSP Chair)
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DRAFT MINUTES

A. Welcome and introductions

Becker welcomed members, liaisons and guests of the JOIDES Operations Committee, and then participants introduced themselves.

B. Approval of the agenda

Becker announced several additions to the agenda, under item G (Special issues/new items):

- a new APL related to Leg 200;
- a request from the proponents of proposal 570 to the East Pacific Rise to reinstate their proposal for possible reconsideration at the August, 2001 SCICOM based on the successful use of the Hammer Drill-In Casing (HDIC) system during Leg 193;
- a report by Dave Rea, SCICOM liaison to the Arctic DPG, focused on operational and financial implications of the proposed Lomonosov Ridge drilling. (Rea was scheduled to fully summarize the initial DPG report at SCICOM two days later.)

OPCOM Consensus 01-1-1: OPCOM approves agenda of this meeting

C. Approval of minutes from December 16 meeting

OPCOM Consensus 01-1-2: OPCOM approves the minutes from the December 16 meeting.

D. Report of FY01 budget (Farrell)

Farrell reported that the NSF-approved FY01 budget for ODP is \$46.123M, and he presented the breakdown for the various subcontractors. He briefly summarized the fuel price impact last year and the NSF direct fuel purchase that relieved a significant portion of the projected budget deficit due to rising fuel prices. Uncommitted funds left over from FY00 will be carried forward to FY01, as approved by NSF, to be applied specifically to fuel costs. There are provisions made in the FY02 budget for elevated fuel prices should they remain high. Thanks to the NSF assistance with fuel costs, funds remaining in the current FY budget are available to allow purchase of some parts that will be needed for Costa Rica CORK leg next FY.

Farrell was also pleased to report that, despite the financial challenges, the program was able to support the two SOE activities previously top-rated by OPCOM:

- measurement while drilling at Leg 196, so variability of the weight on bit could be tested with the active heave compensation;
- purchase of a core digital imaging system. A GEOTEK imaging system will be purchased and ready for deployment during Leg 198.

Malfait mentioned that NSF had previously raised concerns about maintenance of equipment and drilling supplies that seemed to be cut back, and he wondered how those have been addressed. Fox addressed the on-going balance of drilling supplies inventory and expressed confidence that the program remains in a good shape. BHAs lost in the recent past were replaced, and based on historical loss records there should be sufficient inventory until the end of the program. The only outstanding issue is deferred refurbishment of spare drill pipe now in storage.

Shipley asked about the staffing limitations at ODP related to budget pressures and if the NSF help with fuel costs has relieved them. Fox answered that although NSF helped considerably there are still some financial difficulties due to the day rate increase. As a

result, while personnel cutbacks will not be required, open positions such as public relations and microbiology technical specialist are not being filled. Although there will be no permanent microbiology specialist on staff, if the scientific objectives of a given leg require microbiology technical support, ODP will staff such support on a temporary basis. Piasias asked about the possibility of chemistry staff involvement in microbiology tasks on board, but Baldauf responded that microbiology legs usually have heavy chemistry requirements, so that is not an option.

E. Service Panel Reports

1. PPSP

Becker reported that Mahlon Ball has resigned as a chair of PPSP Panel and the new chair nominee is George Claypool (as ratified by SCICOM later in the week). Unfortunately neither could come to this meeting, so Becker briefly summarized the PPSP minutes. Virtually all site requests considered at the last PPSP were approved, including additional sites for Legs 194 and 195 and all the principal sites for Legs 198, 201, and 202.

Piasias relayed an inquiry from a co-chief scientist of Leg 202, who was not informed by PPSP about the new location of one of the sites that was modified by PPSP. Baldauf said that the site was moved slightly to a new shot point and he promised to follow up.

Becker reported that there was an unofficial preview of Lomonosov Ridge drillsites at the last PPSP meeting. His impression was that PPSP did not raise any major concerns about drilling to any depth above the major unconformity that is obvious on the seismic records, but that drilling deeper could raise a safety issue. Becker also reported the latest information from Jan Backman that a proposal for 5 days survey to collect needed cross lines has been funded and will be conducted in 2001 from the icebreaker Oden.

Also considered at the last PPSP meeting at the request of Ted Moore were safety issues for riser drilling. The sense of the current PPSP was that the future IODP PPSP should not deal with anything besides geological safety issues. Operator safety panels should deal with other safety issues related to riser deployments.

Becker stated that next PPSP meeting is 21-22 June in Norway and they will review the sites for Legs 203-205 (Costa Rica, Gas Hydrates, and Equatorial Pacific ION, respectively). The co-chiefs for Gas Hydrate Leg 204 have requested that LWD operations be scheduled in the beginning of that Leg, which will require PPSP approval.

2. SSP

Diebold presented the short version of the minutes of the last SSP meeting in Banff, Canada. He started with an update on panel membership issues and then presented the details of proposal reviews by SSP and the new developments related to site survey data. SSP looked at 11 scheduled legs, most of which are in a good shape with respect to site surveys. The Gas Hydrates Leg 204 (SSP rating 2A) still needs the data from a 3-D

survey shot last summer to be submitted to data bank. Among the 25 active proposals that SSP looked at only minimal action is required, as follows:

Previously Highly Ranked by SCICOM

- 533** – Lomonosov Ridge: some sites are rated as 2B, some 5: some data still needed to be submitted to databank, cross lines are needed (and funded as indicated above)
- 525** – Mantle Peridotites: 2A, some data expected in databank soon
- 455** – Laurentide Ice Sheet Outlets: no new action
- 559** – Walvis Ridge Extreme Climates: survey cruise finished early 2001, good chance of data submission to data bank for the July SSP meeting
- 564** – New Jersey Shelf: no change since last SSP meeting
- 539** – Blake Ridge: there has been a major survey recently (reflected in recent addendum)
- 512** – Core Complex: some deep dive data still has not been submitted to databank
- 519** – Tahiti Sea Level: shallow water platform, SSP has not seen any data
- 522** – Fast Spreading Crust - there are data but some work remains to be done
- 561** – Caribbean LIP: data package satisfactory
- 577** – Demerara Rise: scheduled survey cruise
- 584** – TAG II: data satisfactory
- APL 14** – Kuroshio Current: data satisfactory

SSEPs Sent for External Review

- 543** – CORK Hole 642E: based on old data
- 547** – Deep Biosphere: based on old data, none of the data have been re-nominated
- 548** – Chicxulub K/T Impact: shallow water platform, some likely PPSP issues (gas)
- 554** – Gas Hydrates in a Petroleum Basin: no data in databank; probably extensive industrial 3-D data sets exist but question whether industry will release these data. PPSP has never approved drilling in this kind of setting.
- 557** – Storegga Slide Gas Hydrate: not enough data in databank, but they are known to be available elsewhere
- 572** – Late Neogene Climate: more will be known for next SCICOM meeting
- 573** – Porcupine Basin: much data in databank
- 575** – Gulf of Aden: some of the sites have good survey data, some are problematic, more cross lines needed; some sites are in open ocean environment, others on the margin, so SSP requirements are different
- 581** – L. Pleistocene Drowned Reefs: alternate platform, data reasonable
- 589** – Gulf of Mexico Overpressures: no data in databank; likely PPSP issues
- 594** – Newfoundland Margin: data from recent cruise submitted to databank and there is more coming

Finally Diebold reported that SSP supports the SCIMP Core-Log-Seismic Integration and U/W Geophysics recommendations. SSP Liaisons to ESSEP will be Droxler (alternate Mallinson) and to ISSEP Lewis (alternate Diebold). Diebold finished his report saying that there are no major SSP issues to be brought to this SCICOM meeting.

3. SCIMP

Janecek presented a summary of the SCIMP recommendations to OPCOM/SCICOM.

SCIMP RECOMMENDATION 00-3-1: SCIMP recommends the immediate purchase of a medium resolution (e.g., 3-megapixel), unmounted camera for quick and easy recording of interesting sedimentological features in cores by the shipboard scientists.

Janecek reported that TAMU now has a digital camera on board for the core describers to use. Piasias asked about the color calibration issue and Janecek replied that SCIMP would deal with it on their next meeting and report to OPCOM afterwards.

SCIMP RECOMMENDATION 00-3-2: SCIMP recommends that the Excel worksheet-format Hard Rock Core Description data files that are now being converted to PDF files for inclusion into the Initial Report CD ROM should be preserved (in Excel format) for eventual migration into the ODP data archive at the end of the program. In addition, these Hard Rock Core Description files should be included on the Initial Report CD ROM in their original format (Excel). Any Excel formatted Hard Rock Core Description Data files from previous Legs that have been converted to PDF files and that have not been destroyed should be preserved and published as an appendix on the ODP website (in the event the Leg CD ROM has already been produced).

Baldauf commented that the Hard Rock Core Description data are not online but they can be requested at TAMU. The only data being lost during conversions from Excel to PDF are macros.

SCIMP RECOMMENDATION 00-3-3: To provide more efficient, accurate, and precise measurements of Cl, Ca, and Mg concentrations, SCIMP recommends that an automated titration system be purchased for the chemistry laboratory on the JOIDES Resolution.

Janecek added that the cost of this item is about \$13-15K (including the data input into Janus database) and on a normal leg it would save about 10 days of work in the chemistry lab and would provide the consistency of measurements. SCIMP recommends purchasing the titration as soon as possible but in terms of priorities it ranks below the core-log-seismic integration system described in SCIMP Recommendation 00-3-9.

SCIMP RECOMMENDATION 00-3-4: ODP-TAMU should provide a concise manual/letter for shipboard scientists that outlines responsibilities of both shipboard scientists and the ODP-TAMU Marine Computer specialists with respect to setting up and maintaining personal laptop computers on the JOIDES Resolution. This manual/letter should be sent out to shipboard scientists upon their acceptance to a Leg.

Janecek said that he saw the preliminary draft of this letter and it seemed to be appropriate. Baldauf added that the whole packet of introductory material sent out to shipboard scientists, along with the invitation to participate in the cruise, is being rewritten to address the alcohol issue and email. Hay asked how protection against

viruses is going to be solved for people connecting their laptop computers to the ship network. Janecek said that this issue is part of the draft letter being prepared by TAMU.

SCIMP RECOMMENDATION 00-3-5: SCIMP registers concern regarding the decision by ODP-TAMU to stop routine upgrades of computer hardware onboard the *JOIDES Resolution* for the remainder of ODP. We acknowledge that uncertainties regarding operating systems and program budgets may cause temporary interruptions in computer hardware upgrades, but nevertheless caution the science operator that it would be unwise to allow significant differences to develop between shipboard computer capabilities and those used by shore based researchers.

Baldauf clarified that this is not a complete stop in hardware upgrades. Upgrades will be somewhat reduced but TAMU is still replacing systems as funds allow. Fox added that Mac computers have just been upgraded on the ship. Farrell mentioned that for the digital imaging system new state of the art computer is added as well.

SCIMP RECOMMENDATION 00-3-6: SCIMP recommends that at least the first 500,000 bytes of sent and received email be free-of-charge to Shipboard Scientists and ODP technical staff.

Baldauf commented that this recommendation has been already implemented for Leg 195 and briefly explained the details of this implementation. Robertson noticed that people should be discouraged from moving their offices and shore based projects to sea, but some reasonable amount of email should be free.

SCIMP RECOMMENDATION 00-3-7: SCIMP recommends that ODP-TAMU develop protocols to ensure that timely measurements are made of ephemeral properties on all cores that are not fully processed aboard the ship.

Baldauf said this is being implemented.

SCIMP RECOMMENDATION 00-3-8: SCIMP recognizes the Micropaleontological Research Center collections as a valuable legacy of ODP. To provide for maintenance and growth of the MRC collections in IODP, SCIMP endorses the continued support of the MRC effort by national ODP offices and recommends that IODP continue to both recognize the MRCs as component of the new drilling program and provide a mechanism for oversight of the MRCs within the new advisory structure.

OPCOM recommended forwarding this recommendation to IPSC.

SCIMP Recommendation 00-3-9: SCIMP endorses the findings of the SCIMP Data Integration Advisory Group towards the establishment of seismic-log-core integration capabilities aboard the *JOIDES Resolution*. SCIMP recommends implementation of the following specific Data Integration Advisory Group recommendations for FY02.

- 1) Borehole Research Group support for C-L-S integration, including personnel, *JOIDES Resolution* systems support, travel, and training costs
- 2) Continued funding to the Site Survey Data Bank for support of the data loader position
- 3) Funding for a Seismic Workstation at the Site Survey Data Bank
- 4) Establishment of a Seismic Integrator position onboard the JR

Goldberg presented a status report on the IESX pilot study. On Leg 194 the IESX system was installed on an Ultra 10 workstation with dual monitors in the downhole measurements lab. It allowed the shipboard party to revisit seismic data at sea and create synthetic seismograms, which was a primary goal. A training manual was developed which clearly needs to be enhanced (particularly with respect to troubleshooting). The printing capability from the IESX has been established, and also the output from the program can be loaded to standard image processing software, reducing the need for printing on the ship. The pilot study has made it clear that the Seismic Correlator position is necessary, especially on Legs where IESX will be in heavy use. Goldberg explained the financial aspects of this project and noted that for FY02 it would require about \$50-77K. The items in the budget would be: support for core-log seismic integration personnel at LDEO, half of data loader position at databank, workstation Ultra 10 and large color printer at databank, JR Seismic Correlator position (national support, no commingled funds). Neither Janus support for seismic data nor new GI guns (for check shots) are included in this budget. Janecek added that this proposed FY02 budget is the bare minimum required to keep the C-L-S project going. He also noted that creating the Seismic Correlator position might require not filling some other position on the ship due to berthing constraints.

Shiplee asked if the data loader position at the databank is only for this project or also for loading other site survey data. Janecek explained that there was SCIMP recommendation in the past concerning capturing more digital data submission in databank, so this position would help to address that need, too.

Pisias asked if ODP is willing to spend \$100K for a core-log-seismic (C-L-S) integration capability for the few remaining legs in the program. Shiplee replied that certain amount of groundwork needs to be laid to make sure that C-L-S will get included into the next program and this is very important. Goldberg added that there have been 3 or 4 legs in FY02 that have indicated interest in using the system. Janecek said that this is the SCIMP top recommendation for potential FY02 expenses. Farrell added that \$50K is already in the current budget for this program as a pilot project.

Janecek concluded his presentation by showing the distribution of SCIMP recommendations over the years, with a success rate of nearly 90% in applying them. He said the success was primarily the result of hard work by the energetic and knowledgeable SCIMP panel members and the positive response by the ODP operators to SCIMP recommendations. In addition, Janecek commended the SCIMP operator liaisons, Gerry Iturrino (LDEO), Jay Miller (TAMU), Frank Rack (JOI), and Carl Richter (TAMU) for their efforts in working with SCIMP panel members. Finally, Janecek noted that the SCIMP works well, despite its wide range of mandates, because most SCIMP have a broad range of expertise and are very knowledgeable about ODP operations. Janecek made a plea to USSAC and the ODP offices of the member countries to work with the new SCIMP panel chairs to ensure that new panel members maintain this range of expertise and are knowledgeable about ODP operations. Becker complemented Janecek for his excellent work as SCIMP Chair.

4. TEDCOM (Skinner)

Skinner presented the recommendations from the most recent TEDCOM meeting.

TEDCOM RECOMMENDATION # 002-1: TEDCOM recommend to SCICOM that they maintain a closer than usual dialogue with the ship operation and the essential baseline costs for same due to the adverse effect which rising fuel costs and hardware replacement costs may have on the planned science program. In this current year fuel costs have risen from \$200 to \$336/MT and are still rising. Replacement hardware and consumables are being minimized and/or purchased only when absolutely necessary to run down stocks and conserve funding. Flexibility in program planning and prompt action will be required to meet unexpected expenditure for immediate replacements when the need arises.

Skinner said that Fox's and Baldauf's earlier explanation about the equipment updates satisfied TEDCOM.

TEDCOM RECOMMENDATION # 002-2: TEDCOM recommend to SCICOM that they clearly and formally request from ODP-TAMU and LDEO the information required for Legacy documentation together with the timescale for same. The topic has been discussed at this meeting and pathways outlined following direction given to TEDCOM after the OPCOM meeting at Halifax. This should have been an opportunity to finalize the documentation strategy but ODP-TAMU said that they had been given no direction in this matter. It is up to SCICOM to ensure that this does not happen in future by using formal channels to ensure that requests are made and direction is given.

Fox explained that one page summary description of standard description (as decided at SCICOM in Halifax) is moving forward (quasi-technical, as Skinner added later); parallel more robust and expanded legacy document is prepared as well to hand off to the engineers in the new program (drawings and workbook). Skinner mentioned that documents should focus on the current tools but there should be a description of the path that got the tool to the current stage since some tool have been superseded by other tools. Drawings should be accepted as they are, because updating to modern format may introduce more mistakes.

Skinner requested more guidelines from SCICOM related to preparation of the draft report of those one-page summaries. Becker asked if TEDCOM had received any instruction from the previous JOIDES Office about that. Skinner replied that no instructions were received.

TEDCOM RECOMMENDATION # 002-3: TEDCOM recommend to SCICOM that ODL and ODP-TAMU work together with immediate effect towards minimizing or removing the vibrations experienced on Leg 192 so as to reduce their effect on drilling equipment and rig structure.

The committee heard about vibration on Leg 192 caused when drilling Basalt (Basalt Rumble). Since the meeting, TEDCOM Chair has been informed that ODP drilling operations have recommended deploying shock subs to try to counteract this on Leg 197 and in the meantime will try to document the nature (frequency and intensity) of such vibrations.

TEDCOM Chair was conscious of the contractual and legal problems this item generated and the recommendation above has been modified from the initial draft following information supplied by ODP-TAMU not available at the meeting. However, the Chair still stresses that monitoring may not be enough until action is taken in Leg 197. SCICOM must insist that every effort is made to resolve the vibration issue forthwith should it continue to be a problem when using the AHC.

Skinner said that the main concern was that the vibrations would damage the ship to such extent that the science would be lost. Active heave causes vibrations by its nature, because the drill is kept in more constant contact with drilled material, which in the case of hard rocks causes strong vibrations. Fox said that ODP-TAMU tried to understand the magnitude of the problem, especially when piston failed at the same time and the question was if it was the time for it to wear out or did vibrations cause it. Fox said that decoupling of vibration would be attempted on Leg 197 with help of some shock subs. Skinner added that properly functioning active heave could be inducing more wear, but there is nothing that can be done. Malfait asked about the problems that had been experienced in the beginning with the active heave. Fox said that there were some issues in the past, but they all have been resolved. Skinner said that in rough seas the active heave compensator moves a lot, which is still safe but uncomfortable to operate on the drill floor. In such cases, Skinner would then recommend suspending drilling, taking the AHC down, and going back to the standard system (with poorer core quality, unfortunately).

TEDCOM RECOMMENDATION # 002-4: TEDCOM recommend to SCICOM that they explore with EXCOM and IPSC a means whereby promising technical developments, which will not be brought to completion within the current Ocean Drilling Program, are nurtured for the future IODP.

Annex 4 of this report [TEDCOM minutes] shows the development schedule of equipment projecting well beyond 2003. Clearly this cannot be accommodated within the present program and may be further curtailed if budgetary constraints increase. The committees are aware that IODP have high expectation of 'hitting the ground running' and thus need to explore ways of conserving the developments from this program for tools in the next.

Skinner summarized this recommendation by saying that some developments even though not fully realized in ODP should be nurtured for IODP. Fox mentioned that some developments that cannot be nurtured with commingled funds due to budget constraints are developed with outside ODP partners (for example DoE cooperation on memory

subs). Skinner also said that TEDCOM would like to see more cooperation between LDEO and TAMU - projects should not be done in parallel but in conjunction (for example memory subs project). Fox added that a methane sensor is being tested on the current leg and this project is an example of collaboration between MBARI and TAMU.

Some more discussion followed about other possible technological developments. Piasis wondered if we are familiar enough with the constructional details of the new vessel to know how to nurture those developments.

Skinner finalized by saying that TEDCOM supports TAMU's efforts to explore external funding options to keep these engineering developments progressing.

Skinner requested that TEDCOM recommendations 002-2 and 002-4 be forwarded to SCICOM.

F. Operators reports (Baldauf)

1. ODP/TAMU (Baldauf)

Operational schedule

The Leg 201 port call was changed to Mazatlan (from Panama) to reduce the number of transit days, but the ship will not refuel in Mazatlan.

Co-chief status

Steve D'Hondt and Bo Jorgensen will be the co-chiefs of Leg 201 (Peru Biosphere). For Leg 203 (Costa Rica), Julie Morris will be one co-chief and the second co-chief position remains to be filled. John Orcutt and Adam Schultz will be the co-chiefs for Leg 205 (Equatorial Pacific ION).

Clearance status

Leg 195 alternate site KS1 is situated in waters claimed by both People's Republic of China and Chinese Taipei, and ODP anticipates the receipt of the clearance from both countries. For Leg 197 there is currently no clearance from Russia for the northernmost site, the oldest and highest priority drill site. It is not clear at this point if clearance will be allowed by the Russian military due to proximity of the site to Russian submarine base. The co-chief scientists are thinking about the alternate plan in case clearance is not obtained. Baldauf will be in Russia next week to discuss this critical clearance issue.

Operational issues

Leg 195 (Mariana/West Pacific ION): At the Mariana CORK site, Baldauf reported low recovery, significant hole problems; shallower target depth than originally proposed (200 mbsf instead of 400 mbsf). As the result the ship will move on to ION sites three days ahead of schedule and the leg may have time to drill the Kuroshio Current APL (providing the clearances discussed above are obtained). Becker asked if there is a final cut-off date for leaving the Mariana CORK site and Baldauf confirmed that there is such a date

Leg 196 (Nankai): JAMSTEC reprioritized its goals and withdrew plans to install a seismometer in one of the Nankai A-CORK sites. Problems with the seawater batteries

had occurred at previous seismometer installations near Japan, and higher priority is now given to solving these problems before investing in new installations. (The battery problems can all be fixed at the seafloor installations; there are no problems with the downhole seismometer installations.) As a thermistor cable will still be installed in the Nankai A-CORK site, there will be no significant timesavings.

Leg 197 (Hotspots): There is a proposal from Germany for downhole magnetometer and susceptibility tools to be deployed at 2 sites for 8 hours of testing, with support of co-chief scientists. A third party tool proposal to SCIMP will be submitted for review.

Leg 200 (H₂O ION): Currently time is allocated to complete triple casing to avoid problems with the expected chert horizon and to reach target depth of about 400 mbsf. If chert causes no problems and possibly the third casing string is not needed, or the hole cannot be drilled to the depth objective, OPCOM had previously indicated that saved time should be used to drill a Leg 199 alternate site. Other options suggested by co-chief scientists would be completion of VSP or establishing a second reentry hole at the site.

OPCOM Consensus 01-1-3: OPCOM reconfirms that, if adequate time for completion of the Leg 199 alternate site is saved during Leg 200, it becomes the priority.

Leg 201 (Peru Biosphere): issues of radioisotopes use on board and establishing standards for microbiological studies (sampling and curatorial policies). Further reports on these issues will be provided at the next SCICOM meeting.

Leg 203 (Costa Rica): 3 different CORK installation configurations were discussed at a recent pre-pre-cruise meeting. Two primary and one alternate site are planned for ACORK or modified CORK installations. An NSF proposal is currently under review to fund the scientific instrumentation for the planned CORKs.

Robertson asked what science would be lost by CORKing two sites only. Becker answered that the loss would be specialized CORK emphasizing an in situ flow type experiment at Site 1143, which was identified as lower priority by the proponents. Becker added that, if NSF does not fund the Leg 203 instrumentation, cancellation or deferral of the leg would have to be considered. Fox noted that certain orders for the CORK equipment would have to be placed before the SCICOM meeting in August, so hopefully the funding decisions will be made soon. Becker indicated that a similar timetable had been successfully followed for the Leg 196 ACORKs, and Malfait confirmed that an NSF funding decision would be made by May/June.

Further discussion followed about the extra costs of expensive ODP Legs (>\$300K) and how they were addressed in the past.

2. LDEO (Goldberg)

Leg 196 (Nankai): LWD is planned with new Schlumberger-Anadrill sonic logging-while-drilling tool added with supplemental financial support from JAMSTEC & ORI. MWD will be deployed to ensure that the LWD memory tools are running well in this deep (4 km) and high velocity current (possibly up to 4 knots) environment. In this way the weight on bit can be measured as well to evaluate the active heave compensation (a similar experiment as on Leg 188 with passive heave compensator).

Leg 197 (Hotspots): downhole magnetometer proposal, SCIMP 3rd party tool review needed.

Leg 204 (Gas Hydrates): Co-chief scientists are requesting that LWD operations be conducted at the beginning of the leg, to aid sampling decisions before coring. PPSF will review the safety issues of this request during their June meeting. Skinner said that doing LWD first could increase the safety by providing extra information before the coring.

G. Special issues/new items

Becker presented the request from proponents of East Pacific Rise proposal #570 asking SCICOM to reconsider the proposal because of successful testing of the hammer drill system during Leg 193. The proposal was deferred to IODP after the August 2000 SCICOM meeting for several reasons among which was that the hammer drill system had not been tested yet at the time the proposal was reviewed. Becker asked TAMU about the status of the HRRS/HDIC (Hard-Rock Reentry System, including Hammer Drill-In Casing). Baldauf confirmed that the tool is considered operational. Becker reminded the committee about the sphere of operations for FY03, as defined in the letters from Hay to proponents after the August 2000 SCICOM meeting, as comprising the Atlantic with the possibility of easternmost Pacific. Piasias contended that the transit distances through Panama Canal are insignificant in either direction, so it is rather the science that should be the final issue not geography. Becker reminded that there are some other eastern Pacific proposals that were moved to IODP following the August 2000 SCICOM due to geographical location, so SCICOM and OPCOM have to be fair to all proponents in reconsidering any proposals for ODP. Piasias suggested that this is a SCICOM decision; Becker agreed but noted that OPCOM advice re the operational status of the HRRS/HDIC would be required for the SCICOM discussion.

The other special item reported by Becker was APL-19 received for the March 15 JOIDES proposal deadline. It includes 1.5 day of APC coring on Nu'uuanu landslide off Island of O'ahu, and would therefore have to occur during Leg 200 if scheduled. Becker said that it would have to be reviewed by SSEPs first, so might come up at the August 2001 SCICOM/OPCOM meetings for scheduling during Leg 200 at short notice.

Operational and financial aspects of Arctic DPG report (Rea)

Prior to Rea's report, Becker announced a correction to a typo in the tabulation of expenses for various options in the DPG report distributed at the meeting. Rea then presented the operational and financial aspects of the Arctic DPG report. He started by explaining the technical details and cost estimates for three different options proposed for Arctic drilling, termed "Arctic Armadas" in the report, as follows:

- Option A with Botnica as the drill ship and Oden and a Russian nuclear ice-breaker (NIB) as supporting icebreakers is estimated to cost \$7,215,000;
- Option B with Sea Sorceress as the drill ship and Oden and NIB as icebreakers is estimated at \$8,115,000;
- Option C with Oden as the drill ship and NIB and Terry Fox as icebreakers is estimated at \$5,975,00.

Option A with Botnica as the drilling platform is the preferred one. Botnica, similar in size to JR, can accommodate about 72 scientists, and there is sufficient space for the drill pipe and laboratories on the deck. The costs of using Oden (35 days in ice) of \$770,000 will be provided by Sweden, but availability of this ship is guaranteed only in 2003. The preferred time to drill due to ice conditions would be August and September.

Shipley asked about the core processing costs and technical support fees. Rea explained that these costs are assumed to be the same as for standard ODP leg and would be in addition to the presented earlier costs of 3 Arctic Armadas.

Becker pointed out the section of the Arctic DPG report, which deals with external funding sources and strategies to seek support. Rea presented the proposed timeline needed to steer this proposal into fruition.

Further discussion followed, concluded by Piasias emphasizing that it is necessary to decide now whether to move to the next steps in exploring further options of Arctic drilling. Debate about the funding continued including issues such as canceling the last planned ODP leg to free JR resources (equipment, money, staff) for Arctic drilling or canceling some planned engineering developments to save money.

Skinner said that, with the draft DPG report, we see the costs of the project and we see that it can be done, so maybe there will be others than ODP interested in proceeding with Arctic drilling. Malfait added that if it can be done with outside ODP resources, we should go after these resources and do it in the program. Shipley said that it would be good if ODP committed first to this project with whatever funds they can to leverage the search for external funding sources. Skinner said that there is already one huge external financial commitment made by Sweden in the provision of icebreaker Oden.

Hay mentioned the German-Russian Laptev Sea drilling program that is an even more costly undertaking than the Arctic drilling. He also gave an update on the initiative for a European ice-capable drilling ship, with construction planned in future (perhaps 2007).

Becker noted that the final DPG report is due at the SCICOM August meeting because that is when final JOIDES Resolution scheduling will be done for FY03 programs, and Farrell gave a preview of the FY03 budget. Bohlen said that JOI resources are limited, so assigning JOI the task of finding external funds for Arctic drilling would be difficult. Shipley and Piasias clarified that JOI would not be asked to chase the money but instead would be asked to report about the impacts of possible models for reallocating the existing funds within ODP.

Skinner added that British Geological Survey could possibly conduct a shakedown cruise for Arctic drilling. Robertson confirmed that Arctic drilling is tremendously important but also said that it would not be very disastrous if it happens in IODP instead of ODP.

After more deliberations Piasias proposed consensus.

<p>OPCOM Consensus 01-1-4 on Arctic drilling and the initial report of the Arctic DPG [as modified slightly by SCICOM]: OPCOM reaffirms that JOIDES desires Arctic drilling to be part of the program, and confirms that the initial draft of the Arctic DPG</p>

report demonstrates that the Lomonosov Ridge program is technically feasible. Thus, ODP management should continue to investigate the costs of Arctic drilling and the means to meet these costs. The current cost estimate of order \$6M probably cannot be accommodated within the ODP budget, but ODP management should investigate how much of the program resources could be dedicated to Arctic drilling. We ask that the DPG continue its excellent progress toward a final report at the August 2001 SCICOM/OPCOM meetings, and we encourage the proponents and the community to pursue funding from non-ODP sources. We ask that JOI Inc. evaluate, with the help of ODP contractors, to what degree ODP resources might be used to support Arctic drilling, and be prepared to report at the August, 2001 SCICOM/OPCOM meetings.

MEETING ADJOURNED