

IODP Science Advisory Structure Executive Committee

4th Meeting, 25-26 June 2007

Bremerhaven, Germany

Science Advisory Structure Executive Committee - SASEC

Keir Becker	RSMAS, University of Miami, USA
Hans Brumsack ¹	Carl von Ossietzky Universität Oldenburg, Germany
John Hayes	Woods Hole Oceanographic Institution, USA
Susan Humphris (chair)	Woods Hole Oceanographic Institution, USA
Gaku Kimura	Department of Earth and Planetary Sciences, University of Tokyo, Japan
Masaru Kono	Global Edge Institute, Tokyo Institute of Technology, Japan
Young-Joo Lee (observer)	Korea Institute of Geoscience and Mineral Resources, Korea
Kenneth Miller	Department of Geological Sciences, Rutgers University, USA
Toshiyasu Nagao	Earthquake Prediction Research Center, Tokai University, Japan
Jianshong Shen (observer)	Ministry of Science and Technology, China
Brian Taylor	University of Hawaii, USA
Manik Talwani	IODP Management International, Inc.
Yoshiyuki Tatsumi (vice-chair)	Institute for Research on Earth Evolution, JAMSTEC, Japan
Gerold Wefer	Center for Marine Environmental Studies, University of Bremen, Germany

¹Alternate for Michael Bickle

Liaisons, observers, and guests

Jamie Allan	National Science Foundation, USA
Rodey Batiza	National Science Foundation, USA
David Divins	JOI Alliance, Joint Oceanographic Institutions, Inc., USA
Dan Evans	ECORD Science Operator, British Geological Survey, United Kingdom
Tom Janecek	IODP Management International, Inc.
Takao Kato	Ministry of Education, Culture, Sports, Science, and Technology, Japan
Yoshihisa Kawamura	Center for Deep Earth Exploration, JAMSTEC, Japan
Kelly Kryc	IODP Management International, Inc.
Hans Christian Larsen	IODP Management International, Inc.
Ryo Matsumoto	Department of Earth and Planetary Sciences, University of Tokyo, Japan
Catherine Mevel	ECORD Managing Agency
Julie Morris	National Science Foundation, USA
Toshi Oshima	Ministry of Education, Culture, Sports, Science, and Technology, Japan
Yoichiro Otsuka	IODP Management International, Inc.
Kazuya Shukuri	Ministry of Education, Culture, Sports, Science, and Technology, Japan
Masato Sugiyama	Ministry of Education, Culture, Sports, Science, and Technology, Japan
Kiyoshi Suyehiro	JAMSTEC, Japan
Yoko Totani	Ministry of Education, Culture, Sports, Science, and Technology, Japan

IODP Science Advisory Structure Executive Committee

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EXECUTIVE SUMMARY

2. Approval of the Minutes from the March 2007 SASEC Meeting.

SASEC Motion 0706-01: SASEC approves the minutes, with the revision suggested by Hans Christian Larsen, of its third meeting on 22-23 March 2007 conducted via videoconference.

Miller moved. Kono seconded. 8 in favor, 2 abstained, 0 against.

3. Approval of the Agenda

SASEC Motion 0706-02: SASEC approves the agenda, with the addition of one item by Susan Humphris, for its fourth meeting on 25-26 June 2007 in Bremerhaven, Germany.

Wefer moved. Tatsumi seconded. 10 in favor, 0 abstained, 0 against.

7. Approval of the FY'08 Annual Program Plan

SASEC Consensus 0706-03: SASEC endorses the revised FY'08 schedule as presented at the meeting. Due to the substantial changes required for the FY'08 Program Plan, SASEC postpones a vote on approving the plan until it can review the revised version. IODP-MI will forward the revised APP to SASEC for a vote by e-mail as close to the end of July as possible.

8. Implications of FY'08 APP Budget for Planned Activities

SASEC Consensus 0706-04: SASEC recognizes the potential that the study of sedimentary records with high to ultra-high resolution holds for achieving several important goals of the IODP Initial Science Plan, particularly paleoclimatological and paleoenvironmental reconstructions. SASEC has recommended to IODP-MI that a workshop on **High to Ultra-high Resolution Sedimentary Records** be funded in 2008 (SASEC Consensus 0703-15).

SASEC recommends that a steering committee of 5-7 individuals be formed to organize and run the meeting, headed by 1-2 conveners. The steering committee will decide how best to structure the workshop to:

- (i) define the key scientific objectives that can be achieved by drilling high to ultra-high sedimentary records, and how they might be integrated with land records
- (ii) identify a global, long-term strategy (including scientific, technical, engineering and operational components, and integration with other scientific programs), to address those objectives.

IODP-MI will provide logistical support for the workshop.

Deliverables: We anticipate that publishable documents will be produced, including a short workshop report, and a longer comprehensive workshop report, that describe the scientific objectives, present a drilling strategy for addressing those objectives, and explain how the results might be integrated with land records and efforts by other scientific programs to address those objectives.

SASEC Consensus 0706-05: SASEC recommends that IODP-MI include funds in the FY'08 Annual Program Plan to conduct the second in its series of long-term evaluations of IODP science, the subject of which will be ocean crustal structure and formation.

9. Report of the SAS Working Group

SASEC Consensus 0706-06: SASEC accepts the report of the SASEC Working Group on the Science Advisory Structure and recommends implementation of the proposed reduction in size of committees and the proposed reduction in the numbers of meetings of some committees. SASEC thanks the Working Group for their production of a very useful and comprehensive study of the SAS. SASEC disbands the Working Group now that their task is accomplished.

12. IODP and Industry

SASEC Consensus 0706-07: The Lead Agencies have urged IODP-MI, working in concert with SASEC, “to exert leadership in the reduction of IODP costs which may involve difficult restructuring of the program”. One mechanism of reducing program costs, and/or redistributing them to allow some other more expensive drilling legs, is to use drilling platforms for non-IODP activities for some periods.

In that context, SASEC recommends that IODP-MI work with the Implementing Organizations (who are the science operators of the platforms and therefore control the opportunities to be pursued) and the scientific community to develop/facilitate non-IODP work with industry consortia and/or governments.

Ideally, it would be beneficial for cores and data to become part of IODP after the appropriate moratorium period. Ideally, the projects will be of high societal relevance including:

- Carbon sequestration
- Gas hydrates
- Frontier stratigraphic test/reference sites
- Hydrogeology and geotechnical drilling.

Enabling these issues to be addressed, even as non-IODP projects would be a major benefit and legacy of the IODP.

SASEC Consensus 0706-08: SASEC endorses the concept of the Complementary Project Proposal for hybrid IODP projects with substantial external funding, and the evaluation criteria as set out in the June 5, 2007 concept description. In light of the current IODP budget situation, SASEC urges SPC to formally adopt Complementary Project Proposals as an IODP planning mechanism, and to refine the SAS evaluation process for such proposals as appropriate. Ideally, such proposals could be accepted as soon as the October 1, 2007 IODP proposal deadline.

13. Prioritization of IODP Science

SASEC Consensus 0706-09: SASEC reaffirms the science priorities espoused in the Initial Science Plan. However, in light of the changed budget realities since that plan was written, SASEC, in cooperation with SPC and SSEP, will develop an IODP Implementation Plan: 2008-2013 that will provide guiding principles and foci for the

remainder of the current program. Final approval will occur at the next SASEC meeting in January.

15. Advice to SPC Regarding Prioritization of OTF proposals

Consensus 0706-10: Given current and projected financial restrictions and environmental issues associated with the Monterey Bay test borehole facility proposal, SASEC overrides SPPOC consensus 0605-05 and can no longer support the establishment of a test borehole facility in Monterey Bay.

16. IODP-ICDP Relations

Consensus 0706-11: In an initial step towards integration with ICDP, SASEC recommends that an *ad hoc* implementation group be formed with 2-3 representatives from both programs, plus specific curatorial expertise.

SASEC nominates Greg Mountain (US), Jan Behrmann (Europe) and Tetsuro Hirono (Japan) as the IODP representatives to the *ad hoc* committee.

The *ad hoc* implementation group is charged with: 1) developing an implementation plan that includes financial implications for common core storage and metadata integration; 2) fostering cross-program evaluation of proposals. We envision that the latter will be initially accomplished with liaisons between the ICDP Science Advisory Group (SAG) and the IODP SPC, but charge the committee to consider a broader view.

SASEC requests a report for its June 2008 meeting.

20. Closing Remarks

Consensus 0706-12: SASEC thanks Ken Miller and Yoshi Tatsumi for their service over the last year. They have both been outstanding committee members, and have provided invaluable help and advice as we have established the role of SASEC in the overall SAS structure. Although we will miss them both, we look forward to the return of Yoshi as the IODP-MI BoG representative and to Ken's continued involvement in the program.

Consensus 0706-13: SASEC recognizes Toshi Nagao and Eli Silver for their contributions to SASEC as the IODP-MI BoG members of SASEC. We have very much appreciated their inputs, and look forward to their continuing in IODP in other capacities.

Consensus 0706-14: SASEC would like to recognize the leadership that Keir Becker has demonstrated as Chair of SPC and his contributions as a member of SASEC. Keir's incredible thoroughness, thoughtfulness, and deep knowledge of the program have been invaluable to SASEC over the past year.

Consensus 0706-15: SASEC thanks Kelly Kryc for her service to this committee over the past year. Kelly has been the one who has taken our creations and brought them to fruition. She has worked tirelessly to provide us with the best support that a committee could wish for. We all wish her well in her future endeavors, and look forward to seeing her again – somewhere, sometime.

Consensus 0706-16: SASEC thanks Jorn Thiede and his colleagues at AWI for hosting SASEC for its spring meeting. Apart from the weather, the meeting place was first-class, and the hospitality most appreciated.

Consensus 0706-17: SASEC thanks Susan Humphris for her excellent leadership of SASEC and looks forward to her continued involvement in the committee.

**IODP Science Advisory Structure Executive
Committee
4th Meeting, 25-26 June 2007
Bremerhaven, Germany**

Final Minutes

Monday	25 June	08:30
	am	

1. Opening Remarks

Susan Humphris opened the meeting at 08:44 am. The committee members and other meeting participants introduced themselves individually. Humphris reviewed the rules of engagement.

2. Approval of the Minutes from the March SASEC meeting

Humphris asked the committee members if any additions or changes were required to the March 2007 SASEC meeting minutes. Larsen asked that the wording in item 13 on IODP and ICDP relations be changed to reflect that he was reporting on two working group reports and was not offering a personal opinion.

SASEC Motion 0706-01: SASEC approves the minutes, with the revision suggested by Hans Christian Larsen, of its third meeting on 22-23 March 2007 conducted via videoconference.
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Miller moved. Kono seconded. 8 in favor, 2 abstained, 0 against.

3. Approval of the Agenda

Humphris added Education and Outreach as an update item to Agenda Item 4 and asked the committee members if any additions or changes were required to the agenda. None were noted.

SASEC Motion 0706-02: SASEC approves the agenda, with the addition of one item by Susan Humphris, for its fourth meeting on 25-26 June 2007 in Bremerhaven, Germany.

Wefer moved. Tatsumi seconded. 10 in favor, 0 abstained, 0 against.

4. Update on Action Items from the November Meeting

Status of IODP DRILLS (Kryc)

Kryc informed SASEC that the IODP DRILLS promotional brochure had been designed and distributed worldwide. In addition, an online application was developed and the DRILLS program had already received many applications from institutions wishing to host a speaker. The speakers have identified their preferred dates for their tours, and the only task left to do is to schedule and promote the talks.

Mission Proposal Review (Larsen)

Originally SASEC was to select a committee over email; however, due to time constraints posed by the August SPC meeting, Humphris, Becker, and Larsen expedited the process by identifying a group of individuals to serve on the mission

proposal review committee (Appendix 1). Proposals will be reviewed August 24-25 prior to the SPC meeting in Santa Cruz. Three mission proposals were submitted: 1) Mission Asian Monsoon, 2) Mission Moho and 3) Continental Breakup and Birth of Oceans. Larsen will report to SPC on the proceedings although the panel is also responsible for submitting a final report. In general, the mission proposals build upon existing proposals in the system.

Kono asked if everyone had already agreed to serve on the panel. Larsen said yes and Humphris added that there originally was a much longer list, but that this group was available. Tatsumi asked about the SSEP review, and Humphris replied that the SSEP review was intended to remain independent of the external review and that their review would also be submitted to SPC for consideration. During their last meeting, SSEP considered the three mission proposals and did not recommend that any of the proposals be designated as a mission. The external review panel will not have access to the SSEP review to ensure that the two reviews remain independent of one another. Brumsack requested more information about the SSEP decision and Becker replied that the proposals were evaluated against the criteria described in the Mission Implementation Plan.

Humphris added that the external review is particularly important for this process, as the committee isn't likely to be bogged down by internal history, but that Larsen and Becker will be present to provide background information. Talwani said that, even though he was an author of the document, he now thinks that there are some contradictions in the actual implementation and that it should be revised. Kono agreed that the current method may be too complex and that it may be necessary to resolve a conflict if SSEP rejects the proposals but the external committee accepts them. Humphris also agreed and thought that SASEC needed to bear in mind the complexity of SAS and the proposal prioritization process. Miller concurred and added that the SASEC is the only committee where both science and fiscal reality are prioritized.

Long-term evaluation of IODP climate (Larsen)

The thematic review is scheduled August 17-18, 2007 in Bremen after the Topical Symposium. The committee is responsible for providing a written report as a deliverable. The final committee members are:

Maureen Raymo, USA
Gabe Filippelli, USA
Gerald Haug, ECORD
Hans Christian Larsen, IODP-MI (Chair)
Hodaka Kawahata, Japan
Ken Miller, USA
Michael Shulz, ECORD
Hiroshi Kawamura, IODP-MI (Secretary)

(Note: this committee changed after this report was made. The final group had Dave Hodell, USA, replace Maureen Raymo (USA), and Gerold Wefer (ECORD) was also a member.)

Education and Outreach Update

A meeting of key E&O personnel was convened in June to determine the path forward for IODP E&O. It was decided that education would no longer be under the

purview of IODP-MI and that the IOs would be responsible for their own education programs. Outreach is still to be integrated through the IODP-MI office.

5. Agency Reports

NSF

Morris made a special request to update SASEC directly on the status of ocean drilling. Ocean Sciences at NSF has three Major Research Equipment and Facilities Construction (MREFC) projects (SODV, Ocean Observing Initiative, and the Alaska regional research vessel). The decision to move forward with these programs was made after the National Science Board had approved all of the projects and when NSF's budget was scheduled to double. The schedule for delivery of the MREFC projects changed due to the Congressional and political decisions and the projects are now coming online simultaneously. In addition, NSF's budget did not increase proportionally.

With respect to the refit of the drillship, the industry climate has made this process very difficult and there was some risk to the project until the shipyard contract was finalized. While the first phase of USIO drilling was incredibly successful, the program must continue this success to justify its renewal in 2013.

At this time, paleoceanographic research is a priority in Congress and the FY 2008 Presidential Budget recommends a 6.6% increase for the GEO budget at NSF. However, NSF had requested a 16% increase specifically for IODP.

Miller asked if that increase reflected guidance provided by the Lead Agencies and Morris confirmed. Humphris added that the community must remain involved even with the prospect of reduced operations. There were no further questions for NSF.

MEXT

Shukuri provided a brief update to the report submitted to the SASEC agenda book. The MEXT Minister was scheduled to visit *CHIKYU*; however, the visit was cancelled due to trouble with the riser tensioners. MEXT is still planning to start drilling Nankai in September 2007, and JAMSTEC is planning an opening ceremony in mid-September.

EMA

Mevel added that there had been an ECORD Council meeting at the beginning of June after the SASEC report had been submitted (Appendix 2).

6. IODP-MI & Implementing Organization (IO) Reports

IODP-MI

There were no additions to the report in the agenda book, but some issues will be discussed further in the Program Plan agenda item. Taylor commented that SASEC understands that there are budget issues, but that SASEC is in an impossible position to approve the Program Plan in the absence of a budget.

USIO

Divins said that Taylor raises an excellent point. Currently, the USIO is trying to develop a sustainable model for operations that can be carried forward for the next

several years. They are also in the process of analyzing where cuts can be made while maintaining science priorities. Since the last SASEC meeting, the SODV shipyard contract was signed. The ship will be in dry dock for approximately three weeks in July. The lab stack and bridge have already been removed, and the derrick has been reinstalled. The new lab structure and bridge are being fabricated and the entire refit should be complete by the end of calendar year 2007.

Humphris asked how much influence SASEC still has in impacting the USIO's process at this late date. Divins replied that suggestions and comments are always welcome and may still be accommodated.

CDEX

Kawamura presented an update to the report in the agenda book outlining drilling activities off Kenya and the northwest coast of Australia (Appendix 3). He also reported on the failure of two of the riser tensioners. Miller asked Kawamura to confirm that JAMSTEC did not expect to begin riser drilling until January 2009 due to the damaged riser tensioners. Talwani asked how they were damaged. Kawamura wasn't sure, but replied that they will send the damaged parts to Rotterdam for testing. Kono asked what the next steps are and Kawamura replied that the damaged parts need to be replaced, which is a major undertaking for CDEX. Humphris asked what the impact would be on drilling in 2008. Kawamura replied that they are still planning to log, but that funds need to be procured for the repair work and that it will take some time to fabricate any long-lead items.

Miller asked for further clarification about the drilling off the coast of Australia. Kawamura said that Woodside was the contractor and that several wells were drilled into big reservoirs. Cores were successfully recovered although they are proprietary.

ESO

Evans reported that ESO still does not have a contract with DOSECC for New Jersey drilling; however, they don't anticipate a problem with that. The platform should be available in July and mobilization will follow shortly thereafter. Geotechnical work is ongoing and clearance has been obtained for the marine mammal issues. The current weather window is not ideal due to potential hurricanes.

(Note: the day after the SASEC meeting, it was determined that New Jersey drilling would be delayed until 2008.)

In addition, ESO has submitted an application for a drilling permit at Great Barrier Reef. ESO anticipates drilling in Fall 2008 depending on the permit application. However, the site survey still needs to be completed.

7. Approval of the FY'08 Program Plan

Talwani provided SASEC with background information before accepting questions. He stated that IODP-MI is just as uncomfortable as SASEC is with respect to proceeding without a budget. He anticipated that a revised budget plan based on guidance of \$36M would be available by the end of July. In addition, because Korea did not meet their anticipated contribution, IODP-MI needs to reduce their budget by

an additional \$700K. Therefore, the Program Plan provided in the SASEC agenda book is no longer valid.

Taylor wondered if next month would be any more stable and argued that a 20% reduction in the USIO budget is not trivial. Talwani replied that he is painfully aware of the situation, but that the program is only provided with a fixed sum of money. Taylor understood, but asked Talwani how IODP-MI is planning to manage it. Talwani responded that IODP is in a transitional stage and that that they have received guidance that the budget in 2009 would be level with that of 2008. Humphris suggested that SASEC consider the current schedule and discuss which areas should be cut and which should be retained.

SASEC was reminded that Australia is on the verge of joining and that more will be known after September 1. In addition, India is negotiating the terms of the Memorandum of Understanding and that should be finalized by October 1, 2007.

Becker provided a brief update of the most recent Operations Taskforce meeting (Appendix 4). Kimura, Miller, and Tatsumi all declared conflicts of interest. Humphris asked Becker if NanTroSEIZE drilling originally scheduled for the SODV will now be done by *CHIKYU*. Becker confirmed that this option is being developed for FY08 and FY09. Hayes added that *CHIKYU* wouldn't do any riser drilling anyway.

Humphris steered SASEC back to discussing the Program Plan. Kono stated that everyone recognizes that the budget is incomplete, but he was not sure how to proceed. Humphris suggested that SASEC discuss the overall Program Plan, prioritize objectives and suggest areas for cuts. In addition, SASEC needs to agree on a plan to review the changes and approve the Program Plan by the end of July.

Hayes remarked on Table APP1, which allocates \$14M for Management and Administration (M&A), and \$6M for data management out of a total \$39M budget, and thought this seems like an excessive amount, particularly for data management. Larsen clarified that this number is inflated for the USIO because of associated IT expenses and the total numbers are not comparable between the IOs. Divins added that this number includes the cost of support personnel, application development, servers and other infrastructure. With new instrumentation, the data rates are substantially higher than before and the upkeep requires more effort. Humphris asked about the order of magnitude difference between the USIO and the other IOs for this work breakdown element and Talwani replied that the USIO just classifies things differently, which is something that IODP-MI has also been struggling to understand.

Otsuka observed that there are more permanent full-time employees (35 FTEs) involved in the USIO and that there is a \$1M request for new servers. Larsen added that, while ESO and CDEX capture the data, the USIO also provides support across the entire organization. Miller thought that \$6M is outrageous for data management in an environment where we aren't drilling full time. In principle, the organization should strive to operate the SODV for twelve full months with no services. Humphris disagreed and Allan added that some of the data management money goes toward supporting legacy databases and that the costs are entirely reasonable. However, Humphris thought that even though the USIO increased its personnel in preparation

for a much more ambitious program, 35 FTEs is very high. She emphasized that operating the ship for twelve months with no services is not an optimal model either. Kono considers that both Humphris and Miller point out important issues and suggested that the IOs reconsider their high budgets with respect to data management. Divins defended the expenditure as an important link between expeditions. Simply archiving data is one thing; however, it is not trivial to fully manage the interactive aspect of the data. Wefer questioned how large the expenditure would be in FY2009 after the initial investment in the hardware was made. Allan described some of the changes that had happened since FY2005 and said that the numbers of FTEs will be decreased, but that the USIO requires guidance from SASEC to reprioritize their efforts.

Humphris returned to Hayes's original observation regarding the high cost of M&A (20%) within the science-operating budget and asked whether these costs could be reduced. Humphris asked SASEC if they are comfortable spending 20% of the budget on M&A. Miller suggested that 10% would be more acceptable. Mevel added that M&A is actually 6% of the total SOC and POC budget; however, most of the money actually comes out of the SOC budget, which ultimately affects the level of science done in a year. Taylor summarized that he is also not happy with the amount of money dedicated to M&A and that we must find a way to decrease the management overhead. Humphris asked SASEC if anyone disagreed that M&A expenses should be decreased. No one commented.

She followed up by asking if the USIO could save money by cutting data management. Brumsack commented that there are data migration issues and that he would like to see a sustainability calculation that projects the cost of data management five years in the future. Miller added that 180 FTEs at TAMU simply cannot be sustained. Humphris asked SASEC to try not to single out specific IOs and requested them to refocus their thoughts to consider how to manage a scaled-back program to optimize science. Taylor agreed with Humphris and hoped that this is an interim situation that can be improved in the future. Batiza clarified that funding has leveled out and will not improve before 2013; therefore, the program infrastructure must be diminished in line with budget projections. Divins commented that the USIO approach is to start with nothing and add as much back in as the budget can support.

Before SASEC started discussing the details of cutting the budget, Talwani interjected and suggested that this be tabled until Agenda Item 10. Humphris agreed, but was concerned that SASEC would not be able to vote on the APP during the meeting. Taylor concurred and advocated for endorsing the revised operations schedule and postponing the APP approval vote until IODP-MI had resubmitted a program plan that better reflects the budget forecast.

Miller reiterated that the first priority of the program is to recover core material and that everything after that can be prioritized. Humphris argued that science would suffer because there would not be the measurements and research done while scientists are at sea, and there is little money for post-cruise work. Kono submitted that SASEC should make a few very specific recommendations about budget cuts rather than making broad recommendations that might be open to interpretation. Humphris thought that they should make some specific recommendations for

reducing the FY'08 budget and that a broader plan should be developed to drive future budgets.

Humphris asked Kawamura if the CDEX budget was based on sailing a full scientific party. He said yes. Talwani added that any permanent changes to the budget should happen in FY'09 and that it is too late to severely alter the FY'08 budgets. Divins argued that it would be better to implement the changes in FY'08 so that they have a better chance of developing a successful long-range plan.

SASEC continued discussing aspects of this agenda item within the context of Agenda Item 10 and then again the next day.

On June 26, SASEC agreed that it was clear that the APP would be changed in a substantial way. SASEC is supposed to approve the plan during this meeting. Last year, there were very minor changes and SASEC approved the plan and then considered the minor changes afterwards. This is not the case this year. SASEC needs to decide how they would like to proceed with this document. What can be done now and what needs to be postponed?

Taylor argued that the only thing they could do is endorse the revised schedule and postpone approving the APP until they have a revised version. Humphris agreed and asked SASEC if they could endorse the drilling schedule presented. SASEC agreed.

Humphris then asked SASEC what to do about the rest of the APP. SASEC agreed that they would like to see a revised plan before voting over email. SASEC will require at least one week to review the revised plan and asked when IODP-MI would submit it to SASEC. Talwani said that the entire plan needs to be approved and submitted to the Lead Agencies by August 1 and that SASEC could expect to receive it the final week of July. Janecek asked if it is realistic for this to be accomplished in three weeks. Divins agreed and asked to have the month of July to revise their budgets, as they haven't had an opportunity to consider the new schedule in addition to developing an entirely new model for implementing their program.

Taylor asked if the target numbers are likely to change. Otsuka responded that the target budget is provided by the Lead Agencies to IODP-MI and then IODP-MI provides budget guidance to the IOs. Taylor followed by asking if M&A would be reduced. Otsuka answered that reduction of M&A as a whole will be discussed during the IODP-MI Board meeting this week and will be reflected in the FY'09 APP. Talwani added that IODP-MI has already received budget guidance from the Lead Agencies for FY'08 and that they will follow that advice.

The next step is that IODP-MI will send SASEC a revised APP as soon as it is ready. SASEC will have one week to read it and vote. After SASEC votes, the APP will go to the IODP-MI Board for approval. If anyone has any questions, they should contact Talwani directly for clarification.

SASEC Consensus 0706-03: SASEC endorses the revised FY'08 schedule as presented at the meeting. Due to the substantial changes required for the FY'08 Program Plan, SASEC postpones a vote on approving the plan until it can review the

revised version. IODP-MI will forward the revised APP to SASEC for a vote by e-mail as close to the end of July as possible.

8. Implications of FY'08 APP Budget for Planned Activities

Humphris started this agenda item by discussing the future of long-term scientific evaluations for the final two ISP themes and asked Talwani if this was accounted for in the FY'08 budget. Talwani thought that there was and added there is money for the ultra-high resolution workshop, but not for the CO₂ sequestration workshop. Otsuka corrected Talwani and said that the thematic reviews are not currently in the budget, but that \$75K had been allocated for the ultra-high resolution workshop and \$15K had been allocated for the CO₂ sequestration workshop.

Humphris summarized SASEC's discussion at the last meeting that IODP DRILLS is the highest priority, that the ultra-high resolution workshop was the next priority, followed by partial funding of the CO₂ sequestration workshop, all of which are currently in the budget. At this time, funds are not included to support either a topical symposium or the ISP revision in FY'08.

Humphris was concerned that the budget doesn't reflect SASEC's request for a thematic review or for the ISP revision. Talwani thought that both of these activities did not require too many additional funds and that IODP-MI could add them into the budget. SASEC broke for lunch.

After lunch, SASEC reconvened the meeting by discussing the CO₂ sequestration workshop proposal. They were concerned about the scope of the workshop and agreed to ask the proponents to revise the proposal as discussed during the March 2007 meeting. Kono wanted them to include contacts with industry and environmental stakeholders. Humphris didn't think that the objectives of the workshop were clear enough. Taylor didn't think that there was a clear link to the drilling program. Mevel supported the concept of the workshop due to its link with industry and said that the Europeans were very interested. Wefer advocated for changing the model of all IODP-supported workshops by offering partial funding and requiring the organizers to augment the budget through other sources.

SASEC agreed to ask the proponents for a revised proposal addressing clarifications on the above topics. SASEC agreed to vote on the revised proposal via email.

SASEC Consensus 0706-04: SASEC recognizes the potential that the study of sedimentary records with high to ultra-high resolution holds for achieving several important goals of the IODP Initial Science Plan, particularly paleoclimatological and paleoenvironmental reconstructions. SASEC has recommended to IODP-MI that a workshop on **High to Ultra-high Resolution Sedimentary Records** be funded in 2008 (SASEC Consensus 0703-15).

SASEC recommends that a steering committee of 5-7 individuals be formed to organize and run the meeting, headed by 1-2 conveners. The steering committee will decide how best to structure the workshop to:

- (i) define the key scientific objectives that can be achieved by drilling high to ultra-high sedimentary records, and how they might be integrated with land records
- (ii) identify a global, long-term strategy (including scientific, technical, engineering

and operational components, and integration with other scientific programs), to address those objectives.

IODP-MI will provide logistical support for the workshop.

Deliverables: We anticipate that publishable documents will be produced, including a short workshop report, and a longer comprehensive workshop report, that describe the scientific objectives, present a drilling strategy for addressing those objectives, and explain how the results might be integrated with land records and efforts by other scientific programs to address those objectives.

Humphris asked SASEC if everyone was comfortable not having a topical symposium in FY'08. There were no comments. Humphris stated that the thematic review, which is independent of the symposium, was not in the budget and would like to recommend that IODP-MI include funds to support the second long-term evaluations as well as fund for an update of the ISP. Becker agreed and suggested that the ISP revision be the highest priority. Larsen concurred adding that it would be useful to get a projected budget and timeline for the activity.

Humphris asked SASEC which theme they would like to review in 2008. Hayes argued that a deep biosphere review might not be sensible so soon after the 2006 workshop, although this applies to ocean crust as well. Humphris suggested conducting the ocean crust review. SASEC agreed.

SASEC Consensus 0706-05: SASEC recommends that IODP-MI include funds in the FY'08 Annual Program Plan to conduct the second in its series of long-term evaluations of IODP science, the subject of which will be ocean crustal structure and formation.

9. Report of the SAS Working Group

Becker presented a summary of the working group report (Appendix 5), which was included in the agenda book. Most of the recommended changes are already being implemented by the PMOs, SPC, and IODP-MI; however, the community still needs to be informed about the changes and SASEC needs to formally accept the report.

The PMOs have agreed that each office needs to inform their communities about the voluntary reduction in SAS participation and that IODP-MI should also make an announcement in E-News. Finally, a message should be sent directly to each of the current panel chairs.

SASEC was asked if there were any comments on the voluntary reduction and frequency of some panel meetings. Wefer asked why STP and EDP were not being combined at this time. Brumsack suggested that these panels be ephemeral and only meet as needed. He also recommended that the total number of proposals in the system be culled down a bit to reduce the work load and added that having a clear decision is better than keeping proposals in the system indefinitely.

Humphris asked if there was any further discussion on this agenda item. There were no additional comments.

SASEC Consensus 0706-06: SASEC accepts the report of the SASEC Working Group on the Science Advisory Structure and recommends implementation of the proposed reduction in size of committees and the proposed reduction in the numbers of meetings of some committees. SASEC thanks the Working Group for their production of a very useful and comprehensive study of the SAS. SASEC disbands the Working Group now that their task is accomplished.

10. Reducing Expenditures for FY'09 and Beyond

Talwani opened this topic by asking SASEC to consider cost savings in addition to identifying alternate sources of funding. How do we spend the money we have while maximizing the science conducted by the program?

SASEC agreed to discuss potential industry partnerships during Agenda Item 11 and began the discussion by considering the issue of restructuring the program. Talwani suggested conducting an internal and external review and reminded SASEC that to affect the FY'09 budget, these reviews must happen very quickly. If changes are not implemented by FY'09, it may be too late to affect renewal in 2013. SASEC must first identify the science priorities of the program and then suggest organizational changes to support the science priorities.

Humphris suggested that the timeline for revising the ISP should be accelerated to see results in time for renewal and asked SASEC to make recommendations.

Taylor said that Talwani had proposed a programmatic review. The program is facing a descoping, but the community hasn't had an opportunity to respond. The program is clearly over-capitalized with three platforms. Even with \$200M, the program can only operate 2/3 of the year. Kono agreed with Taylor, but thought that SASEC wasn't qualified as scientists to make management-type decisions. He recognized that this is SASEC's responsibility, but that they should seek advice from specialists. Wefer added that SASEC shouldn't get bogged down in details and that they should take responsibility for the long range planning for the organization. He recommended that SASEC provide a model for descoping the program and that they should seek advice from external reviewers.

Miller pointed out that the Sapporo office costs much more than the former JOIDES office, which provided a similar function. Humphris argued that, if IODP is to be an integrated program, the overhead will be larger than if it were a group of coordinated programs, which would require less administration. Larsen added that the Sapporo office does much more than the JOIDES office. Wefer thought that there are some aspects of the program that should be integrated, but that management should be reduced as much as possible.

Talwani asked if there were any work breakdown elements that needn't be integrated. Humphris replied data management. Talwani responded that the community wants a single data portal and that this will require some level of integration. Kono pointed to the space program as a good example of a coordinated effort, but that it is not a good model for IODP. IODP is far more complex than DSDP and ODP and there is no way to return to a coordinated program. Brumsack referred to ICDP, but thought that IODP couldn't be managed the same way because of the infrastructure. If we look at IODP critically, we have to ask if the community got a better deal with ODP for much

less money. Humphris agreed that the program would have to justify the science for the money at the time of renewal.

Taylor didn't think that discussing coordination versus integration was productive because it takes the focus off of the true question. Talwani disagreed offering that an integrated program ultimately costs less due to overhead costs. Humphris added that there is a range between an integrated and a coordinated program, and that the overhead changes as a function of this. Taylor didn't think that this should be discussed during this meeting as the MOUs define where the program is between the end-members.

Mevel asked that if the CMO is responsible for distributing SOC, who will fill the role if the CMO is eliminated? Talwani clarified that IODP-MI is not entirely free to distribute SOCs and that IODP-MI receives strong guidance from the Lead Agencies. Otsuka stated that the role of the CMO is clearly defined in the MOU; however, given the current budget projections, the size of the CMO must be revisited. The proper question for SASEC is how valuable is true programmatic integration?

Larsen reminded SASEC that they shouldn't focus entirely on SOC funds, but should think about the bigger POC budget as well. Humphris agreed and admitted that she struggles with how money is allocated to SOC and POC and how these funds are ultimately administered. Larsen said that perhaps the \$5M of M&A funds would be worthwhile if IODP-MI actually looked at this issue. Evans thought that the CMO has quite a task to generate an integrated program and that if the office is diminished, any integration will decrease fairly rapidly and the program will end up totally uncoordinated, particularly with respect to SOCs. Wefer agreed that the program should be integrated.

Over the break, Humphris asked SASEC to think about the fundamental characteristics of IODP they would like maintained.

After the break, Humphris asked SASEC members and observers which characteristics they would like to preserve.

Miller: Operate a ship twelve months a year, develop and retain a scientific community that spans the breadth of geological oceanography.

Becker: Science planning must remain as an integrating factor.

Hayes: Multidisciplinary science coupled with the proposal nurturing process are crucial.

Nagao: How best to utilize the riser drillship to achieve the science in the ISP.

Lee: Industry involvement should be pursued carefully.

Kono: The international nature of IODP is very important as is the peer-review system.

Brumsack: Scientists must feel that they can submit proposals that will get drilled.

Taylor: The shipboard scientific party.

Kimura: Maximizing the potential of the multi-platform program.

Wefer: Providing sufficient drilling time to keep the drilling community together and to work toward understanding earth systems.

Tatsumi: Maximizing drilling time and maintaining proposal pressure.

Mevel: Maintain an integrated program.

Humphris asked a small group to convene to discuss the aspects of integration that need to be addressed. IODP-MI in consultation with the IOs could work on this. Humphris asked Talwani if a working group would be most helpful to address reducing expenditures. Talwani thought that a small group of 3-5 people who would be willing to volunteer to advise IODP-MI would be very helpful. Wefer, Tatsumi and Miller volunteered to meet with Talwani during the course of the SASEC meeting. SASEC tabled this discussion until the next day.

The small group of Miller, Wefer, Tatsumi and Talwani met during lunch on June 26. Miller reported that the meeting was very fruitful. They found it very difficult to justify 180 full time employees at TAMU and 25 at LDEO given the current budget crisis. The USIO plans to reduce the workforce by 30-35%, which will bring them back to ODP levels. With respect to data management, TAMU was following guidance from the Lead Agencies to develop an integrated system, and so the small group wondered what the cost for data management would be for minimum measurements alone. However, Wefer wanted to use the equipment that is already available to go beyond minimum measurements. As the expeditions become more and more diverse and technical, it may not be possible for the IOs to provide the appropriate technical support and so scientists will become more critical in conducting the measurements. Humphris asked if there is a benefit to transferring all of the scientific measurements to the shore. Divins replied that the scientific party still has to come to the repository and that you lose the opportunity to accomplish two months worth of work. There is also a question whether the scientists would be successful in obtaining funding for doing the same measurements that are usually done on board the ship. The USIO is still working under the assumption that sailing a scientific party is a fundamental priority of the program.

11. Update on SPC Perspective on Future Scheduling Options from the June OTF Meeting.

Humphris suggested temporarily tabling Agenda Item 11 until later in the afternoon and skipping on to Agenda 12. SASEC returned to this agenda item and Becker briefed SASEC on the scheduling options developed during the June OTF meeting (Appendix 4).

Humphris told SASEC that they must be very careful how the community is informed that there potentially will only be one other riser effort beyond NanTroSEIZE before 2013.

SASEC must also revisit the strong endorsement from SPPOC regarding the Monterey observatory and decide if it is still valid. The SPPOC consensus statement was made in a very different budgetary climate and although it would be nice to have a test facility, is investing in something that doesn't provide direct scientific results the correct course of action? Hayes reminded SASEC that the proposal is inactive until the Environmental Impact Statement is complete and added that the Sanctuary considered the biggest risk to be the sight of the drillship within the Sanctuary.

OTF has identified a series of good suggestions for reprioritizing the proposals currently residing at OTF. Humphris asked SASEC if there were any additional

questions about the OTF reprioritization. Kono asked if it was correct to assume that SPPOC's consensus statement still holds true. Humphris said yes and that this is why OTF is requesting guidance. SASEC will need to make a new statement if they want to reverse SPPOC's recommendation (Agenda item 15). Tatsumi asked whether the two other riser proposals at OTF are the only ones that will be considered for future drilling or will other riser proposals, including mission proposals, residing at SSEP and SPC also be considered.

Humphris assigned homework for the next day to consider prioritizing IODP science. Currently, SASEC is tasked with revising the ISP by 2008; however, to have an impact on science before the renewal process starts, that timeframe needs to be accelerated. She would like SASEC to come up with an outline of science priorities for the rest of the program that can be submitted to SPC for additional input at their August meeting. She asked SASEC to think about the criteria to prioritize science in order to make the strongest case for renewal.

12. IODP and Industry

This agenda item was discussed in concert with Agenda Item 10 and occurred prior to Agenda Item 11. Industry and IODP have been discussed during the last two meetings. The case with *CHIKYU* is clear. When it is not being used for IODP drilling it will be totally off-contract and available to conduct drilling operations for industry. The IODP-industry hybrid model applies more to the SODV, although it is a bit unclear what the ground rules are in the case of organizing collaborations with industry for using the USIO ship. Allan clarified that there are some fundamental constraints. First, the MOU requires open sharing of data. Second is the need to shield NSF from liability. Third, the ship is under subcontract to TAMU; JOI and NSF are therefore subject to the US federal acquisitions regulations. The cleanest thing to do is for the ship to go off-contract totally and not sail a shipboard party. This has happened twice in the past. However, if there is a science party onboard, there will be liability issues. In addition, if an industry-funded collaboration occurs as part of IODP, then it must follow the intellectual guidelines of the program. Both the USIO and IODP-MI are independent corporations and can seek funding elsewhere, which provides some flexibility. Humphris asked if the situation is then dependent on the specific scenario. Allan replied yes -- as long as the selection of projects to drill is not prioritized due to the extra funding.

Janecek presented a series of potential options with respect to outside funding (Appendix 6). Allan offered that there don't appear be any issues with the ideas Janecek presented. If the DeepStar initiative were totally off-contract, then there is no problem. However, if it is drilled in concert with IODP, the intellectual property must be available to the public. The rules of the MOUs must be adhered to.

Taylor recommended charging IODP-MI and the USIO to broker potential collaborations with industry on CO₂ sequestration, gas hydrates, hydrogeology, and stratigraphic reference sites. Talwani emphatically agreed and requested that SASEC recommend that IODP-MI contract funds be used to seek these partnerships. He would also like to identify a group of academics that would like to develop scientific partnerships with industry. While these efforts will not fall under the purview of IODP, the scientific community may still derive some benefit. Humphris asked if we operated in this mode, would the data generated be proprietary? Talwani replied that

the academics could insist that the data not be proprietary. Pursuing this activity with specific countries could also be profitable and a strong consensus statement from SASEC could help facilitate this activity. Allan asked SASEC to keep this discussion informal as it really isn't IODP program business.

Taylor said that SASEC is a committee of the BoG and that SASEC can recommend that the BoG pursue these options. Miller agrees and would like to ensure that scientists continue to have access to the cores and the downhole logs. Humphris said that at least two of the topics fall under ISP initiatives and that it would be nice to have access to any samples collected. She asked if SASEC would be willing to recommend to IODP-MI that they endorse this line of off-contract work for the SODV. They agreed. Taylor was charged with writing a consensus statement.

SASEC Consensus 0706-07: The Lead Agencies have urged IODP-MI, working in concert with SASEC, “to exert leadership in the reduction of IODP costs which may involve difficult restructuring of the program”. One mechanism of reducing program costs, and/or redistributing them to allow some other more expensive drilling legs, is to use drilling platforms for non-IODP activities for some periods.

In that context, SASEC recommends that IODP-MI work with the Implementing Organizations (who are the science operators of the platforms and therefore control the opportunities to be pursued) and the scientific community to develop/facilitate non-IODP work with industry consortia and/or governments.

Ideally, it would be beneficial for cores and data to become part of IODP after the appropriate moratorium period. Ideally, the projects will be of high societal relevance including:

Carbon sequestration

Gas hydrates

Frontier stratigraphic test/reference sites

Hydrogeology and geotechnical drilling.

Enabling these issues to be addressed, even as non-IODP projects, would be a major benefit and legacy of the IODP.

SASEC then proceeded to discuss how potential partnership proposals would be dealt with within the IODP structure. Becker sensed that some people liked the complementary project proposal process he presented at the March meeting, but that there were some who wanted a bit more detail; therefore, he revised the description (included in the SASEC agenda book) and noted that in many ways it represents an expansion of a third-party funding model developed in ODP. He thought that if a complementary project proposal were well written, a single pass through SAS might be all that is necessary to determine if IODP is interested and potentially schedule it for drilling. Becker asked if this is a model that SASEC would be willing to endorse for proposals that are hybrid as long as they meet all of the MOU guidelines. Miller suggested that SASEC endorse the concept and then have SPC review it, and that SASEC could formally adopt it at their next meeting. Becker was assigned to write a consensus statement.

SASEC Consensus 0706-08: SASEC endorses the concept of the Complementary Project Proposal for hybrid IODP projects with substantial external funding, and the

evaluation criteria as set out in the June 5, 2007 concept description. In light of the current IODP budget situation, SASEC urges SPC to formally adopt Complementary Project Proposals as an IODP planning mechanism, and to refine the SAS evaluation process for such proposals as appropriate. Ideally, such proposals could be accepted as soon as the October 1, 2007 IODP proposal deadline.

The meeting was adjourned at 1730.

Tuesday **26 June** **08:30**
am

Humphris convened the meeting at 08:30 am. SASEC reviewed the consensus statements from the previous day. There was extensive discussion on the issue of off-contract work before SASEC came to consensus.

13 & 14. Prioritization of IODP Science

Humphris told SASEC that they should discuss this agenda item within the context of updating the ISP. She reminded SASEC of the changes they had discussed during earlier meetings and the timeline to revise and publish the ISP by December 2008. However, given the financial situation and the reduced drilling time prior to renewal, she thought that the process should be accelerated.

Humphris asked SASEC what type of document they wanted to produce to ensure that the community doesn't become disenfranchised. In addition, what is the timeline and how does it get done? Finally, SASEC needs to draft a set of priorities that should be the focus of the program for the next several years.

SASEC first discussed whether the document should be an implementation plan or an addendum to the ISP. The ISP should still be driver for the program and so this document should be a much smaller document and a smaller job than originally envisioned. Tatsumi asked what kind of criteria need to be applied to nominated projects. Humphris asked what are the key criteria for deciding which proposals to drill and what are the areas of focus that best address these criteria. Humphris would like to finalize this document by the next meeting in six months. Miller added that the document has to come from within the program and from within the SAS. He suggested that the document be kept as broad as possible and that they engage SPC, SSEP, and others for advice. Humphris agreed and asked SASEC if it would be acceptable to draw committee members from the SAS and recommended that someone in SASEC head it. Becker suggested publishing the document as an addendum to the ISP so as not to inadvertently invalidate it. Humphris agreed and reiterated that this document is not intended to replace the ISP, but that it is meant to refocus the last five years of drilling. Larsen favored including external scientists on the committee, but Humphris argued that the foci need to be program-driven so the best people to generate the plan will be insiders. She agreed to have external people review the final draft. Taylor thought that the bulk of the effort could happen electronically.

Miller suggested asking the geohazards steering committee to consider writing the geohazards initiative. In summary, there will be a series of new initiatives written by experts and then the rest of the document will be redefining the program's drilling

priorities. Hayes suggested using the term, “immediate opportunities.” Talwani asked who the audience will be. Humphris replied that it will provide the scientific community with some refocusing of the science priorities prior to renewal. Talwani feared that it would appear to be a top-down effort and suggested getting support from the larger scientific community, which may help with the renewal. Miller reminded SASEC that they need to look at the ISP and decide which things can still reasonably be drilled. Tatsumi preferred not to use the word “reprioritization,” because it implies a top-down approach. Tatsumi argued that NanTroSEIZE likely will be a home run, but nothing is guaranteed. Taylor recommended putting a plan in motion that maximizes its chance for impact. He suggested emphasizing things that should be drilled rather than prioritizing them.

Humphris suggested looking at the science initiatives and thinking about what the guiding principles should be in refocusing the program. Themes that have the highest potential for scientific impact should be emphasized in the time we have available. She added that there were clearly some initiatives that couldn't be accomplished by renewal. Becker asked if anyone knew what the process of renewal would entail. Humphris said that she didn't know, but that it would include an external review. Taylor emphasized that it is critical that the program score a home run rather than just starting a program that only makes it to first base. He referred to the ocean crust theme and the 21st Mohole. At this time, drilling has come very close to the dike/gabbro boundary and it would be foolish not to deepen that hole because it doesn't require any further casing or large investment. This would make a big impact on the community, and it can be accomplished in the renewal timeframe and with the resources available.

Talwani said that there should be two objectives for future drilling: those that are of benefit to the scientific community and those that have societal relevance. Becker followed up on Taylor's comment regarding finishing versus starting initiatives. Continental Breakup and LIPs are two initiatives that haven't been started, so should they be abandoned at this time? Their perceived societal relevance is low and they are both technically demanding programs. Kimura added that there are so many proposals in the system that we don't need to emphasize the seismogenic zone because it is being addressed at Nankai. Basically, there are three years and nine potential expeditions before 2010, so there can't be a long list of priorities. Kono added that he has doubts about the impact of drilling in the final three years as many of the scientific results will be published after the program review and renewal. Humphris agreed that IODP should make as best use as possible of the next three years to poise the program for renewal.

Taylor reminded SASEC not to forget the impact of the first phase of IODP drilling and that there is still potential for some great ACEX-style, high visibility science in the final three years. IODP should maximize the opportunities for those kinds of programs. Hayes offered that deep biosphere drilling could focus on the limits of bacterial life. Once the limits (T, P, strategies for extraction of energy, etc) are established, there are fundamental physiological and biochemical results that will flow from that, which will generate interest in the larger community. Becker added that there are two highly ranked proposals at OTF that address the deep biosphere and the program is poised to drill both.

Humphris asked SASEC which themes the program should focus on in the next few years and whether there are gaps in the proposals. Drilling during the next several years will derive from proposals already in the system. However, it is very important not to disenfranchise the community so that proposal submissions do not decrease. It is important to consider the long-range timeline and drilling post 2013.

Wefer said that SASEC should use the document to describe how relevant this program is to society. He doesn't see this as a guiding principle per se; however, it should be used in identifying priorities because the document could be shared with funding agencies and politicians to justify continued funding. Hayes agreed and submitted that the limits of life question has a high scientific impact, but that it is a necessary precursor for future scientific studies in this area. Miller asked whether cost should be a consideration. Humphris recalled that they had discussed cost-benefit analysis earlier and that IODP needs to consider drilling less to get some high-impact, high-cost projects done.

Brumsack said that they had discussed these issues before the ACEX cruise, which was science driven. The program should focus on quality even though some projects may be very expensive. Becker added that SPC doesn't take cost into consideration when ranking proposals. Brumsack replied that he doesn't support maximizing drilling time without regard for scientific priorities.

Larsen asked SASEC to return to the discussion on finishing a project versus starting one. Humphris asked if anything is really ever completed. Wefer agreed that the program won't finish any of the topics on the list, but that there could be steps toward completion in the next five years. Humphris suggested that IODP try to reach some major milestones and that it try to strike a balance between fewer operating days and high cost science, which is not to say that the low cost science isn't also high impact. Becker suggested that should be one of the guiding principles. Wefer recommended adding something about an interdisciplinary, integrated approach, which is one of the biggest advantages of IODP.

Talwani was amused that the societal relevance issue continues to get pushed down to the bottom of the list. Janecek interjected that OTF grapples with the balance between cost and risk. If industry work is not forthcoming, and SASEC would like to drill a high cost expedition, he would like to know if it is acceptable to only drill four months out of the year. Humphris replied yes -- if the potential impact of the expedition is high. Wefer disagreed and thought that four months of drilling would be unacceptable because much of the community will lose interest. For example, if the paleoclimate community doesn't have the opportunity to get new drill cores, they will turn to other programs like IMAGES. Humphris replied that if it didn't happen every year and there was something that the program wanted to do just once that was very expensive, that would be acceptable. Kimura reminded SASEC that this will impact *CHIKYU* too and that it is also important not to disenfranchise the non-climate community.

Humphris asked SASEC to consider the minimum requirements for continuity. Can the community remain engaged with one MSP every two years? SASEC agreed. Can the community remain engaged if SODV and *CHIKYU* drill for 6 months minimum every year, assuming *CHIKYU* conducts some riser drilling? This implies that there

will be 12 months of drilling per year plus an MSP every other year as a minimum. Using this as a guideline, one unusually expensive expedition can be considered by OTF as they schedule the expeditions.

Humphris proposed defining a range of drilling rather than a specific minimum number of months. Doing this will not preclude new members who feel that six months of drilling from one platform is too few. It will also not totally alienate the hard rock community who have no other way to collect samples. The SASEC members discussed the merits of this suggestion and decided to recommend drilling an average of 7 months per year over a five-year period.

Guiding Principles

1. High scientific impact in next 5 years
2. Necessary precursor for future investigations – build for the future
3. Reach major milestones
4. Balance between risk, cost and science impact
5. Integrated, interdisciplinary approach
6. Societal relevance
7. **Minimum** requirements for continuity:
 - MSP – one every 2 years
 - Chikyu – average of 7 months per year over 5-year period
(must include riser drilling)
 - SODV – average of 7 months per year over 5-year period

SASEC moved on to discuss which of the eight initiatives, based on the guiding principles, can be prioritized. Humphris asked SASEC to define some areas where a focused effort in the next three-to-four year will result in achieving some of the guiding principles.

Hayes recommended the deep biosphere. Miller argued for extreme climate and abrupt climate change. Humphris added the seismogenic zone, since NanTroSEIZE is already scheduled. Larsen requested that SASEC emphasize the observatory aspect of NanTroSEIZE. Janecek added that the Project Management Team thinks that the two observatories will be temporary and that the deep permanent observatory isn't scheduled to be installed until Stage 4, which is after renewal. Tatsumi asked if this plan would exclude CRISP from consideration. Humphris wasn't sure, but suggested that SASEC should discuss how best to utilize the riser in other environments for the rest of the drilling time available. The time dedicated to NanTroSEIZE will leave very little time for *CHIKYU* to drill anywhere else. Taylor argued that it is very important to go on record that the community wants to see riser drilling somewhere else during this phase.

Taylor recommended the following implementation principles for *CHIKYU*:

1. Use riser drilling to achieve major milestones of NanTroSEIZE
2. Maximize use of rise drilling
3. Use riser drilling in a different environment than Nankai.

Janecek said that, if this was adopted, there is a distinct possibility that NanTroSEIZE won't be completed in the event that there is a year that *CHIKYU* only conducts riserless operations. It will take approximately four years to drill NanTroSEIZE and so, where is the trade-off? Humphris emphasized that the program should do its best to accomplish the goals of NanTroSEIZE. Taylor agreed that conducting riser drilling operations elsewhere is lower priority than achieving NanTroSEIZE milestones. The implementation principles above are ordered so everything should be clear. Larsen asked if this discussion should be added to the guiding principles, but Taylor countered that it was more of an implementation issue.

Becker was concerned that the discussion of the seismogenic zone initiative appeared to be limited to Nankai. Kimura suggested adding 21st century Mohole as a focus. Do LIPs fit into the guiding principles? Taylor didn't know what milestone could be reached by the end of the program and, if you look at the history of drilling LIPs, there aren't any concrete results that get to the heart of the matter. Tatsumi said that he is conflicted on this topic, but mentioned that there are at least two or three proposals dedicated to LIPs. If it is excluded, the proponents will be very disappointed. However, the argument can be used with every initiative. It must be very carefully presented to the community that the initiatives not selected as focus areas for the next five years are still important for the program as a whole.

Humphris mentioned that nothing had been discussed with respect to hydrates and continental breakup. Taylor asked about the proposal situation for both. Becker replied that currently there are two at OTF, one for each initiative, but that there aren't that many more hydrate proposals coming up through the system. Miller said that the topic of continental breakup and the formation of ocean basins is a fundamental issue; however, he questioned whether it could be drilled with the given resources and timeline. Humphris agreed although if it is designated a mission, perhaps some early drilling could be assigned, but that it shouldn't be a focus area. Talwani added that continental breakup was a topic of interest to industry. Becker also added that the one continental breakup proposal in OTF does meet guiding principle number one.

Larsen was concerned about the Mohole focus and suggested changing the nomenclature to crustal section drilling instead. He doesn't want to appear to be top-down and thought that the best proposals to address these topics will identify themselves. Larsen suggested that SASEC produce a document that outlines the guiding principles and describes the foci with the understanding that this does not override the overall science plan for the long run. Becker followed up by asking if SPC and SAS would be consulted.

Humphris recalled that SASEC hadn't yet considered the list of missing initiatives including geohazards. Taylor didn't feel that this should be a thematic focus at this time.

Humphris asked SASEC if they were comfortable with the guiding principles and program foci as they stand and recommended that they send it to SPC comment. Humphris was charged with writing a consensus statement.

SASEC next discussed the actual implementation of the plan, as well as writing an addendum to the ISP once input has been received from SAS. It was suggested that

SASEC wait until after SPC meets to determine the final foci list and then choose appropriate people to write the document at that time. SASEC wanted to make sure that SSEP had a role in the process as well, and Becker promised to get names of people from the SSEP chair at the SPC meeting. Taylor argued that the community perception is that SASEC doesn't actually do anything and that, while SASEC should allow SAS to review the document, that SASEC should take responsibility for implementing them. Humphris said that this is exactly what she was envisioning, but that a document still needs to be produced. Taylor asked what the document would contain other than the guiding principles. Humphris replied that it would also include the foci and implementation principles. SASEC wasn't sure that they could produce an entire document in time for SPC and also wasn't sure it was wise to do so before the meeting since SPC will certainly have an opinion that should be included. Taylor argued that what SASEC has already written meets the request of the Lead Agencies to provide guidance. Hayes offered that the document should provide a bit more context, which can be done in a couple of pages and doesn't require an entire committee to complete it.

Humphris asked if anyone else had an opinion. Talwani thought that short paragraphs drafted by members of SASEC should suffice. Kono agreed that not putting a lot of energy into revising to ISP is the appropriate thing to do at this time.

Miller agreed with Taylor and Talwani that it is time for action, that sections should be assigned, and that the document be no more than two pages. The following assignments were made:

Hayes – Deep Biosphere
Wefer and Miller – Sea Level and Climate Change
Kimura – Seismogenic Zone
Tatsumi – Deep Crustal Drilling
Humphris and Kono – Introduction

SPC meets August 27-30. SASEC agreed to submit their assignments to Kryc, with copy to the science coordinators, by July 31.

Once the document is reviewed by SAS, how does it get distributed to the community? Suggestions included IODP E-news, Scientific Drilling, and an article in EOS. A very important and carefully worded statement is required that the ISP is still being embraced.

<p>SASEC Consensus 0706-09: SASEC reaffirms the science priorities espoused in the Initial Science Plan. However, in light of the changed budget realities since that plan was written, SASEC, in cooperation with SPC and SSEP, will develop an IODP Implementation Plan: 2008-2013 that will provide guiding principles and foci for the remainder of the current program. Final approval will occur at the next SASEC meeting in January.</p>

15. Advice to SPC Regarding Prioritization of OTF Proposals

Specific issues under this agenda item include CORKs and observatories, riser drilling, and MSPs, which don't have sufficient proposal pressure for affordable programs. Humphris asked if the guiding principles developed earlier will help SPC

with prioritization. Becker replied yes, except for the question of Monterey and MSPs.

Conducting an Environmental Impact Statement (EIS) for Monterey will cost several hundreds of thousands of dollars. Is it still worth pursuing given that the visual of the drillship can't possibly be mitigated?

SPPOC Consensus 0605-05 committed the program to the Monterey Bay test borehole facility. SASEC needs to reconsider this and advise IODP-MI how to proceed. Obtaining an EIS will be very expensive. The proponents have been asked about proposing an alternate location; however, there hasn't been a response. At this time, there isn't an alternate US location that can connect to a cable. European sites should be considered. There are eleven sites being discussed in Europe for cable installations. Janecek added that, from the OTF perspective, there was a lack of specificity regarding the use of the hole and that this proposal wasn't going anywhere without a revision. Talwani suggested that it would be kinder to deactivate the proposal. Brumsack added that political climate is uncertain and that there is a risk that the sanctuary may not allow access to the borehole in the future even if it is drilled. Wefer suggested applying the guiding principles and commented the proposal doesn't match with them. Miller argued that SASEC should be specific and simply state that this shouldn't be done. SASEC agreed.

Consensus 0706-10: Given current and projected financial restrictions and environmental issues associated with the Monterey Bay test borehole facility proposal, SASEC overrides SPPOC consensus 0605-05 and can no longer support the establishment of a test borehole facility in Monterey Bay.

Next, SASEC considered what should be done about the relative lack of affordable MSP proposals in the system. There are ten active proposals, two of which are on the schedule, and three are already at OTF. Many of the proposals are very expensive and won't be considered because of that. Therefore, if there is a price limit it should be made clear in the call for proposals. Brumsack reminded everyone the proposals aren't supposed to specify a specific drilling vessel and that the drilling platform is assigned by OTF. He added that despite the program's financial limitations, that science still drives the system. His opinion was that the Arctic should remain a potential focus and was concerned that the number of proposals submitted might decline because their cost might be too high. It is often the case that the proponents have no idea what the cost of drilling is and that some guidance should be provided about the limitations of both the technology and the budget. Evans clarified that he would prefer not to get fixed on the price tag because it can fluctuate. In most cases, the proponents will know that their proposal requires an MSP, and so it might be possible to add a step by which an MSP proposal receives a pre-evaluation/cost analysis by ESO. This presents a small problem as the IOs typically do not expend resources on proposals until after they are scheduled for drilling; therefore this solution is not financially viable. Humphris agreed, but thought that there needs to be earlier intervention because MSPs are new and the cost of operating one is unfamiliar to the community. She suggested that, if SSEP recommends that the proposal be forwarded to SPC, the proponents could then request a rough cost estimate from ESO. Evans replied that there is a limit to what they can do, but that they are happy to provide advice at any stage in the proposal process. If they scope the drilling

appropriately, it might improve their chances of success. Taylor added that one of the big expenses for MSPs is the cost of demobilization, which isn't a factor for CDEX or the USIO.

Humphris noted that proposals must be ranked based on the science, not the tool, but that if the proposals are scoped unrealistically, this must be reconciled. Brumsack agreed and added that the science should be pushed forward despite the cost and cited ACEX as an example. Allan does not think that considering science alone in the absence of an understanding of the tools is beneficial to the program. There needs to be some mechanism for feedback so that the proponents can scale back if necessary. Humphris replied that this falls under the purview of SSEP, although Brumsack doubted whether SSEP is entirely aware of the cost implications.

SASEC agreed that this issue needs to be evaluated before the proposals reach SPC. Becker asked if the IOs could at least consider the five currently at OTF and SPC, which might be reasonable at this stage. Humphris asked SASEC if they thought it was fair to let a proposal go all the way to OTF if it simply isn't going to be drilled based on cost alone, which is a total waste of time for the proponents and SAS. Miller argued that if a proposal is really good then it shouldn't be thrown out due to cost. Approximately 50% of proposals that have been forwarded to OTF since the beginning of IODP have yet to be drilled. Brumsack reminded SASEC that, in the final days of ODP, there were last minute proposals that were inserted into the schedule for flexibility.

Evans reiterated that ESO is always willing to give informal, general advice to the proponents at any stage. Brumsack added that the IOs always attend SSEP and that information can also be provided there. Discussion ended without any consensus on the topic.

16. IODP-ICDP Relations

Humphris informed SASEC that ICDP is interested in pursuing some integration with IODP, and will nominate two or three people for an *ad hoc* implementation committee. Becker said that the ICDP SAG was a bit skeptical and that they would like to only jointly review those proposals that bridge both environments. They were also interested in common core storage on a case-by-case basis.

SASEC needs to identify three people from the IODP SAS to serve on a committee. They will have one year to submit a report to SASEC. SASEC members nominated a series of individuals and decided to invite Greg Mountain (US), Jan Behrmann (Europe), and Tetsuro Hirono (Japan) to serve. The charge to the committee was defined earlier in SASEC Consensus 0703-08.

Consensus 0706-11: In an initial step towards integration with ICDP, SASEC recommends that an *ad hoc* implementation group be formed with 2-3 representatives from both programs, plus specific curatorial expertise.

SASEC nominates Greg Mountain (US), Jan Behrmann (Europe) and Tetsuro Hirono (Japan) as the IODP representatives to the *ad hoc* committee.

The *ad hoc* implementation group is charged with: 1) developing an implementation plan that includes financial implications for common core storage and metadata

integration; 2) fostering cross-program evaluation of proposals. We envision that the latter will be initially accomplished with liaisons between the ICDP Science Advisory Group (SAG) and the IODP SPC, but charge the committee to consider a broader view. SASEC requests a report for its June 2008 meeting.

17. Membership Rotations

The document in the SASEC agenda book has some errors. Kryc agreed to revise the document (Appendix 7) and update the agenda book to reflect the corrections. Humphris described the changes to the membership. There was no further discussion.

18. Review of Action Items/Motions from the Meeting

SASEC reviewed the consensus statements from the meeting.

19. Future Meetings

SASEC agreed to meet only twice per year, with a videoconference only if a third meeting becomes necessary. Silver agreed to host the next meeting in Santa Cruz in early 2008. SASEC chose to meet either January 8-9 or January 15-16 pending confirmation from Silver.

The summer meeting is scheduled to be held in June 2008 in Hangzhou, China in concert with IODP Council, IODP-MI BoG and IODP Day. Shen will host.

The schedule beyond June 2008 needs to be determined at the next meeting.

20. Closing Remarks

Humphris thanked SASEC for their contributions during the meeting and specifically thanked those members rotating off the committee. SASEC thanked Humphris for her leadership as Chair of SASEC for the past year.

Consensus 0706-12: SASEC thanks Ken Miller and Yoshi Tatsumi for their service over the last year. They have both been outstanding committee members, and have provided invaluable help and advice as we have established the role of SASEC in the overall SAS structure. Although we will miss them both, we look forward to the return of Yoshi as the IODP-MI BoG representative and to Ken's continued involvement in the program.

Consensus 0706-13: SASEC recognizes Toshi Nagao and Eli Silver for their contributions to SASEC as the IODP-MI BoG members of SASEC. We have very much appreciated their inputs, and look forward to their continuing in IODP in other capacities.

Consensus 0706-14: SASEC would like to recognize the leadership that Keir Becker has demonstrated as Chair of SPC and his contributions as a member of SASEC. Keir's incredible thoroughness, thoughtfulness, and deep knowledge of the program have been invaluable to SASEC over the past year.

Consensus 0706-15: SASEC thanks Kelly Kryc for her service to this committee over the past year. Kelly has been the one who has taken our creations and brought them to fruition. She has worked tirelessly to provide us with the best support that a committee could wish for. We all wish her well in her future endeavors, and look forward to seeing her again – somewhere, sometime.

Consensus 0706-16: SASEC thanks Jorn Thiede and his colleagues at AWI for hosting SASEC for its spring meeting. Apart from the weather, the meeting place was first-class, and the hospitality most appreciated.

Consensus 0706-17: SASEC thanks Susan Humphris for her excellent leadership of SASEC and looks forward to her continued involvement in the committee.

The meeting adjourned at 1630.

Appendix 1

MISSION PROPOSALS REVIEW

Place and date: Santa Cruz, August 24-25

Panel:

- o Uri ten Brink, US (presenter)
- o Chris Hawkesworth, ECORD (pending)
- o Jose Honnorez, ECORD (presenter)
- o Ted Moore, US
- o Harutaka SAKAI, JP (presenter)
- o John Sclater, US
- o Seiya Uyeda, JP
- o Mark Zoback, Chair, US
 - *SPC chair, IODP-MI VP-SP & Science Coordinator (support)*

Proposals:

- ✓ Mission Asian Monsoon
- ✓ Mission MOHO
- ✓ Continental Breakup & Birth of Oceans



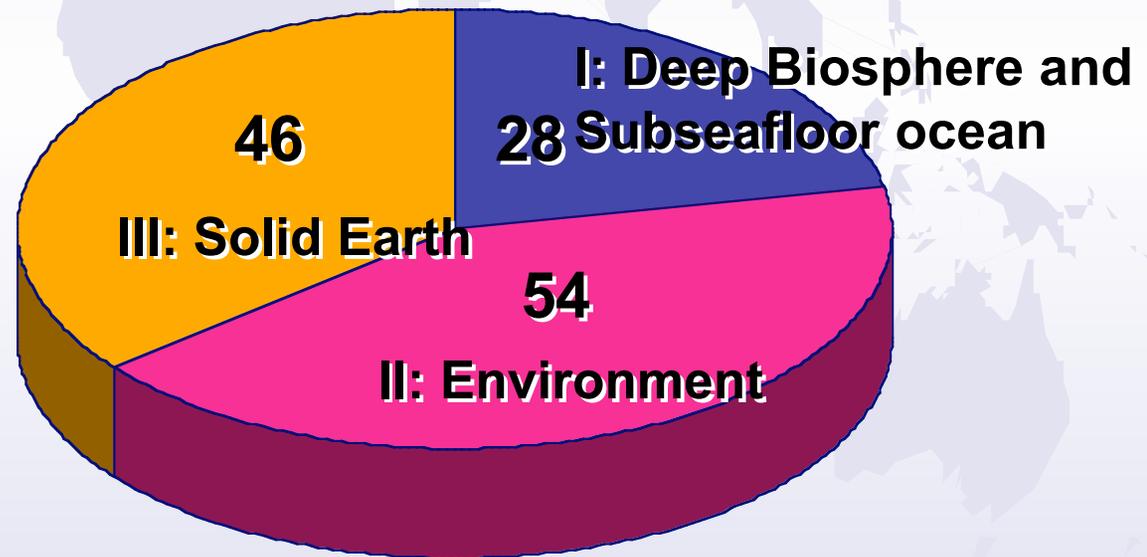
INTEGRATED OCEAN DRILLING PROGRAM
MANAGEMENT INTERNATIONAL

ACTIVE PROPOSALS: 128

Mission proposals

- Continental Breakup & Birth of Ocean
- Mission Moho
- Mission Asian Monsoon

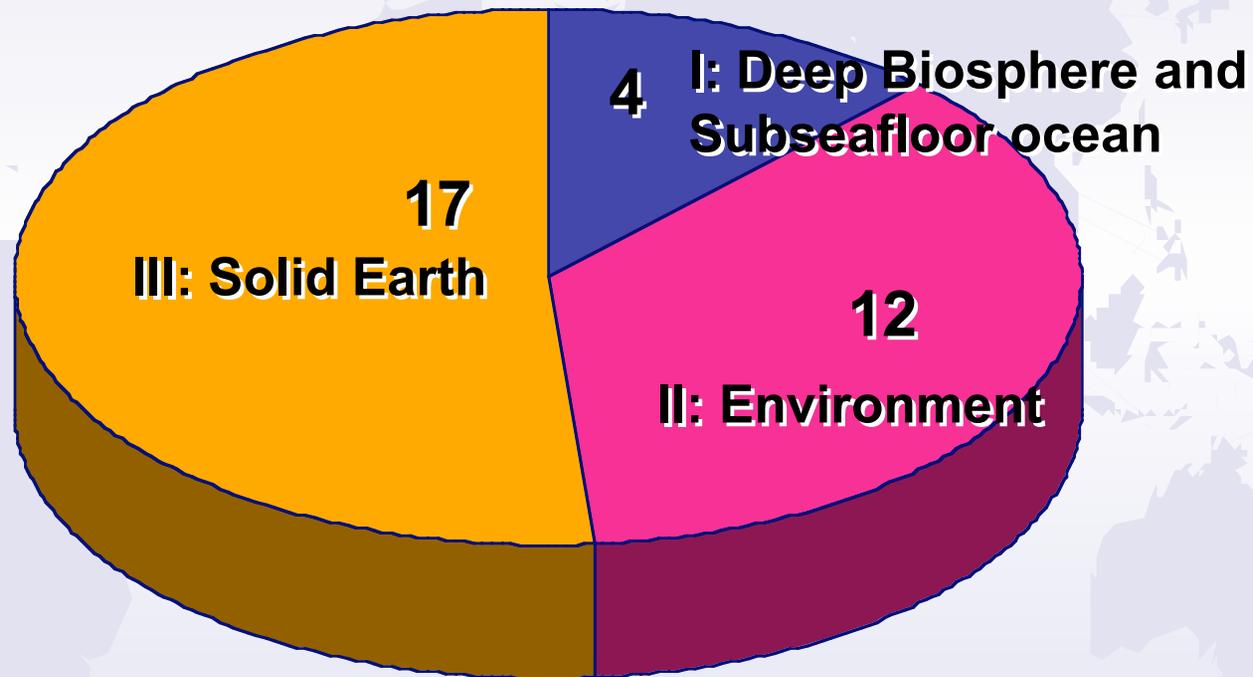
by ISP Themes:



INTEGRATED OCEAN DRILLING PROGRAM
MANAGEMENT INTERNATIONAL

Submissions for 1 April 2007 deadline: 33 proposals

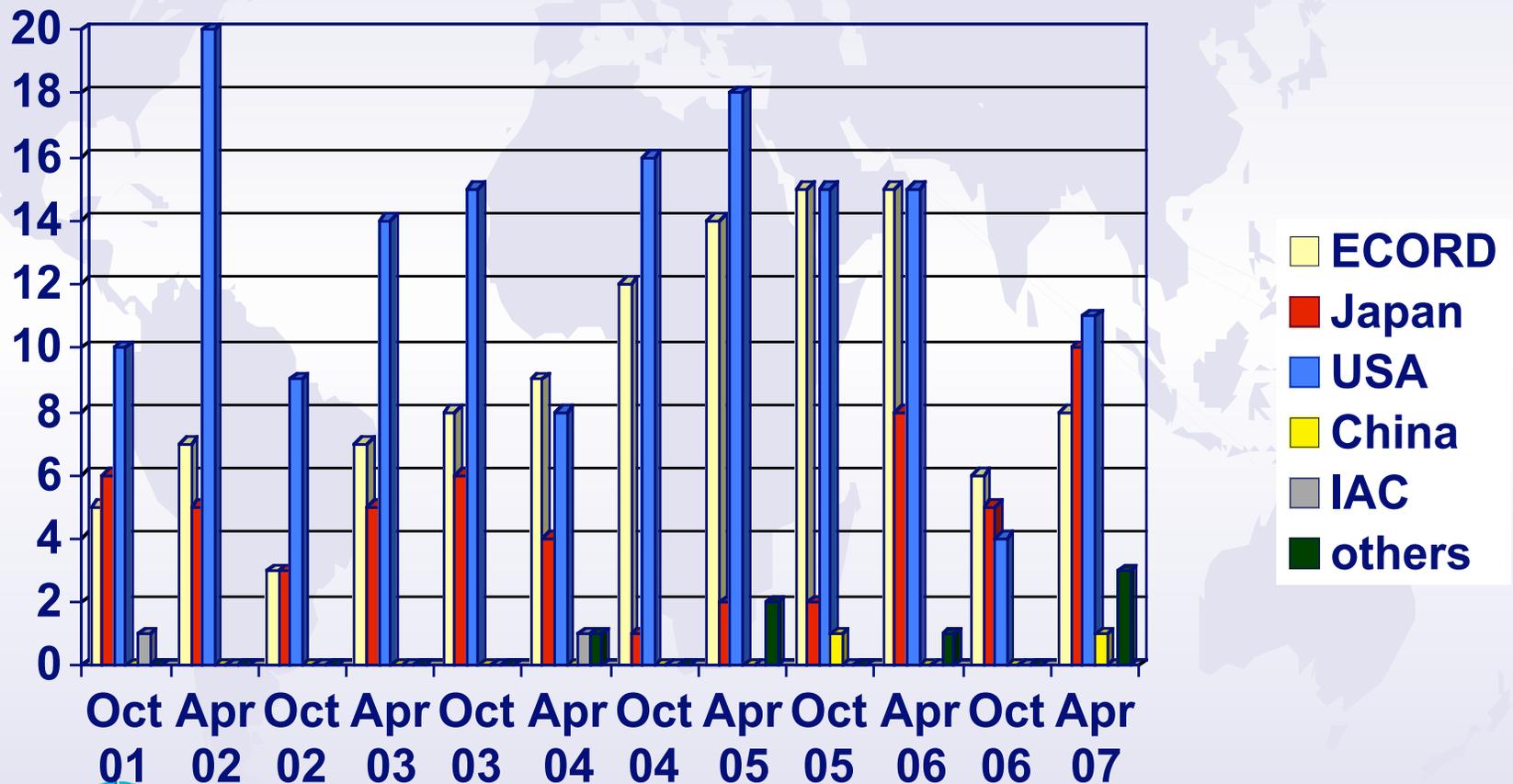
By ISP Themes



**INTEGRATED OCEAN DRILLING PROGRAM
MANAGEMENT INTERNATIONAL**

Proposal submissions (by member)

12 submission deadlines



INTEGRATED OCEAN DRILLING PROGRAM

MANAGEMENT INTERNATIONAL

Appendix 2

SASEC

Bremerhaven, 25–26/6/2007

**ECORD Managing Agency
report**

Catherine Mével

ECORD funding

The major challenge for ECORD during this past year was to meet the 60% increase of the participation unit, starting in FY08

The funding situation for FY08 and beyond is not yet completely finalized, but is very encouraging :

A few smaller countries have indicated that they will not increase their contribution

The major contributors of ECORD will be able to meet the increase in FY08

For three countries only, the decision is not yet made.

At this stage, ECORD is already in the position of contributing 3 P.U. in SOCs in FY08, and should be able to cover the POCs for the Great Barrier Reef expedition, split over FY08 and FY09.

Beyond 2009, the situation is still unclear

The cost of operating MSPs is more expensive than initially envisaged.

1 participation unit in POCs : 5.6 M\$

It seems unlikely that ECORD will be able to fund one MSP operation per year. Moreover, due to fiscal realities, very expensive operations will be out of reach.

ECORD is still seeking for additional funding from the European Commission.

The ECORDnet project funded within FP6 ends this year. It was very helpful in setting up the ECORD structure, but did not allow to fund operation or science.

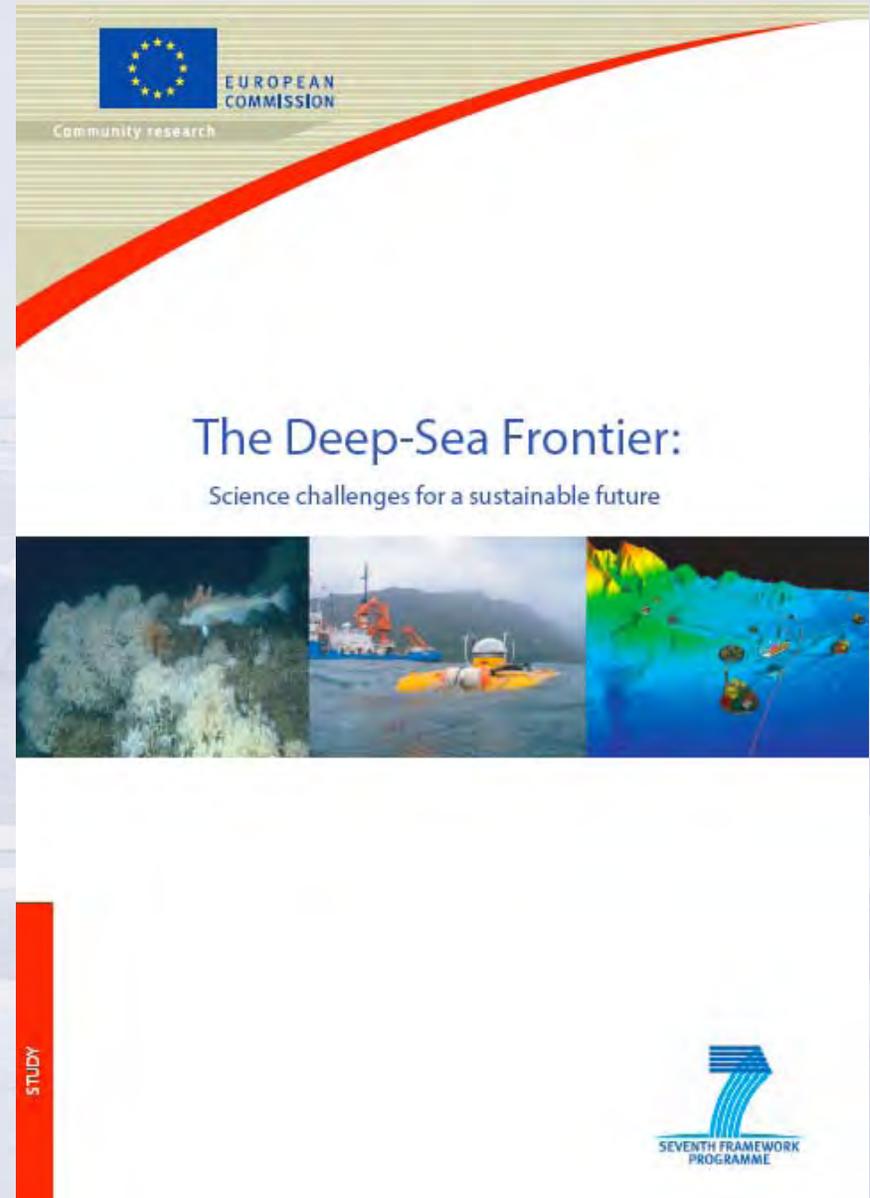
Discussions with the EC for possible funding opportunities with the 7th Framework Programme are still in progress.

ECORD is also pursuing the Deep Sea frontier initiative

The aim was to develop a major coordinated European research and technology effort on Deep Sea Floor Science by integrating existing research programs (ECORD, HERMES, ESONet, IMAGES, EuroMargins)

This foresight paper is the outcome of the workshop held in Naples, June 07

Will be posted on the ECORD website soon
www.ecord.org



A proposal for a coordination action has been submitted to the EC

SASEC, Bremerhaven, 25-26/6/2007

In Netherlands

The 2007 Utrecht project
'With paleoclimatologists on expedition to the past to discover the climate of the future'
has won a prestigious
Dutch national academic prize of 100,000 €
to be spend on bringing science to the public.



The team is lead by Luc Lourens, Appy Sluijs and Henk Brinkhuis

Appendix 3

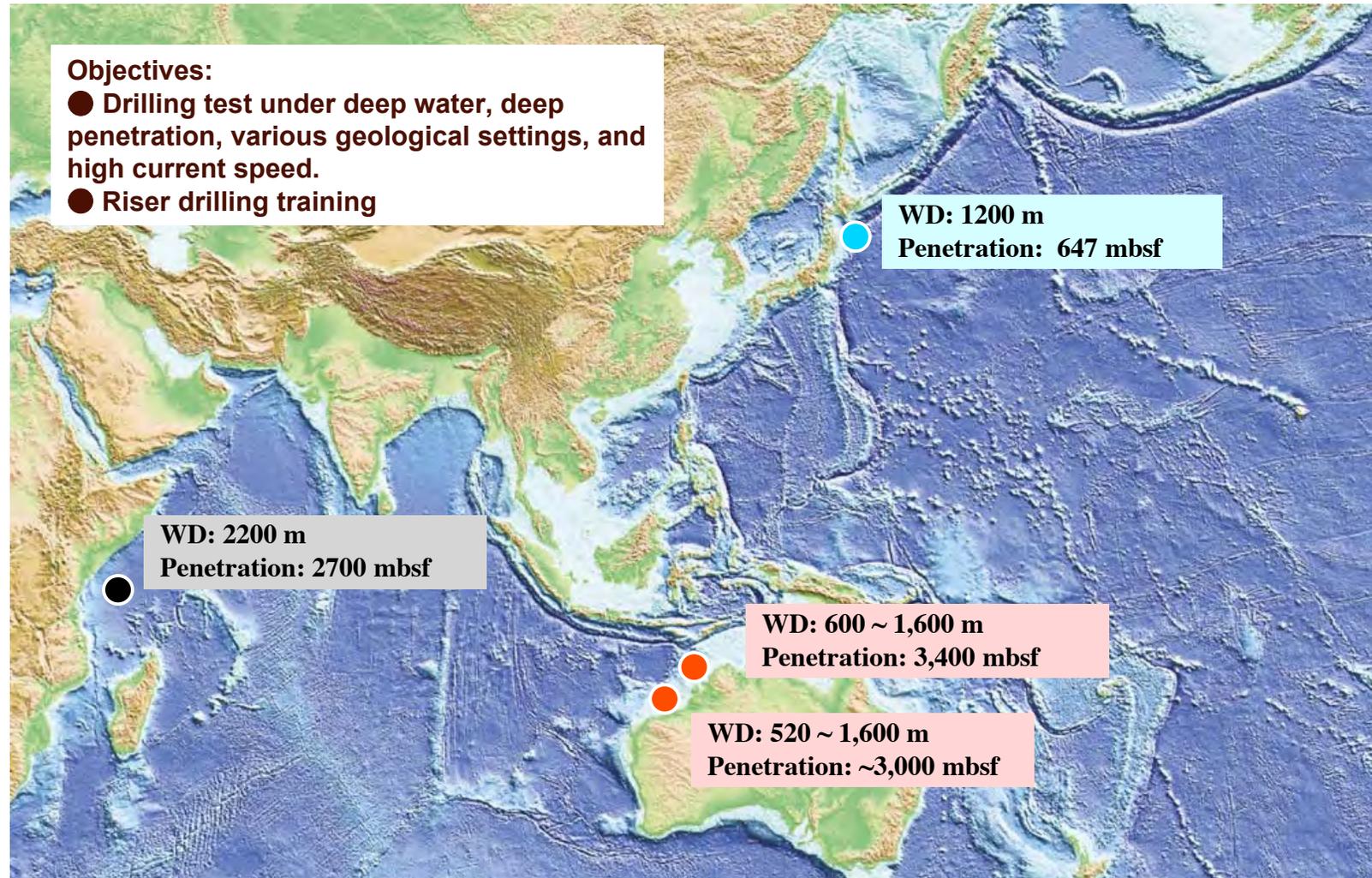


CDEX-*Chikyu* Report

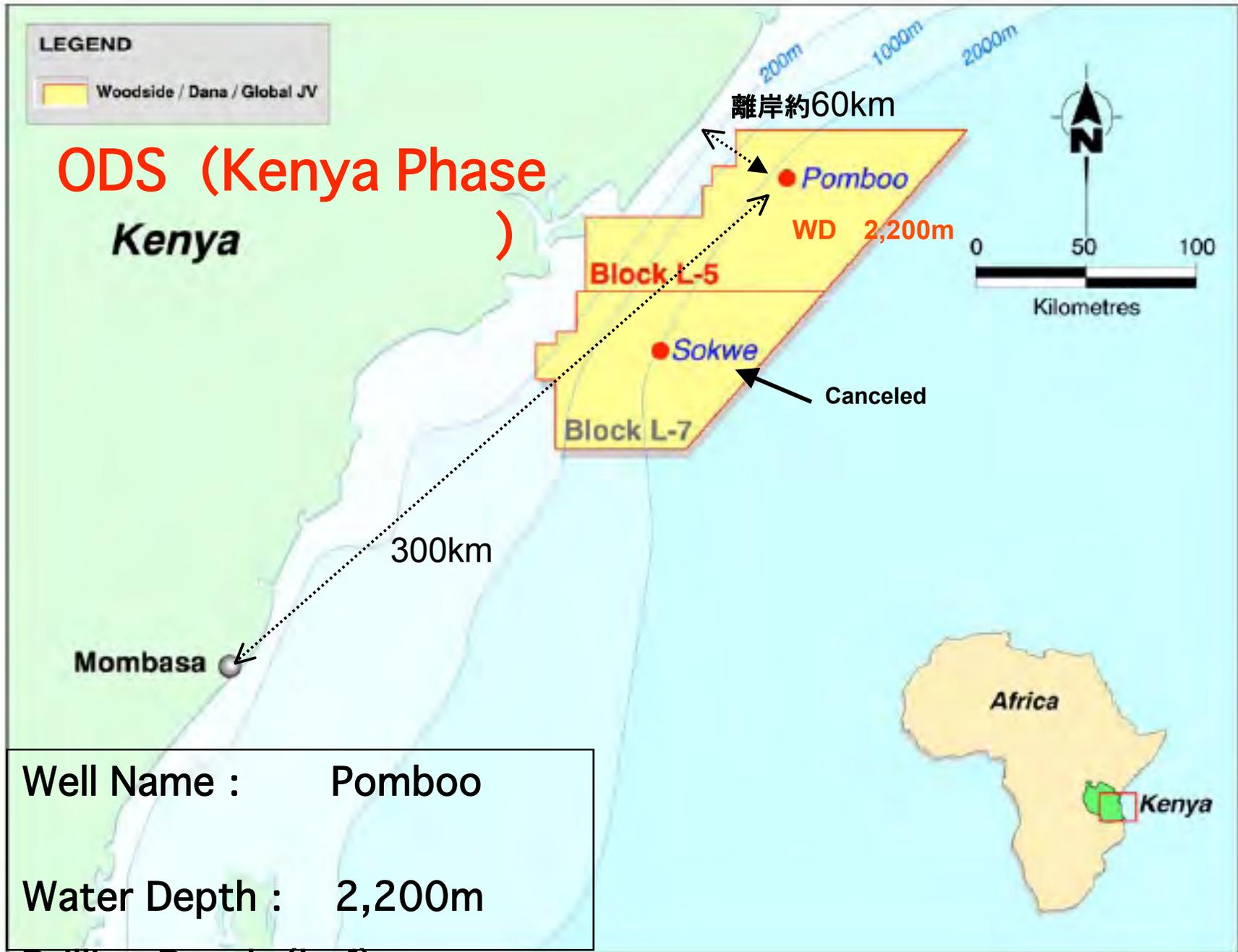
**June 2007
Bremerhaven**

Y. Kawamura (CDEX)

ODS (Oversea Drilling Shakedown)



Nov.'06 ~ July '07



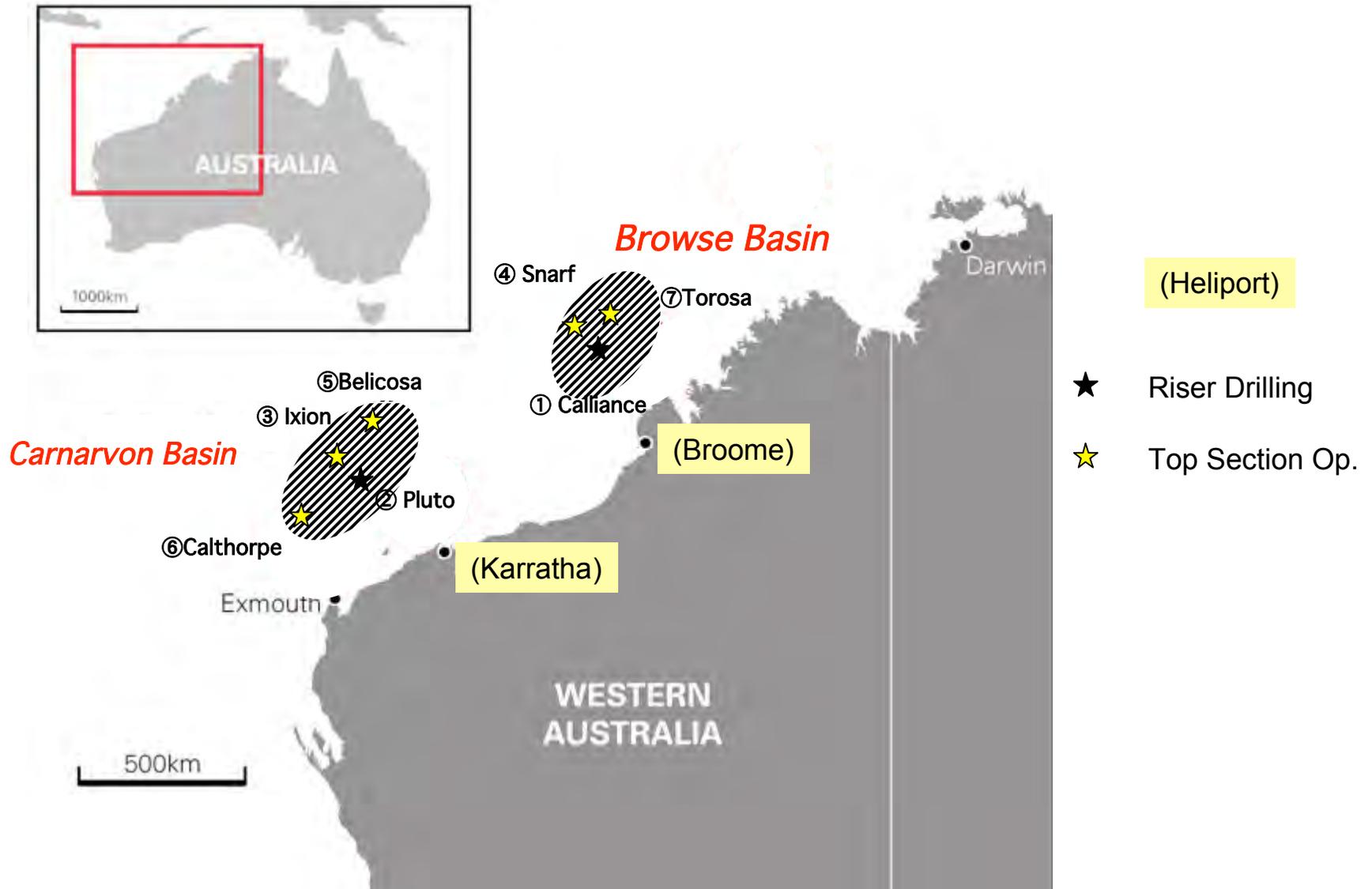
Well Name : Pomboo

Water Depth : 2,200m

Drilling Depth (bsf) :
2,700m

Australia : Northwest Shelf

JAMSTEC/CDEX



海外試験掘削 (ODS: Oversea Drilling Shakedown) 総括表

H19年6月19日現在

【ケニア沖】

	掘削計画名	行動	掘削海域	水深(m)	掘削深度(m) (海底下)	実施予定期間	ヘリポート	特記事項
1	Pomboo	探査試験掘	ケニア北部沖	2,193	2,694	12月初～1月末	Mombasa	水深2,000m超の大水深でのライザー掘削の成功。 強潮流下での掘削の実施。

※ ケニア沖掘削コンソーシアム: Woodside(豪)30%、DANA(英) 30%、Global Petroleum 20%、Repsol(西)20%

【豪州北西大陸棚】

	掘削計画名	行動	掘削海域	水深(m)	掘削深度(m) (海底下)	実施予定期間	ヘリポート	特記事項
1	Calliance	探査・評価試験掘	Browse	500	3,700	2月下～4月初	Broome	中水深(<600m)のライザー掘削。
2	Pluto	探査・評価試験掘	Carnarvon	1,000	2,200	4月中～5月中	Karratha	傾斜掘り、並行掘削
3	Ixion	上部孔井作業	Carnarvon	1,340	1,200	5月中～6月初	Karratha	36インチ、9. 5/8インチケーシング装置
4	Snarf	上部孔井作業	Browse	1,440	1,860	6月初～6月中	Broome	36インチ、9. 5/8インチケーシング装置
5	Belicosa	上部孔井作業	Carnarvon	1,400	800	6月中旬	Karratha	36インチ、9. 5/8インチケーシング装置
6	Carthorpe	上部孔井作業	Carnarvon	830	700	6月中旬	Karratha	36インチ、9. 5/8インチケーシング装置
7	Torasa	上部孔井作業	Browse	1,400	約2, 000	6月下旬～7月初旬	Broome	36インチ、9. 5/8インチケーシング装置

(1)及び(2)は Woodside社(100%)。(2)のPlutoは2010年生産開始予定の最後の評価井。この天然ガスのほとんどは日本に輸出予定。

(3)のIxionは、Woodside社(50%)、Total(30%)、MIMI(20%)が権益を持つ。

※MIMI: Japan Australia LNG (MIMI) Pty Ltd

三菱商事、三井物産が50%出資した豪州石油・ガス開発のための会社

※Woodside、Totalとも 豪州の石油開発会社

(4)のSnarfは、豪州大陸棚周辺の大水深ガス・油田のなかで最も有望なものであり、WoodsideがShell、BP等のメジャーと共同開発を目指している。

(6)のCarthorpeは、三井物産の100%現地子会社(Mepau)が40%の権益をもつ鉱区。

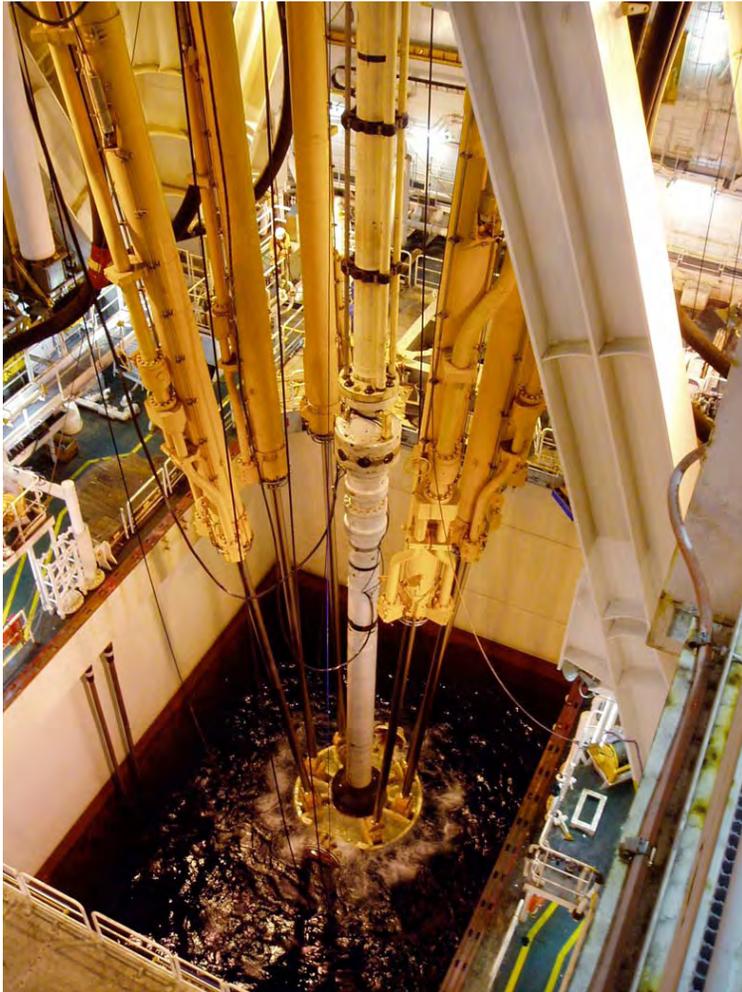
ODS Technical Achievement

- ① **BOP Operation at 2,200m WD**
- ② **Drilled to 2,700m (below sea floor)**
- ③ **Operation under av. 2.5kt sea current**
- ④ **DPS upgrade (MODU)**
- ⑤ **Deviated/Directional Drilling**

Other

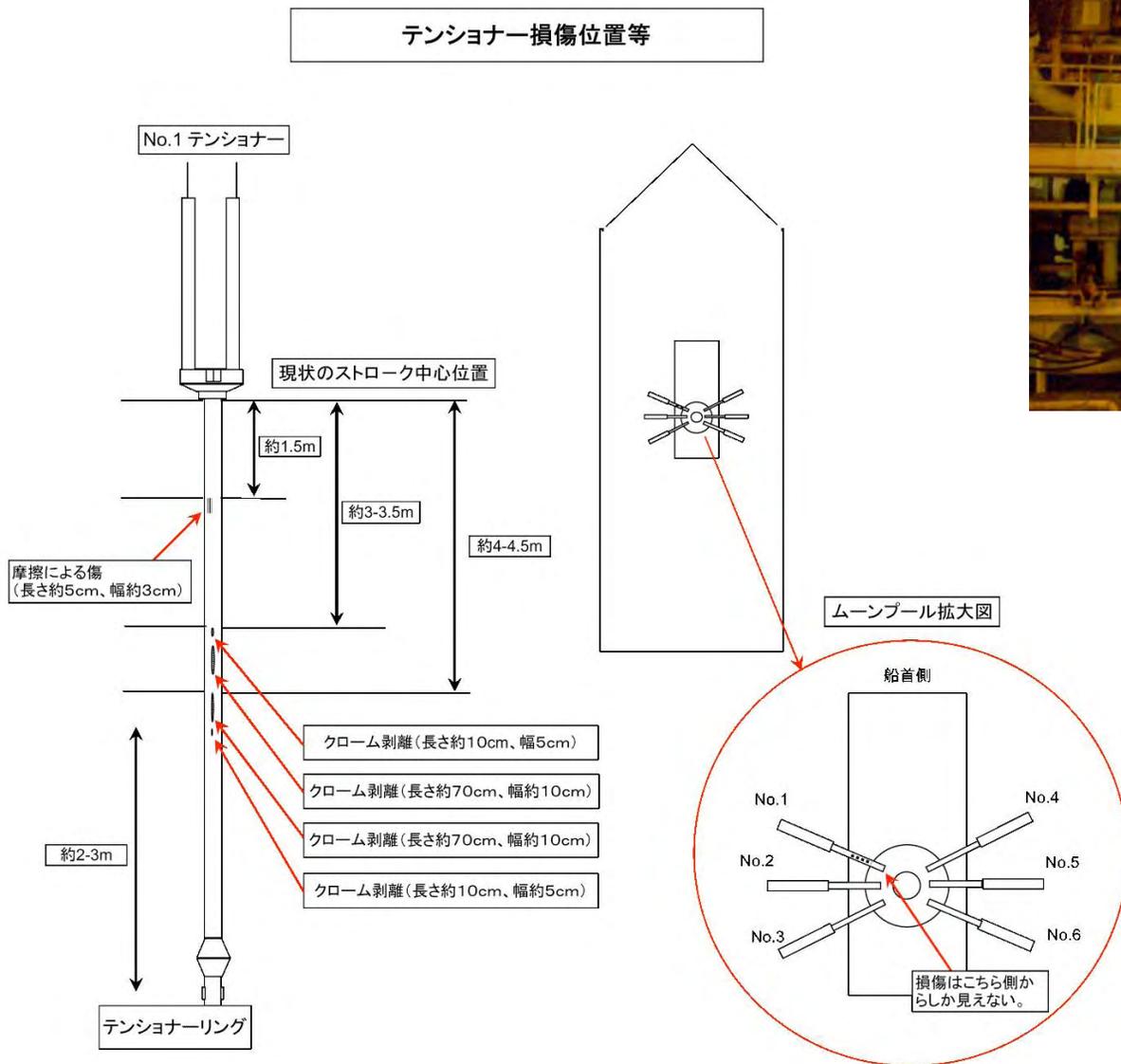
Equipment Failure/Down Time ration reduced

Riser Tensioner Failure Report



Facts/Events:

- 19 May At Ixion well, while running BOP/Riser No.1 tensioner **No1 cylinder oil leaked** and found some damage on the rod
- 20 May Judged no affect on the current operation Continue BOP landing without No1. tensioner
- 21 May All six tensioners examined Found two other tensioners damage (No.6, 3)
- 22 May No.1 Rod damage widen Stop operation
- 23 May Suspend Ixion well, pull back BOP/Riser
- 30 May Decision : more riser operation in Australia
Top Section operation continue

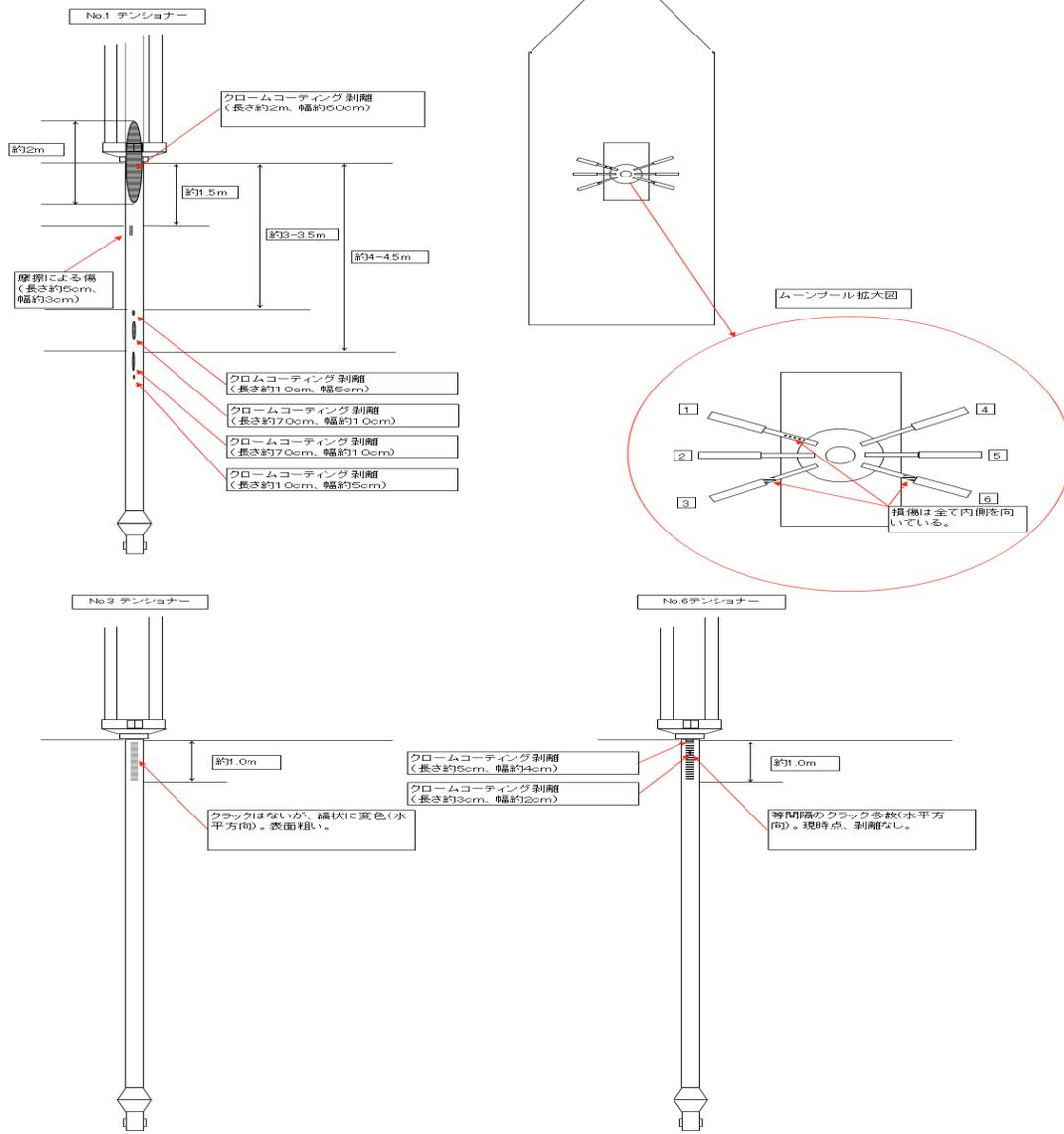


※ ロッドのギザギザはストロークアウト量計測のために製造段階で刻んでいるもの。それをNi,Cr,Carbide粉末で金属溶着したも

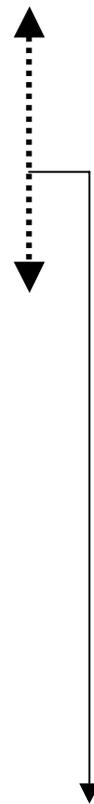
5月22日夜

テンショナー損傷位置等

(図歴)
 平成19年5月20日作成
 平成19年5月21日修正(No.3及びNo.6テンショナー追加等)
 平成19年5月22日修正(No.1テンショナーのシリンダ付近2mのクロムコーティング剥離)
 平成19年5月23日修正(No.3テンショナーのシリンダ付近5cmのクロムコーティング剥離)



この部分拡大



テンショナー検査結果 (5/25)

No	テンショナー状況(5/25)
1	損傷激しい。コーティングが広範囲に剥離。
2	見掛け上、異常なし。
3	コーティングの剥離までは行かないが、表面に異常あり。
4	コーティングの剥離までは行かないが、表面に異常あり。
5	見掛け上、異常なし。
6	損傷激しい。コーティングが広範囲に剥離。



No3



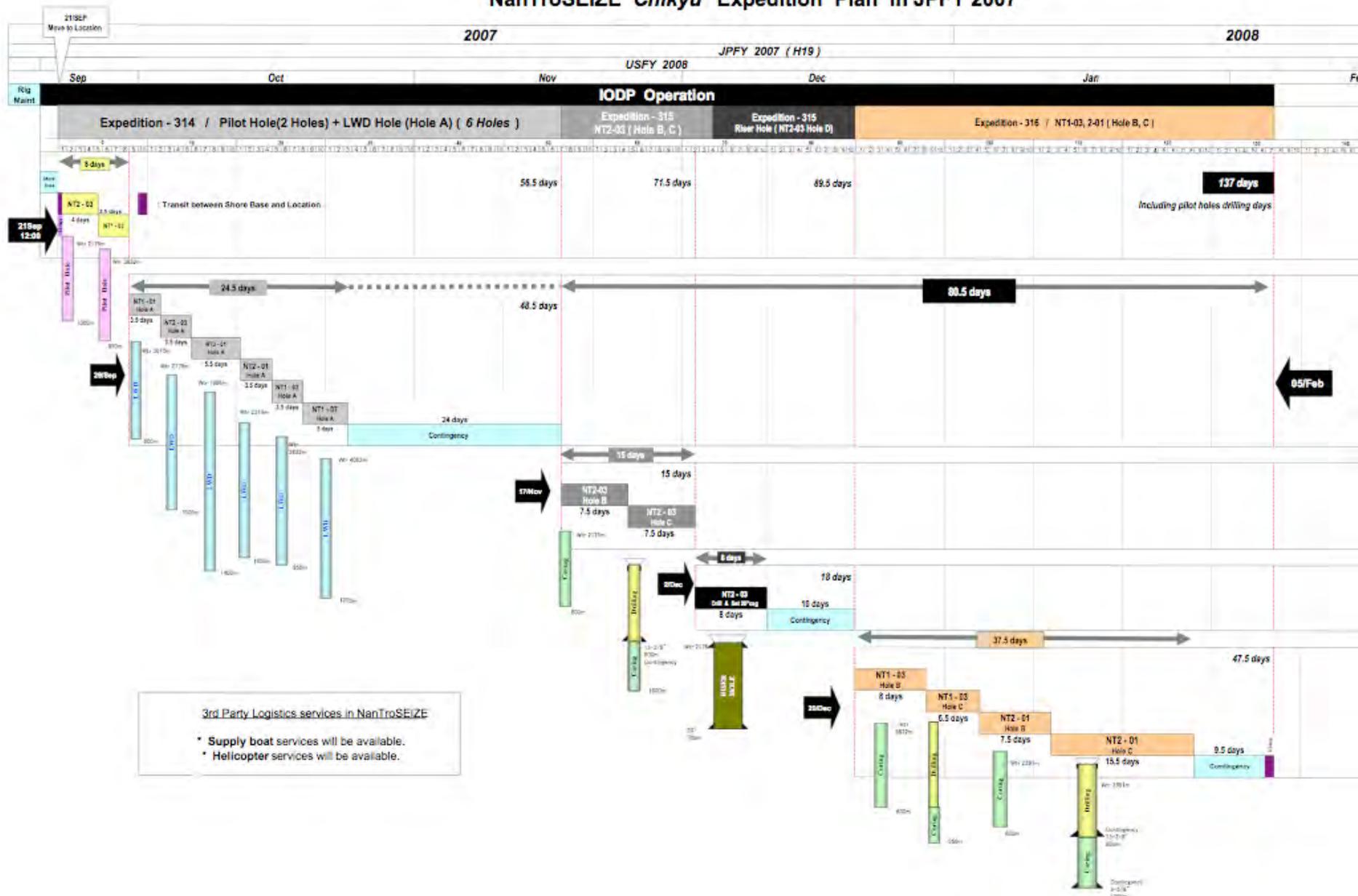
No4



No5

No6

NanTroSEIZE Chikyu Expedition Plan in JPFY 2007



NanTroSEIZE Stage 1

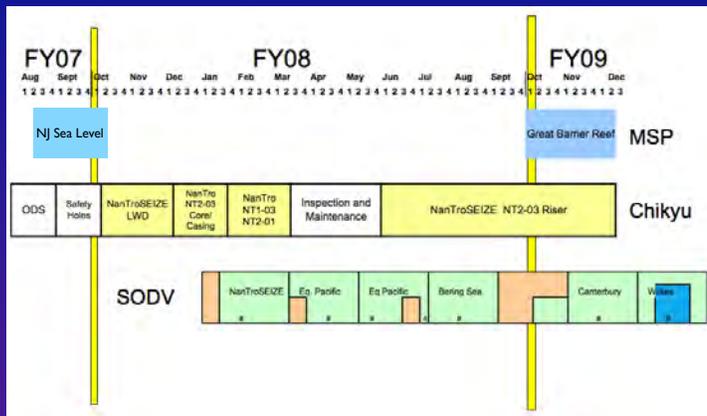
- NanTroSEIZE Stage 1
 - Sample Requests
 - Request Window: July 1~August 15
 - Sample Requests Evaluation
 - Complete by September 15
 - Sample Requests as Multi-Expeditions

Appendix 4

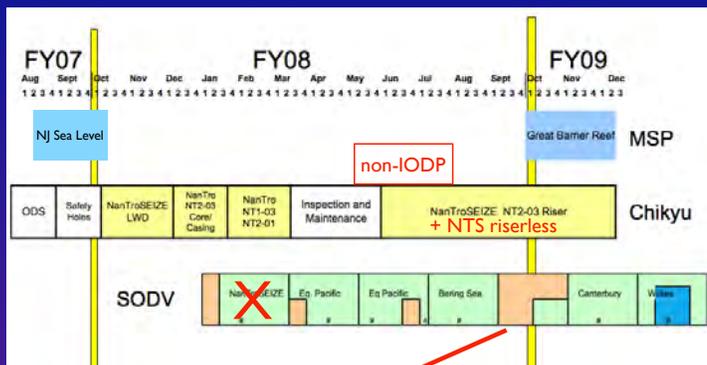
OTF: Further FY08 Schedule Adjustments

- The initial SODV NanTroSEIZE expedition cannot remain on the schedule because of combination of (a) slippage of SODV shipyard schedule and (b) Japanese fishing union ban on NanTroSEIZE operations March 1 - May 31.
- The adjusted SODV schedule recommended by OTF retains the subsequent three programs in slightly earlier slots, as well as the early FY09 Southern Ocean pair of programs, as in the previously approved schedule and APP.
- OTF agreed that a good part of the deferred NTS riserless work can be picked up by Chikyu during a 2-3 month period of riserless operations in fall of 2008, as proposed by CDEX. The consensus seemed to be that this should focus on the Kumano Basin (NT3-01) objectives, hopefully including the initial observatory that was dropped from the SODV FY08 schedule as of March OTF and SPC meetings.
- This means that some NTS Stage 2 riser work will probably be deferred to FY10, assuming SPC agreement to continue with the NTS program as the top priority for riser work beyond FY09.
- For the August SPC, the USIO is exploring three possibilities for the potential slot on the transit between Bering Sea and Southern Oceans: NTS riserless work, Mariana fore-arc, Shatsky Rise basement.

Summary FY07-09 Schedule as of March SPC



Summary FY07-09 Schedule as of June OTF



For the August SPC, the USIO is exploring three possibilities for the potential slot on the transit between Bering Sea and Southern Oceans: NTS riserless work*, Mariana fore-arc*, Shatsky Rise basement. * = potential typhoon issues.

SPC Perspective on June 20 OTF Meeting

- In the current budget situation, it seemed clear that the best way for the USIO to afford programs with any special expenses (long casing, observatories, etc) is to conduct "off-contract" work to pay some proportion of annual fixed costs, banking the savings for the next fiscal year.
- Thus, only simple, inexpensive SODV expeditions are possible for FY08-09; FY10 is the earliest possible time for expensive observatory/casing programs, assuming that the USIO can find off-contract work in FY09.
- OTF explored a range of hypothetical scheduling approaches for coordinated scheduling of IODP and off-contract work. No single model was adopted, but there was general agreement it could be worked out on an ad hoc basis with appropriate approaches.
- Initially, the best potential for USIO off-contract work seems to be in Gulf of Mexico and Atlantic (North Sea and West Africa), possibly Indonesia or India.
- The Gulf of Mexico/Atlantic prospects are consistent with a critical mass of OTF programs in Atlantic/E. Pacific, which would allow for reasonable scheduling options to accommodate both.

August SPC Review of OTF proposals (1)

Currently at OTF are about 25 "Group 1" proposals from the 2003-2006 SPC rankings. The original plan discussed at the March SPC meeting was to review these in August on an ISP thematic basis, and then prioritize them on the same basis. However, given the difficult budget situation, we are intending instead to review them in groups according to three main issues:

1. Just over half include observatories, only a few of which seem possible before renewal. SPC will review these as a group and prioritize them, likely deactivating some (unless proponents raise external funding?).
2. Two are major riser programs, when at best only one more riser program besides NTS can just be started before renewal. SPC will review and prioritize the two riser programs.
3. The MSP programs at OTF are very expensive, with one exception that will still cost >\$5M. Also, there are not many MSP programs coming through SSEP, particularly inexpensive MSP programs. SPC needs to decide how to handle the very expensive proposals, and SPC/SASEC may need to do something to encourage more MSP proposals.

August SPC Review of OTF proposals (2)

- The remainder of OTF programs are mostly riserless programs with reasonable costs, distributed globally. They should probably be left at OTF to allow USIO and CDEX flexibility in scheduling riserless programs, especially as off-contract work might become available in any ocean.
- One special case for SASEC advice: Monterey Bay Observatory. This was forwarded by SPC in June 2004 not on the basis of a science ranking, but for the engineering/test-bed aspects. The last statement from SAS was a strong endorsement with qualifications from SPPOC (June 2005) that highlighted the need for a test facility. However, an EIS for Monterey would be very expensive, and really cannot even be considered until the proponents develop a detailed science and operations plan for the instrument testing. When SPC forwarded the engineering part in 2004, the science aspect was known to be weak so the proposal was not ranked. Given budget realities, should this program simply be deactivated?

June 2005 SPPOC Consensus re Monterey

SPPOC Consensus 0506-5: Despite the environmental issues that prompted the removal of the Monterey Borehole Observatory expedition from the FY2006 operations schedule, the SPPOC reaffirms its very strong commitment toward providing a borehole observatory for testing borehole instruments. We hence recommend taking the following steps to facilitate solving this problem: i) continue efforts by the USIO to obtain approval for drilling at the currently proposed observatory sites, ii) ask the proponents of Proposal 621-Full Monterey Bay Observatory to consider alternative options for a different location, and iii) encourage the submission of proposals for a test facility at sites near other available seafloor cables. The SPPOC also requests that the IODP-MI consider using an alternate platform to accomplish this important objective prior to 2008.

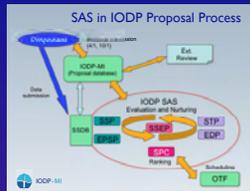
June 2004 SPC Consensus re Monterey

SPC Consensus 0406-14: The SPC recognizes the importance of installing borehole observatories within the Monterey Accelerated Research System (MARS) facility as described in Proposal 621-Full Monterey Bay Observatory. The strength of this proposal lies in the engineering investment for developing future borehole observatories and for integrating such observatories into cabled seafloor observatories. In that context, the committee deems it inappropriate to evaluate this proposal using the same scientific criteria as for other proposals and therefore decides not to include it in the current pool of proposals for global scientific ranking. Instead the SPC forwards Proposal 621-Full directly to OPCOM for possible scheduling of the engineering effort in FY2005 or FY2006. The committee requests that OPCOM provide a report and recommendation at the October 2004 SPC meeting. At that meeting, the SPC anticipates augmenting the June 2004 groupings of scientific proposals, without re-ranking, including consideration of Proposal 621-Full. The SPC also requests the SciMP and the TAP to work with MBARI and other proponents in developing a draft plan for managing the MARS-IODP borehole test facility. The SciMP and the TAP should submit a joint report for the October 2004 SPC meeting, and the SPC and OPCOM will submit a final report for the December 2004 SPPOC meeting.

Appendix 5

SAS Working Group Summary Report - Background

In July 2006, SASEC formed the SAS WG to review SAS and recommend "any changes to optimally configure its activities as IODP enters Phase II" or "any changes in structure necessary to integrate missions into the IODP proposal review process."



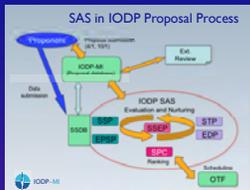
As discussed at Nov SASEC meeting, SAS WG findings are based on an "internal" review, with IODP community input via responses through Feb 28 to the WG questionnaire distributed in Dec.

After FY08/09 budget shortfalls came to light in January, the March SASEC asked WG to draft a report based on its recommendations at the time and also to look at scenarios for further reductions in SAS for cost savings.

June 2007 SASEC

SAS WG Summary Report - WG Perspective

Overall WG perspective and recommendations honor the clear statements of role of SAS in ISP (2001), IODP Principles (2002), and IODP Memoranda (2003). All three define a proposal-driven process for developing annual IODP science plans, with SAS providing the integrated proposal review and the recommended science plans to the CMO.



The SAS WG recommendations preserve the core SAS proposal review process (SSEP/SPC), but identify significant efficiencies and cost savings in terms of reduced panel memberships and technical panel meeting frequencies. WG did not consider in depth the potential for joint ICDP/IODP evaluation of all IODP and ICDP proposals, but agreed that a coordinated process is needed for "amphibious" projects involving both IODP and ICDP drilling.

Background: evolution of SAS through 2005/2006

- Interim SAS structure inherited from final JOIDES model, with addition of interim Industrial Liaison Panel but no interim equivalent to EXCOM
- SPPOC was formed in 2003 only after IODP had begun
- SPPOC immediately approved change of OPCOM to move it outside of SAS to become the IODP-MI Operations Task Force (OTF)
- SPPOC SAS WG was also motivated by IODP 3-platform operations and resulted in changes to SAS as of 2005:
 - ESSEP and ISSEP = SSEP
 - SciMP > STP, with adjusted mandate
 - TAP > EDP, with more focused mandate
 - STP and EDP add direct advice to IODP-MI, IO's
 - ILP > IISPPG, with more focused mandate
 - SSP, STP, EDP involved in proposal review as requested by SSEP
- In 2006, SPPOC was disbanded and a smaller SASEC formed as the SAS Executive Authority.

SAS issues raised in questionnaire responses or by WG

(✓ = key issues updated in this presentation)

- ✓ Panel sizes and terms of membership - issues of (a) corporate memory vs new blood as well as (b) budget limits
- ✓ Proposal review process and SAS "corporate memory": Shortening/simplifying the process to reduce proposal residence times and possibility of inconsistent reviews
- Focusing technical/engineering/survey advice better
- Need for more proactive long-term planning by SPC and SASEC
- SAS communication - between panels, among panels/IODP-MI/IO's, and among panels/PMO's
- Relationships between SAS panels and corresponding IODP-MI task forces
- Disconnect between site survey recommendations and funding process
- Need for earlier EPSP previews of proposals with likely safety concerns

Panel sizes and terms of membership

- WG, SPC, and PMO's: Voluntary reductions in technical panel membership levels (STR, EDR, SSP, maybe EPSP) - smaller "core" memberships augmented by expert advice as needed at one of two annual meetings.
 - ▶ SPC and PMO's tentatively agreed on 5/5/3(1)/1 model rather than current 7/7/3(1)/1 (which is not actually mandated). To be implemented in FY08.
- WG and SPC: Consider reduced SSEP membership (perhaps 30 total), but keep SPC at current membership levels to ensure balance of expertise
 - ▶ PMO's tentatively endorsed similar voluntary reduction for SSEP and SPC (7/7 to 5/5), also to be implemented in FY08.
- The reductions in membership levels and reducing some panel meeting frequencies (later slides) should result in ~30% cost savings for US and Japan SAS participation.
- WG and SPC: limit # of observers (~10-15% savings in overall program funds?).
 - ▶ Perhaps this will happen if FY08 budgets limit program travel funds.

Proposal review process

- Current SPC mandate leads off with: "The SPC shall encourage the international community to develop and submit drilling proposals for the IODP." But we need to be honest with proponent community about likelihood of scheduling before renewal, given both the large existing proposal pool and the new budgetary realities. Who is going to inform the community? How can we do it without discouraging the community?
- Reducing proposal residence time has intrinsic merit in terms of encouraging good new submissions, and also should help with perceived issue of inconsistent reviews as panel memberships change.
- WG and SASEC: Should there be limits either (a) at SSEP level on number of revisions before external review and forwarding to SPC or deactivation, or (b) at SPC level on number of times a low-ranked proposal not forwarded to OTF can be reconsidered at SPC? There was little support for firm limits during SPC or SSEP discussions. Nevertheless, SSEP is deactivating more proposals unlikely to succeed - 7 of 31 proposals reviewed at May meeting. In its August review of OTF proposals, SPC is likely to indicate that some are unrealistic before renewal and should be deactivated for the present.

Summary Remarks

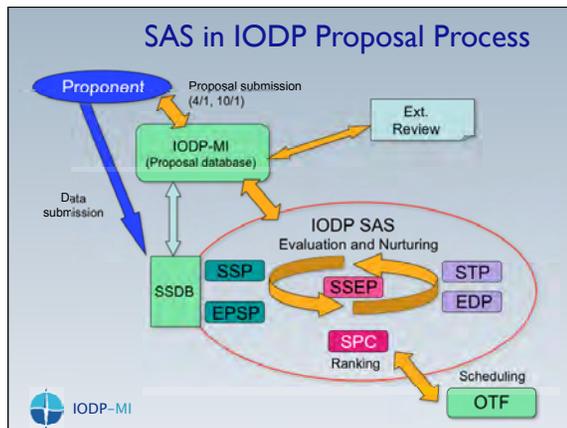
- SAS WG interim recommendations do not include profound structural changes to SAS required for full Phase II operations or incorporation of mission planning, or for the added impact of budget limits. The WG sees the SAS as a key mechanism for continuing IODP client or user community input that will be even more important when budget realities force difficult choices. We need to preserve that community input and involvement in order to justify renewal of IODP post 2013.
- Nevertheless, the WG has identified significant ways in which the SAS structure and process can be streamlined, for more effective performance under difficult financial conditions. Under the current SPC terms of reference, most of the recommended improvements can be made under SPC or PMO authority, and they are being made for FY08. The recommended changes include reducing US and Japanese membership levels from 7/7 to 5/5, and reducing service panel meeting frequencies from 2 to 1 per year unless very well justified. These should result in ~30-40% savings within SAS, largely to US and Japanese budgets.

Possibilities for further reductions in SAS

The SAS WG considered several ideas for further reductions in SAS if required by the IODP financial situation. None of these are recommended by the WG, but some pros and cons are set out in the addendum to the WG report. If further changes in SAS are required, we suggest that the process of updating and refocusing the ISP is the appropriate stage for considering any further changes after FY08, and we recommend that SAS itself be consulted in this process.

In particular, 4 ideas are explored in the addendum (but not recommended):

1. Is there really a need for both a SASEC and an SPC?
 2. Could/should EDP and STP be combined, particularly if IODP budgets do not provide for significant engineering development and/or improvements of shipboard technologies?
 3. Can the SSP review of site survey data be folded into the SSEP and/or SPC review of proposed IODP science?
 4. Is there a need for an EPSP in SAS if the IO's have their own safety reviews for reasons of legal liability?
- Also, FY08 will mark the third year of IIS-PPG, so SPC and SASEC will need to evaluate whether it should continue - or whether we need some new model for developing cooperative industry-IODP projects.



Appendix 6

IODP / Industry Collaborations

SASEC

Bremerhaven

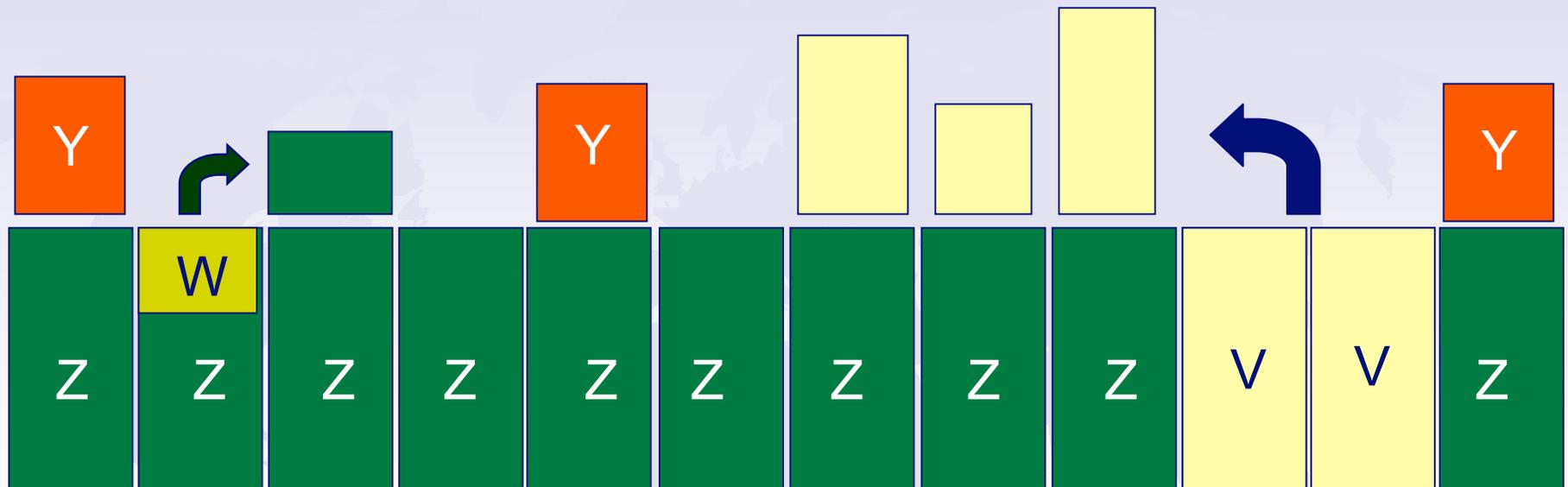
June 25-27, 2007

Thomas Janecek

IODP-MI



Potential Funding Models



“Z” funding -- base level of funding to maintain 12-month platform contract -

Additional Funding:

“Y” Funding- External funding to conduct IODP (SAS approved) science operations over and above the base cost of the expedition

“W” Funding - External funding for tool/equipment testing used to offset “Z” funding. Frees up base funds for other expeditions.

“V” Funding - Non-IODP use of vessel. Frees up base funds for other expeditions



Potential External Funding

1) Commodity level projects -

- Vessel used for large blocks of time for industry work (e.g., installing in deepwater casing).

2) Technology and Science driven projects -

- Projects that either can utilize or contribute *technology* (e.g., DeepStar/RPSEA) or *science* (e.g., DOE-Hydrate program).
- Direct and/or indirect benefits
- Can utilize vessel staff and expertise.

3) Service level or endowment funding -

- Equipment donation from vendors or foundations (e.g., Hewlett Packard donating lab equipment).



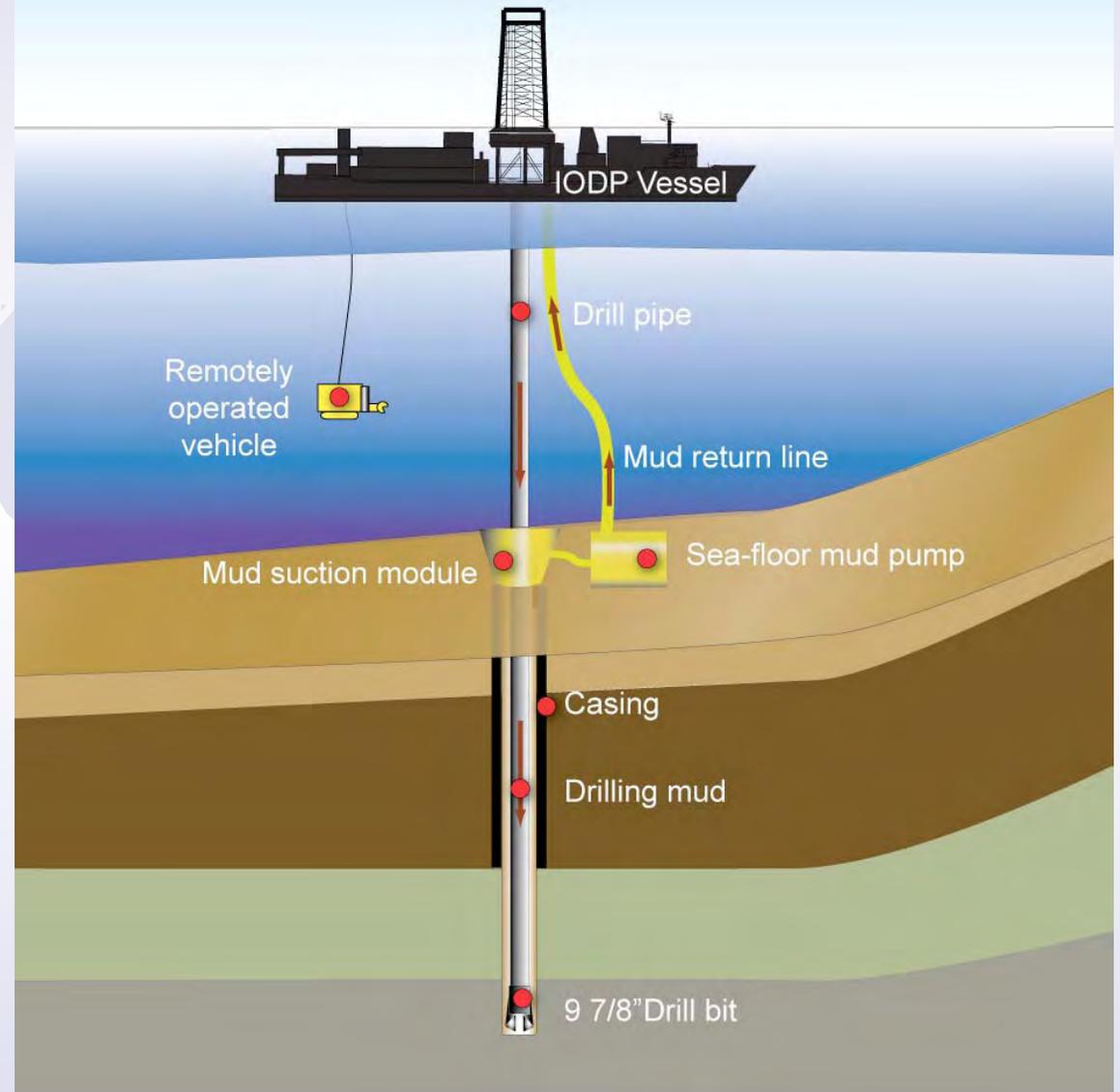
Emerging possibilities

Riserless Mud Recovery systems are presently of great interest to the ultra-deep (>1500 m) drilling programs such as DeepStar and RPSEA.

Need platform(s) for system testing.

Test riserless drilling equipment for industry while coring at sites of high interest to the IODP science community (e.g., Gulf of Mexico)

Riserless Dual Gradient Drilling Test Configuration AGR System - Riserless Mud Recovery



DeepStar/RPSEA

www.deepstar.org

- Joint industry collaboration to produce oil and gas in ultra – deepwater
- DeepStar has ~\$5,000,000 per year to spend in research
- Led by Chevron, BP, Petrobras, Total, Kerr-McGee, Anadarko, Marathon, Statoil.....

www.rpsea.org

- Research Partnership to Secure Energy for America
- A DOE –NETL initiative
- RPSEA has \$15,000,000 in 2007 and \$15,000,000 in 2008 to spend on technology.
- 32 themes have been identified for research.
- No predetermined allocation amount between themes.



What needs to happen - *Soon*

- NSF/USIO determine operating principles
- TAMRF/ODL negotiate contractual issues
- USIO - Determine point(s) of contact for interaction with IODP entities and others
- Define Roles and Responsibilities.
 - IO's responsible for contracts
 - IODP-MI --- making introductions (e.g., DeepStar)



Appendix 7

2007 Members of
Science Advisory Structure Executive Committee
(SASEC)
(New SASEC slate will commence at the fall/winter Meeting)

Name	IODP Members	Institution	Term	Start Year
Michael Bickle	ECORD	University of Cambridge	2 years	2006
John Hayes	USA	Woods Hole Oceanographic Institution	3 years	2006
Hotaka Kawahata	Japan	University of Tokyo	3 years	2007
Susan Humphris	USA	Woods Hole Oceanographic Institution	2 years	2006
Gaku Kimura	Japan	University of Tokyo	2 years	2006
Masaru Kono	Japan	Okayama University	1+2 years	2006
Maureen Raymo	USA	Boston University	2+2 years	2007
Toshiyuki Tatsumi	Japan-BoG	JAMSTEC, IFREE	2 years	2006
Brian Taylor	USA-BoG	University of Hawaii	1 year	2007
Gerold Wefer	ECORD	University of Bremen	3 years	2006

***SPC Chair, IODP-MI president, and observers from China and Korea are not represented in this table**

Notes:

USAC determined Maureen Raymo as replacement to Ken Miller (2007-2009)

USAC determined Maureen Raymo as new U.S. Vice Chair (2007-2009)

USAC determined Maureen Raymo as Chair (2009-2011)

Masura Kono to be new Chair (2007-2009)

**Yoshiyuki Tatsumi replaced by Hotaka Kawahata (2007-2009)

**Eli Silver replaced by Brian Taylor (2007-2008) on 4/19/07

**Toshiyasu Nagao replaced by Yoshiyuki Tatsumi (2007-2008)