

IODP Science Advisory Structure Executive Committee

8th Meeting, 15–16 June 2009

Beacon Hotel & Corporate Quarters, Washington, D.C., USA

Science Advisory Structure Executive Committee (SASEC)

Nicholas Arndt	Laboratoire de Géodynamique des chaînes Alpines, France
Keir Becker	Rosenstiel School of Marine & Atmospheric Science, University of Miami, USA
Se Won Chang (observer)	Korea Institute of Geoscience and Mineral Resources, Korea
John Hayes	Woods Hole Oceanographic Institution, USA
Kenji Kato	Department of Environment and Energy Systems, Shizuoka University, Japan
Hodaka Kawahata	Ocean Research Institute, University of Tokyo, Japan
Masaru Kono (chair)	Global Edge Institute, Tokyo Institute of Technology, Japan
Ian Mackinnon* (observer)	Australian Research Council, Australia
Jim Mori (SPC; non-voting)	Disaster Prevention Research Institute, Kyoto University, Japan
Maureen Raymo (vice chair)	Department of Earth Sciences, Boston University, USA
Jianshong Shen* (observer)	Ministry of Science and Technology, China
Kiyoshi Suyehiro (non-voting)	IODP Management International, Inc., USA
Yoshiyuki Tatsumi	Institute for Research on Earth Evolution, JAMSTEC, Japan
Brian Taylor	School of Ocean and Earth Science and Technology, University of Hawaii, USA
Gerold Wefer* ²	Center for Marine Environmental Studies, University of Bremen, Germany
Chris Yeats ¹ (observer)	Australian Resources Research Centre, CSIRO, Australia

¹Alternate for Ian Mackinnon

²No alternate

*Unable to attend.

Liaisons, observers, and guests

Jamie Allan	National Science Foundation, USA
Rodey Batiza	National Science Foundation, USA
David Divins	Consortium for Ocean Leadership, USA
Dan Evans	ECORD Science Operator, British Geological Survey, UK
Jun Fukutomi	Center for Deep Earth Exploration, JAMSTEC, Japan
Chris Harrison	IODP-MI Board of Governors Alt. (Treasurer)
Shinji Hida	JAMSTEC, Japan
Masahiko Hori	Ministry of Education, Culture, Sports, Science, and Technology, Japan
Tom Janecek	IODP Management International, Inc., USA
Takao Kato	IODP Management International, Inc., USA
Shin'ichi Kuramoto	Center for Deep Earth Exploration, JAMSTEC, Japan
Hans Christian Larsen	IODP Management International, Inc., Japan
John Ludden	IODP-MI Board of Governors
Catherine Mével	ECORD Managing Agency, France
Takashi Nakagawa	Ministry of Education, Culture, Sports, Science, and Technology (MEXT), Japan
Seung Il Nam	Korea Institute of Geoscience and Mineral Resources, Korea
Toshiyuki Oshima	Ministry of Education, Culture, Sports, Science, and Technology (MEXT), Japan
Jeff Schuffert	United States Science Support Program (USSSP), The Consortium for Ocean Leadership, USA
Deborah Smith	National Science Foundation, USA
Barry Zelt	IODP Management International, Inc., Japan

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Draft Executive Summary v.1.1

1.5. Approve SASEC meeting agenda

SASEC Motion 0906-01: SASEC approves the amended agenda for its eighth meeting on 15–16 June 2009 in Washington, D.C., USA.

Taylor moved, Hayes seconded; 9 in favor (Arndt, Becker, Hayes, Kato, Kawahata, Kono, Raymo, Tatsumi, Taylor), none opposed, 2 non-voting (Mori, Suyehiro).

1.6. Approve last SASEC meeting minutes

SASEC Motion 0906-02: SASEC approves the minutes of its seventh meeting on 20–21 January 2009 in Lisbon, Portugal.

Becker moved, Arndt seconded; 9 in favor (Arndt, Becker, Hayes, Kato, Kawahata, Kono, Raymo, Tatsumi, Taylor), none opposed 2 non-voting (Mori, Suyehiro).

6. Annual program plan

6.1. FY2010 Program Plan, budget and activities

SASEC Consensus 0906-03: SASEC requests that in future years, the annual program plan (APP) document include three modifications that will enhance the ability of participants across the program to identify and evaluate year-to-year changes in budgets and services provided: (1) any major change in science services provided from one year to the next, especially within the science operating cost (SOC) portion of the budget, should be identified within an APP executive summary; (2) any significant change in what was proposed versus spent in the prior year's budget should be identified within the executive summary; and (3) the APP document should include budgetary tables in a format that allows easy comparison of budget line items from one year to the next.

SASEC Motion 0906-04: SASEC approves the FY2010 annual program plan presented at its June 2009 meeting and recommends approval to the Board of Governors.

Raymo moved, Kawahata seconded; 9 in favor (Arndt, Becker, Hayes, Kato, Kawahata, Kono, Raymo, Tatsumi, Taylor), none opposed, 2 non-voting (Mori, Suyehiro).

7. INVEST meeting planning

7.2. Additional recommendations to the INVEST steering committee

SASEC Consensus 0906-05: SASEC requests that the INVEST steering committee add a keynote address on technological opportunities for the post-2013 phase of the IODP, and suggests Greg Myers of IODP-MI for the role. SASEC also recommends that the structure of the meeting with respect to abstract submissions, poster, talks, etc., be made more clear on the web site and in the third circular.

8. Workshops and thematic reviews

8.1. Planning for long-term thematic reviews

SASEC Consensus 0906-06: SASEC endorses the report of the second thematic review committee on IODP contributions toward understanding “Ocean Crustal Structure and Formation”, and applauds and thanks the committee for an excellent report on this exciting field of science.

8.2. Planning for the next long-term thematic review

SASEC Consensus 0906-07: SASEC will wait another year before determining the subject of the next thematic review. The third thematic review on “Deep biosphere and sub-seafloor ocean” is to be carried out in September 2009.

9. Evaluation of the current Board of Governors/SASEC/SPC structure

SASEC Consensus 0906-08: Having discussed the report of the subcommittee that evaluated the Board of Governors/SASEC/SPC structure, SASEC is reinvigorated in performing its mandate to carry out its executive authority to endorse the science plan (in January) and annual program plan (in June), and to be the caretaker of the Initial Science Plan implementation and long range science planning. We thank the subcommittee (John Hayes, Hodaka Kawahata and Gerold Wefer) for their provocative and constructive input.

10. Program renewal

10.2. Planning the next science plan

SASEC Consensus 0906-09: A SASEC INVEST subcommittee is formed with the tasks of: (1) nominating potential members for the Science Plan writing group, for SASEC email approval in October 2009; and (2) reporting to the January 2010 SASEC meeting. The subcommittee plus any other available SASEC or SASEC-elect members or INVEST steering committee members should meet in Bremen on the evening and/or morning after the INVEST meeting. Subcommittee members: Maureen Raymo, Nick Arndt, Keir Becker and Kenji Kato.

14. Review of action items, motions, and consensus statements

SASEC Consensus 0906-10: SASEC thanks John Hayes for enriching our deliberations with his insightful perspectives and sage advice. We wish him well in his active retirement and expect to hear of his continuing exploits.

SASEC Consensus 0906-11: After completing his Ph.D. at Lamont in 1982, it was to the great good fortune of America in general and Hawaii in particular that Brian Taylor’s return to Sydney fell a bit short, establishing him first as a professor and now as Dean in the University of Hawaii. Marvelously non-reticent and infallibly constructive, he has served SASEC since July of 2006. As he leaves us, we thank him for his friendship and generous service and wish him well as he continues his service as a member of the Board of Governors of IODP-MI.

SASEC Consensus 0906-12: Tatsumi-san has been a large part of the foundation of SASEC for three years. Fortunately, his personality has proven less magmatic than his interests. Indeed, he has been a stabilizing influence, only infrequently eruptive, and never intrusive. We thank him for his contributions and especially for his friendship.

SASEC Consensus 0906-13: The SASEC thanks Hodaka Kawahata for his service to SASEC. Kawahata-san, who has also served as a chair of the IODP section of J-DESC (Japan Drilling Earth Science Consortium), provided profound input from science communities not only in Japan but also all over the world. We also thank him for his insight into our discussions on the relationship between SASEC, SPC, and the IODP-MI Board of Governors. We are sincerely looking forward to seeing his great contributions to the SAS, or more generally to IODP, in near future.

SASEC Consensus 0906-14: SASEC thanks Gerold Wefer for his service over the last three years. Gerold has been a major actor in the drilling program for many years. Under his leadership, Bremen University has become a key institution for IODP, attracting scientists from all over the world to its core repository, and soon to the INVEST conference. His excellent performance and his calm and sage comments have contributed greatly to the effective operation of the committee. SASEC wishes him best of luck as he takes up his new role for the IODP as a member of the Board of Governors of IODP-MI.

SASEC Consensus 0906-15: The SASEC thanks Jim Mori for his service to SASEC. Jim, who has been a member of SASEC as a chair of the SPC, has both American and Japanese merits, is both gentle and strong-willed, and has acted impartially. We have learned a lot from his accurate and apt information on discussions in SAS panels, without which we could not form fair judgments as an executive committee of the SAS. We are sincerely looking forward to seeing his great contributions to IODP in the near future.

SASEC Consensus 0906-16: Our chairman, Masaru Kono, has wonderfully continued the traditions of SAS, in which the opinions of all are considered and all subjects are treated substantially (and often with good humor). How can it be that anyone so well balanced runs an institute called “Global Edge”? Moreover, he has served as a member of SASEC since its inception. All members of the IODP community owe him thanks. It is our privilege to act as their representative, to thank him most sincerely, and to offer all good wishes for the future.

IODP Science Advisory Structure Executive Committee

8th Meeting, 15–16 June 2009

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Draft Minutes v.1.0

Monday	15 June 2009	09:00-17:00
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1. Introduction

1.1. Call to order and opening remarks

Masaru Kono called the meeting to order at 09:00.

1.2. Introduction of participants

All meeting participants introduced themselves.

1.3. Welcome and meeting logistics

New IODP-MI President Kiyoshi Suyehiro welcomed the meeting participants to Washington, D.C.

1.4. Rules of engagement (Robert's rules, conflict-of-interest policy, etc.)

Masaru Kono presented some points for consideration, asking participants to speak slowly and clearly and to avoid excessive use of acronyms. He explained that SASEC decisions were mostly made by consensus, otherwise a motion would be required followed by a vote of the voting committee members. Kono noted that Becker would keep track of the motions and consensus statements. He also listed some of the salient points from Robert's Rules of Order.

Kono summarized the SASEC conflict-of-interest policy, and asked committee members to declare any potential conflicts. Raymo declared she was a proponent of Proposals 595-Full3 (Indus Fan and Murray Ridge) and 736-APL2 (Gulf of Mexico Paleoclimatology). Becker declared he was a proponent of Proposal 734-APL (Cascadia Accretionary Prism CORK). Kono ruled both as not conflicted, adding that the SASEC would not go into the details of individual proposals at this meeting.

1.5. Approve SASEC meeting agenda

Masaru Kono noted one minor change to the agenda: agendum 3 (Highlights of program management report by IODP-MI) will include a presentation by Suyehiro.

<p>SASEC Motion 0906-01: SASEC approves the amended agenda for its eight meeting on 15–16 June 2009 in Washington, D.C., USA.</p>
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Taylor moved, Hayes seconded; 9 in favor (Arndt, Becker, Hayes, Kato, Kawahata, Kono, Raymo, Tatsumi, Taylor), none opposed, 2 non-voting (Mori, Suyehiro).

1.6. Approve last SASEC meeting minutes

Masaru Kono asked if there were any suggested changes to the draft minutes of the January 2009 SASEC meeting. Hayes commented that the minutes were, in general, extremely well done and the effort in their preparation was appreciated. With no suggested changes, the previous meeting minutes were approved.

<p>SASEC Motion 0906-02: SASEC approves the minutes of its seventh meeting on 20–21 January 2009 in Lisbon, Portugal.</p>
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Becker moved, Arndt seconded; 9 in favor (Arndt, Becker, Hayes, Kato, Kawahata, Kono, Raymo, Tatsumi, Taylor), none opposed 2 non-voting (Mori, Suyehiro).

1.7. Items approved since last meeting

No items were approved since the January 2009 SASEC meeting.

2. Highlights of funding agency reports

2.1. U.S. National Science Foundation (NSF)

Rodey Batiza took the NSF report in the agenda book as read. He reported that the NSF received \$3B (about half of its annual budget) as its share of the American Reinvest and Recovery Act funds. He expected 2010 funding to be enhanced over what was initially expected, and noted that drilling received a fairly significant increase in the FY2009 budget. Batiza mentioned that the U.S. President's request for 2010 includes an 8.5% increase for the NSF. He hoped that drilling will receive a share of this increase. Batiza added that in the out years (2011–2013) funding for drilling is expected to be flat. The new U.S. administration has said it wants the NSF's budget to double on a ten year time frame (i.e., about 5% per year).

2.2. Japan Ministry of Education, Culture, Sports, Science, and Technology (MEXT)

Masahiko Hori reported that the Japanese government budget for JPFY2009 was approved as planned. As part of this, JAMSTEC's budget will allow five months of IODP operations for *Chikyu*. Hori noted that the Japan Drilling Earth Science Consortium (J-DESC) is emphasizing outreach activities, and the Kochi Core Center is being used to train scientists. J-DESC is also preparing for the IODP New Ventures in Exploring Scientific Targets (INVEST) meeting: several workshops on different subjects were organized to provide input to the new science plan. Hori mentioned that discussions on the post-2013 drilling program will start this week with the International Working Group *Plus* (IWG+). He said that Japan is ready to take a leading role, but a new program structure needs to be agreed on. In March 2009, Dr. Sakata, Deputy Minister of MEXT, met with Dr. Arden Bement, Director of NSF. Both agencies agreed to continue supporting scientific ocean drilling.

Kato [note: all references to Kato refer to SASEC member Kenji Kato] asked for more information about the outreach activities of the Kochi Core Center. He wondered if the training classes were open to the world. Kawahata, ex-chair of J-DESC, replied that J-DESC was providing several courses to young scientists, and these were open to the world; however, at present the courses are in Japanese. English versions of the courses are being prepared.

2.3. European Consortium for Ocean Research Drilling (ECORD) Managing Agency (EMA)

Catherine Mével reported that in FY2009 ECORD's seventeen member countries pooled ~\$21.3M, with contribution levels varying between \$30K to \$5.6M. ECORD has a new vice-chair, Nigel Wardell of Italy. Mével stated that 2009 is a very exciting year for mission specific platform (MSP) operations, with two expeditions being implemented: (1) Expedition 313: New Jersey Shallow Shelf; and (2) Expedition 325: Great Barrier Reef Environmental Change. She noted that the International Continental Scientific Drilling Program (ICDP) is contributing \$500K to the New Jersey expedition, which completes a transect started a long time ago.

Mével mentioned that the ECORD Science Support and Advisory Committee (ESSAC) office rotates every two years. The office, currently located at CEREGE, Aix en Provence, France, and chaired by Gilbert Camoin, will move to AWI, Bremerhaven, Germany in October 2009. The new chairman will be Rüdiger Stein.

Mével listed three summer schools to be held in FY2010 in Germany, Italy and Canada, all with climate themes. Starting in FY2010 ECORD Council will support a new scheme

proposed by ESSAC called ECORD grants, which are merit-based awards for outstanding graduate students to conduct research related to the IODP. Mével also mentioned that ECORD is thinking about the future. She listed activities associated with planning of the new science plan, including an interdivision session and planning workshop held during the week of the April 2009 EGU meeting, and a web forum. She noted that the workshop report will be available soon, and will be published in August 2009, in time for the INVEST meeting. Finally, Mével reported a proposal led by Achim Kopf on the “Deep Sea and Sub-Seafloor Frontier” has received funding from the European Commission to organize a workshop.

Kawahata asked if ECORD was providing financial support for attending the INVEST meeting. Mével replied that funding for INVEST was done at the international level.

2.4. China Ministry of Science and Technology (MOST)

The MOST representative (Jianshong Shen) was not present. Becker commented that at the March 2009 SPC meeting it was mentioned that China would construct a non-riser drillship. He wondered if there was any more information about it. Kuramoto said that CDEX has been contacted by Chinese representatives requesting help in the construction. Furthermore, the ship would have a riser and would be smaller than *Chikyu*, but larger than the *JOIDES Resolution*. Batiza said that the information he has suggests the decision to go ahead with construction of the ship has not yet been made.

2.5. Korea Institute of Geoscience and Mineral Resources (KIGAM)

Se Won Chang gave a brief report of KIGAM activities. He mentioned that Korea will be an associate member of the IODP from 2008 to 2013 according to the recently signed memorandum of understanding. Korea will contribute \$705K for FY2009. A meeting to discuss a possible Asian-Pacific IODP Consortium was held in Busan in April, with representatives from Australia, New Zealand, Korea, Japan, Taiwan, NSF, MEXT and the Coordinating Committee for Geoscience Programmes in East and Southeast Asia (CCOP) attending. China and India did not attend. Working groups were established to draft a set of principles for potential membership. Korean IODP (K-IODP) will send about ten scientists to the INVEST meeting.

Taylor asked for information on the relationship between the science program, K-IODP, industry, KIGAM, and other partnerships for the proposed gas hydrates drilling project. Chang explained that K-IODP belongs to KIGAM and is run on a project bases. KIGAM is the representative agent for the gas hydrate development corporation. Many KIGAM scientists are associated with the gas hydrates project and are involved in K-IODP. The projects are different, but most researchers are the same. Taylor said it was good to hear that the scientific community involved with the IODP in Korea is the same as the community involved with the gas hydrate contract drilling project.

2.6. Australian Research Council (ARC)

Chris Yeats reported on activities of the Australia-New Zealand IODP Consortium (ANZIC). He reviewed ANZIC’s membership, noting that together Australia and New Zealand form 30% of a membership unit. Both countries have been affected by recent currency fluctuations, but hope to overcome the problem. ANZIC’s Governing Council comprises nine members, chaired by Kate Wilson (CSIRO); the Science Committee comprises fourteen members, chaired by Stephen Gallagher (Melbourne University); and the ANZIC office is led by Neville Exon, while the New Zealand office is led by Chris Hollis. Yeats noted that Australian funding supports travel for IODP participation, but currently does not support post-cruise science. He hoped this would be rectified in the future. Yeats reviewed ANZIC’s participation in recent and upcoming expeditions, noting that the goal is to have six *JOIDES Resolution/Chikyu* positions plus one MSP position per year. As part of ANZIC’s

Distinguished Lecture Tours, three ECORD lecturers will visit Australia and New Zealand in 2009: Peter Clift (Himalayan uplift and monsoon), John Pearce (deep biosphere), and Achim Kopf (subduction earthquakes and other hazards). Yeats summarized ANZIC plans for preparation for the INVEST meeting: both Australia and New Zealand are working on a white paper, and there will be a pre-INVEST meeting in Perth in July. He mentioned that Australia should have a new research vessel in service in 2013 which should have good seismic capabilities. Yeats noted that upcoming port calls in Australia and New Zealand (2009–2010) provide invaluable publicity for IODP. Finally, he noted that Australia and New Zealand participated in the meeting to discuss a possible Asian-Pacific IODP Consortium (see KIGAM report; agendum 2.5). He noted that the goal would be for such a consortium to have full membership.

2.7. India Ministry of Earth Science (MoES)

India did not send a representative to the SASEC meeting.

3. Highlights of program management report by IODP-MI

Hans Christian Larsen reported on IODP-MI science planning and deliverables. He reviewed the upcoming Science Advisory Structure (SAS) meeting schedule and showed statistics for proposals received at the 1 April 2009 submission deadline and for all active proposals. He noted an encouraging number of completely new proposals (twelve) submitted on 1 April. He added that the SPC (March 2009) and SSEP (May 2009) recently deactivated three and five proposals, respectively, showing that the SAS is getting tougher with its reviews. Larsen mentioned that at the May SSEP meeting one new full proposal was sent out for external review (and could therefore possibly be available for ranking by the SPC in March 2010). He suggested this showed there are no major structural problems with the SAS to prevent a good proposal from moving quickly through the system. Larsen noted the large number of proposals residing with the Operations Task Force (OTF) and in the holding bin (29 and 6, respectively), but pointed out that not all 29 proposals residing with the OTF are ready to be implemented for various reasons. He concluded that, overall, the population of proposals was healthy, although the distribution by ocean was not ideal, making it hard to move the *JOIDES Resolution* out of the Pacific.

Kono asked for an explanation of the holding bin. Larsen explained that the holding bin was for proposals that were scientifically ready to be forwarded by the SPC to the OTF for possible scheduling but were missing something, most typically data for site characterization.

Larsen reviewed discussions on the prioritization of alternate riser proposals at the March 2009 SPC meeting. He explained that an alternate project was needed in case conditions, such as a strong Kuroshio current, prevent riser drilling at NanTroSEIZE. In October 2008 CDEX was asked by IODP-MI and the SPC chair to investigate and assess the feasibility of four riser proposals residing with the SPC or OTF: (1) CRISP-B (Proposal 537B-Full4); (2) Indus Fan (Proposal 595-Full3); (3) East Asia Margin (Proposal 618-Full3); and (4) IBM Arc Middle Crust (Proposal 698-Full2). At the March SPC meeting CDEX reported that CRISP-B was financially impractical as an alternate, Indus Fan was not feasible due to political issues, East Asia Margin had sites in disputed water as well as concerns over piracy. IBM was considered feasible and ready to go. Larsen explained that the SPC factored this information into its global rankings, in which IBM ranked very low and was considered scientifically not mature. Larsen showed SPC Motion 0903-16 in which the SPC requests that IODP-MI begin scoping of Proposal 618-Full3 (East Asia Margin) as a contingency for NanTroSEIZE. He noted that MEXT was looking into the disputed water issue.

SPC Motion 0903-16: The SPC asks IODP-MI to begin scoping of Proposal 618-Full3 East Asia Margin as a contingency for NanTroSEIZE.

Filippelli moved, Becker seconded, 14 in favor (Becker, Blackman, Camoin, Clement, Feary, Filippelli, Früh-Green, Jenkyns, Mori, Peterson, Ruppel, Takazawa, Tokunaga, Yamamoto), 3 opposed (Fujiwara, Ishii, Okada), 3 non-voting (Behrmann, Lee, Li), 1 absent (Hollis – non-voting).

Taylor said he thought Proposal 618-Full3 did not require riser drilling; he wondered why it was on the list. Larsen explained that the proposal comprised two components: a non-riser part and a riser part. Taylor suggested that many of the proposal's objectives could be achieved without riser drilling. Larsen referred Taylor to the detailed planning group (DPG) report on "Asian Monsoon and Cenozoic Tectonic History" for details.

Raymo wondered if there was some unstated issue that led to the three votes opposing the SPC motion. Mori explained that there was a very long discussion and varying opinions. The decision was not a consensus. He said the SPC spent a long time looking at scientific and logistic issues. Larsen noted that SASEC member Tatsumi is the lead proponent of Proposal 698-Full2 (IBM Arc Middle Crust).

Larsen displayed the proposal ranking results from the March 2009 SPC meeting. He noted that Proposal 618-Full3 was among the top ten proposals forwarded to the OTF, and said that the SPC felt that a contingency riser proposal should be one of those forwarded to the OTF. Becker stressed that Proposal 618-Full3 was not selected as the next priority riser project, but as the preferred contingency project should drilling at NanTroSEIZE be unfeasible.

Larsen presented a summary of accomplishments of Initial Science Plan (ISP) initiatives. While most initiatives have been addressed by IODP drilling, he noted that the deep biosphere initiative was getting closer to being directly addressed, and the continental breakup and sedimentary basin formation initiative will likely not be addressed in the current phase of the program. He also noted that the program has been very active in addressing sea-level change. Larsen summarized activity addressing the sub-seafloor life theme, including a recent ancillary project letter (APL) for the upcoming Bering Sea expedition, and proposals ready to go residing with the OTF.

Larsen presented a list of other miscellaneous IODP-MI business, including: the FY2010 annual program plan was submitted by IODP-MI to the lead agencies on 11 June; IODP-MI has a new President, Kiyoshi Suyehiro, starting from 16 May; and consolidation of the two IODP-MI offices into one office is being considered. Larsen concluded by noting that, finally, the IODP is operating three platforms simultaneously.

Kiyoshi Suyehiro presented his thoughts on IODP-MI and the program. He described the IODP as being at a fork in the road, and at a stage where hard decisions have to be made on which way the program will go. He said that the future of the program beyond 2013 is a serious question, which the IWG+ is looking into.

Suyehiro asked how the IODP can be more resilient to changes, noting the program has been suffering from external changes such as the price of oil. He said that if the program is too rigid it cannot be resilient to changes. Suyehiro noted that scientific ocean drilling has been going on for many years. He stated that if the program could not engage young scientists it was doomed. He suggested that to excite a sense of wonder in young scientists required the program to be creative, adaptive, have many plan-Bs, and do exciting science.

Suyehiro listed the functions of central management, including science operations and services, science planning support, education and outreach, engineering development, data

management. He described IODP-MI as a global user interface. Suyehiro listed a number of challenges facing the program, including three different platforms with complementary capabilities but different modes of operation, and which are no longer used exclusively for the IODP. He said that the IODP is fighting for funding to do great science, but other fields are doing the same thing. Therefore the IODP has to be competitive against other fields.

Suyehiro posed the question of whether IODP-MI is needed, e.g., can the implementing organizations (IOs) run the program by themselves? He stated that there is a role for IODP-MI, because it is the only group that can take an international standpoint and not be beholden to any nation. In addition, only IODP-MI can be the hub for multiple IOs, be the custodian of the ISP, be the single entry to a knowledge base of distributed databases, and be the voice to international ocean and Earth science and policy making communities.

Suyehiro said that, narrowly defined, the IODP is about drilling platforms, but narrowly defined the program cannot succeed. It needs to connect to other endeavors such as high-performance computer modeling, network monitoring, ICDP, Global Earth Observation System of Systems (GEOSS), Intergovernmental Oceanographic Commission (IOC), International Union of Geodesy and Geophysics (IUGG), and Census of Marine Life (CoML).

Suyehiro showed a schematic figure of the IODP's actual budget over ten years as a percentage of what would be required for full funding that would enable the program to achieve everything that was originally envisaged. He said the question was how to make up the discrepancy in funding, which would allow more expeditions to be implemented. He said he thought it was possible to do this.

Suyehiro described the immediate challenge facing the program as long-lead time items (such as engineering development items). He said the program was currently having difficulty in making long lead time items happen. He asked the community to collectively think of ways to make them happen.

Kono asked Suyehiro to say a few words on the plan to consolidate the IODP-MI offices. Suyehiro explained that consolidation of the two offices into one office was one of the mandates he received when he became President. He said that if consolidation is prolonged for too long it will affect other important things, like succeeding with the INVEST meeting. He also said that although IODP-MI is currently separated into two offices with different functions, these functions are inseparable. It would be more efficient with one office doing all functions, and would help the program as well as lead to a small cost reduction; he said small cost reductions can be important.

Suyehiro explained that to permit consolidation, the IODP-MI bylaws have to be changed, and voting on this would take place two days from now. If the bylaw change is passed, the Board of Governors will give guidance on how to accomplish the consolidation. He said the transition plan has to be carefully thought out, and there must be no glitches. Suyehiro said the current plan is to have a location in Tokyo by 1 October 2009. By the end of the year the Sapporo and Washington, D.C. offices will close, with all employees in place in the Tokyo office by 1 January 2010. He added that details are still to be worked out, such as how a U.S. corporation can operate only in Japan. Suyehiro noted that the target date is only six months from now, and he was working hard to solidify the plan by the end of the current month.

Arndt, referring to the figure showing IODP funding shortfalls, asked what should be done to increase operating time. Suyehiro replied that IODP-MI alone cannot generate the needed money. He explained that Manik Talwani started the Ocean Drilling Consortium (ODC); today is the deadline for responses from industry. Suyehiro said he would continue to work

on this proposal and will have further discussions with the USIO. He stated that the major source of money is the funding agencies, and noted that the Ad Hoc Committee report suggested that as a first step the funding agencies should be asked for more money. He said that increasing membership was also important.

Arndt asked if the IODP would get anything scientifically from the Korean gas hydrate project. He wondered how the sharing of information was envisaged. Divins replied that the project was outside of the IODP, and the data belonged to the groups that fund the project. He said that, while it was possible to try to negotiate a deal to make the data more open, this is a Korean project; the data will be Korean and will be published by Korean scientists. He explained that the direct benefit to the IODP is the cost saving that allows other work to be done. He added that IODP rules cannot be followed for outside work.

Hayes complimented Suyehiro for presenting the bigger picture to the SASEC. He agreed with the statement that the IODP, narrowly defined as a group of drilling platforms, cannot succeed. He wondered if the goal to develop a knowledge base was realistic, and suggested that the first step should be to get the SASEC to agree to this. Hayes suggested it was necessary to re-conceptualize what the program wanted to do and determine how to go forward. He suggested that one way to get started would be to have activities at the INVEST meeting focus on these questions. He wondered if the INVEST steering committee was aware of Suyehiro's new, broader vision for the IODP, or whether it was still thinking of the IODP in older terms. Larsen replied that the steering committee has not heard this new vision. Hayes said he hoped that the steering committee would agree that such discussions were appropriate at the INVEST meeting. Raymo agreed. She said that, in terms of the budget, the first things that get cut are outreach, education, school materials. She said this was regrettable because these were part of the long term vision, but she acknowledged that the program was in survival mode.

Larsen said it was important to get the message out that the IODP is very important for understanding the oceans. Raymo suggested that should be a job for the SASEC, or perhaps someone should be hired to generate the publicity. She asked if there was anyone within the program whose job it was to do this. Larsen said it is a huge job (e.g., involving science writers) and requires central coordination. He said the role could be with IODP-MI or elsewhere. Larsen noted that IODP-MI has a Director of Communication and a web site, but the original vision for outreach was more limited. Divins said that, from a U.S. perspective, the program has not done a good enough job at putting IODP science out to the community. He said that the USIO was in the process of hiring a person whose full-time job will be to develop that type of science outreach. He added that the outreach has to be about the science, regardless of the platforms. Divins said that the U.S. is not cutting back on outreach. Taylor said that with Suyehiro as the new President of IODP-MI, the program has the leadership to promote the type of engagement needed at the international level. Raymo added that she hoped the necessary resources would be available.

4. Highlights of implementing organization (IO) reports

4.1. United States Implementing Organization (USIO)

David Divins presented an update on USIO activities. He reported that after the previous (January 2009) SASEC meeting, the *JOIDES Resolution* spent ten days at ODP Site 807 testing systems. During transit the Readiness Assessment Team (Mark Leckie, Kristen St. John, Roy Wilkens, Kathy Marsaglia, Clive Neal, Kitty Milliken, and Gary Acton) looked at all issues that were outstanding, helped the staff finish some projects, and documented many issues that needed to be addressed before or during the first IODP expedition. Divins gave the team a well-deserved thank you for providing a lot of insight and help to the USIO.

Divins mentioned that the *JOIDES Resolution* has completed the first expedition, Pacific Equatorial Age Transect (PEAT) I (Expedition 320), and is currently in the final week of PEAT II (Expedition 321). Divins summarized the results and highlights of the two PEAT expeditions. He noted that some issues still remain, for example, it is taking up to two weeks to get the science party up to speed with the systems, which is too long.

Divins summarized the recent restructuring of the USIO at Texas A&M University (TAMU) designed to meet organizational objectives outlined by the NSF. Seventeen positions were eliminated. Brad Clement (Florida International University) has accepted the position of new Director of Science Services, IODP-USIO at TAMU, starting 1 August 2009. Kate Miller (University of Texas at El Paso) will be the new Dean of the College of Geosciences, TAMU, starting 17 August 2009.

Divins provided a brief update on industry-related activities. He reported that contracts for a gas hydrate expedition with the Korea National Oil Corporation (KNOC) were currently being written. The contract will be with ODL (owner of the *JOIDES Resolution*); the Consortium for Ocean Leadership will subcontract to ODL to provide science services, and Lamont-Doherty Earth Observatory (LDEO) will provide logging. He said it was unclear who would be responsible for the science party. The expedition will have twenty days of transit from Australia to Korea; drilling will take about 75-85 days, with a maximum project duration of 105 days. A total of ten sites will be drilled.

Divins reviewed the FY2009-2010 operational schedule for the *JOIDES Resolution*:

Expedition	Name	Schedule
323	Bering Sea	5 July – 4 September 2009
324	Shatsky Rise	4 September – 4 November 2009
317	Canterbury Basin	4 November 2009 – 4 January 2010
318	Wilkes Land	4 January – 9 March 2010
	Non-IODP Expedition	9 March – 9 July 2010
	TBD Expedition 1	9 July – 9 September 2010
	TBD Expedition 2	9 September – 9 November 2010

The non-IODP expedition (March–July 2010) is the Korean hydrates project. Divins said the USIO priorities were to: (1) identify and arrange for additional non-IODP work for FY2010 and beyond; (2) continue to deliver quality science services; and (3) accomplish as much high-priority IODP science by the end of 2011 as outlined in the ISP to positively impact the renewal of scientific ocean drilling in 2013. For discussion purposes, Divins presented a straw man *JOIDES Resolution* schedule for FY2010 and 2011 based on consideration of five or six must-do expeditions necessary to maximize the high ranked science that can be accomplished.

Tatsumi asked about the science party for the Korean hydrates expedition. Divins explained that mostly Koreans will be involved, but some non-Korean scientists have been identified as potential participants.

Larsen asked if there was any information on the non-IODP work in FY2011. Divins listed a number of potential projects: gas hydrates initiative in the Gulf of Mexico involving industry and the U.S. Department of Energy; a possible coring project; and an engineering development project (with DeepStar) to test the riserless mud recovery system. He said the latter would be a part of the hydrates project, and would be a significant engineering development if it can be done.

Yeats said that Chris Hollis mentioned New Zealand may be interested in doing some hydrate drilling in FY2010. Divins replied that the USIO may not be able to do the New Zealand work during the phase of non-IODP work in FY2010.

Kono wondered what would happen if the ODC is successful. Divins replied that the ODC would be told that it would not start until 2011, and if only four months were available in 2011, that is what the ODC would get. He suggested that reducing IODP drilling would not be prudent in light of the need to obtain results prior to program renewal. Divins said he did not anticipate that a lot of companies will want to participate in the ODC. He suggested that, as a group, the ODC was unlikely to happen, though it may lead to some work.

Arndt asked about the scientific goals of the Korean gas hydrates project. Divins said he could not go into details since it is a non-IODP project, but the results would be Korea's intellectual property.

Taylor mentioned that the potential industry/DeepStar non-IODP work in FY2011 could be truly transformative for ocean drilling, with a real impact on society. Divins added that the riserless mud recovery technology was not just for the *JOIDES Resolution*; any IODP platform could benefit.

4.2. Center for Deep Earth Exploration (CDEX)

Shin'ichi Kuramoto summarized CDEX scoping activities for Proposal 618-Full3 (East Asia Margin). CDEX estimates about 5-6 months of continuous operation for each of the two proposed sites. The main problem is the unclear boundary between China and Vietnam. Drilling would be in a producing gas and oil field, and therefore permission will be required. MEXT has contacted the Japan Ministry of Foreign Affairs regarding the boundary issue, but has yet to receive a clear answer. MEXT has no objection to further feasibility studies for this proposal. Kuramoto mentioned that the proposal was recently previewed at the June 2009 EPSP meeting. This included discussions of bright spots and H₂S, which must be mapped by the proponents. CDEX also needs to conduct further site surveys to identify shallow hazards, but JAMSTEC has no ship time for surveys this JPFY. CDEX will continue studying the feasibility of this project, and needs to determine by the end of the current month if it is possible for drilling to take place in FY2010.

Kuramoto presented an update on other CDEX activities. He reported that repair work on *Chikyu*'s azimuth thrusters and riser tensioners was completed by February 2009. During an outreach event at a port call in Kobe (February 2009) more than 9,000 people visited *Chikyu*. The NanTroSEIZE Stage 1 second post-expedition meeting was held in Kyoto in April. Kuramoto reviewed the FY2009 expedition schedule for *Chikyu*, comprising two Stage 2 NanTroSEIZE expeditions:

Expedition	Name	Schedule	Site
319	Riser/Riserless Observatory 1	May 5 – Aug. 31 (114 days)	NT2-11~ 1600m (riser); NT2-01J~ 525m (non-riser)
322	Subduction Input	Sept. 1 – Oct. 10 (41 days)	NT1-07 ~ 1200m (non-riser)

Kuramoto reviewed the Expedition 319 science party staffing rotation plan, explained the online mud gas monitoring while drilling process, described plans for walkaway vertical seismic profiling to be performed during the expedition, and briefly reviewed the plan to link NanTroSEIZE borehole observatories with the DONET seafloor cabled network. He also reviewed the drilling sequence for the Expedition 319 and 322 holes. Kuramoto concluded by showing video of operations during Expedition 319.

Becker asked about the state of the Kuroshio current. Kuramoto said the main current is south of the NanTroSEIZE sites, at which the current speed is less than 1 knot.

Taylor asked what *Chikyu* would be doing next year. Kuramoto replied that after October, *Chikyu* would be used for non-IODP work. So far there is no contract in place; however, two possibilities are under negotiation. *Chikyu* will return to IODP operations in the summer of 2010. *Chikyu* will require an inspection (necessary five years from delivery of the ship), after which NanTroSEIZE Stage 3 operations will start with riser drilling. The Stage 3 drilling plan is being developed.

4.3. ECORD Science Operator (ESO)

Dan Evans gave an update on ESO MSP operations. He noted that, beyond New Jersey Shallow Shelf (Expedition 313) and Great Barrier Reef Environmental Changes (Expedition 325), there are no MSP proposals residing with the OTF. Two MSP proposals are in the holding bin: Proposals 637-Full2 (New England Shelf Hydrogeology) and 716-Full2 (Hawaiian Drowned Reefs). The former has a site survey later this fall; the latter is a potential MSP operation.

Evans reviewed the timeline for the New Jersey Shallow Shelf Expedition, which started operations in early May 2009, and will end around 18 July, with the onshore science party at Bremen starting 6 November. Evans also described outreach activities associated with this expedition, including coverage from several news channels, and promotional work by an IODP film crew on board the drilling platform, *Kayd*. Evans reviewed progress of operations, noting that core recovery was generally good (e.g., 85% at the first hole: MAT-1A). He added that a number of difficulties have been encountered during drilling due to sand and expanding clay; however, very little time has been lost.

Evans provided an update on planning for Expedition 325 (Great Barrier Reef Environmental Changes). The platform provider is a new geotechnical company, Singapore-based Bluestone; the vessel *Bluestone Topaz* will be mobilized in Singapore or Townsville in early October 2009. The 45-day expedition will take place between late October and early December. Due to large transit between sites, a port call for re-supplying will be required part way through the expedition. The onshore science party will be in Bremen on 16 April 2010.

Larsen asked if this would be the first drilling for the new company and ship. Evans replied that the company started operations at the beginning of this year.

5. Report on the March 2009 Science Planning Committee (SPC) meeting

Jim Mori reported on activities at the March 2009 SPC meeting. He reviewed the ranking results for 28 proposals, and suggested that at this meeting there was more discussion of proposals in related groups. Discussions factored in the results of the Asian Monsoon DPG and Hot Spot Geodynamics DPG. He noted that Tier 2 proposals sent to the OTF at the March meeting will remain there for two years for possible scheduling. Mori presented SPC Consensus 0903-13, which describes the purpose of the holding bin:

SPC Consensus 0903-13: The “holding bin” exists for proposals that are designated to be forwarded to the Operations Task Force (OTF), but for which there are insufficient data for the Site Survey Panel (SSP) and/or the Environmental Protection and Safety Panel (EPSP) to confirm readiness for drilling. After the SSP and EPSP have confirmed readiness for drilling, the SPC chair is delegated to remove the proposal from the holding bin and either forward the proposal to the OTF or retain it at the SPC.

Mori explained that the proposal rankings do not take readiness or logistical issues into account. After ranking, deficiencies are identified and proposals with deficiencies are placed in the holding bin.

Mori listed the current Tier 1 proposals:

Ocean	Proposal	Short Title
Pacific	505-Full5	Mariana Convergent Margin
Pacific	537B-Full4	Costa Rica Seismogenesis Project Phase B
Pacific	545-Full3	Juan de Fuca Flank Hydrogeology
Pacific	601-Full3	Okinawa Trough Deep Biosphere
Pacific	636-Full3	Louisville Seamounts
Pacific	662-Full3	South Pacific Gyre Microbiology
Atlantic	644-Full2	Mediterranean Outflow
Atlantic	677-Full	Mid-Atlantic Ridge Microbiology
Indian	552-Full3	Bengal Fan
Indian	595-Full3	Indus Fan and Murray Ridge
Indian	724-Full	Gulf of Aden Faunal Evolution

Kono wondered if it was practical to have six Tier 1 Pacific Ocean proposals; he thought this seemed inconsistent with Tom Janecek’s explanation that Tier 1 proposals should be the one or two top proposals that must be implemented. Becker said that, originally, tiers were assigned only to non-riser (*JOIDES Resolution*) proposals, and Tier 1 proposals were intended to be the one or two proposals per ocean basin that are considered top priority for drilling. He added that at the recent SPC meeting the interpretation of Tier 1 appeared to change to now mean those proposals that the program wants to see done before renewal.

Mori displayed SPC Consensus 0903-15 on proposal deactivation:

SPC Consensus 0903-15: The SPC may deactivate proposals after three rankings.

He mentioned that the SASEC told the SPC it wanted to see proposals deactivated. Mori noted that three proposals which have ranked low in the last several evaluations were deactivated at the March 2009 meeting. Hayes questioned the term “deactivate”, suggesting proponents might think the proposal could be re-activated. He wondered what message was sent to the proponents of a deactivated proposal. Mori explained that if a deactivated proposal is resubmitted it will get a new number. Kato agreed that Hayes’ point was important. He thought deactivation could be very discouraging to proponents, especially if they are not familiar with the IODP. He suggested that the SASEC should discuss how to deal with this. Kono said that the SASEC has had this discussion already. Larsen suggested not focusing on the word “deactivate”. He explained that proponents get a written review with an explanation and contact information.

Mori noted that the SASEC, in Consensus 0806-11, encouraged the community to submit ancillary project letters (APLs) for targets of opportunity that may arise as the drilling vessels transit between expeditions. He thought this was a good recommendation, but said that problems sometimes arise because the APLs are submitted late with respect to expedition planning. In addition, APLs take away time from the main expedition, and the IOs sometimes have staffing difficulties. He said there were a number of practical issues that make dealing with APLs difficult, and presented SPC Consensus 0903-07 on APLs:

SPC Consensus 0903-07: The SPC adopts the principle that time be allocated in each IODP platform schedule to accommodate ancillary project letters (APLs) and engineering testing, and forwards this to the Operations Task Force (OTF) and implementing organizations (IOs)

for implementation. As a guideline, three days per two-month expedition (i.e., less than 10% of on-site time) should be allocated for these activities. If the OTF determines that there is no appropriate engineering testing or approved APL for a given expedition, the time will transfer to the scientific objectives of the expedition.

Mori said the SPC addressed the issue of a riser contingency in case drilling at NanTroSEIZE is not possible (see discussion under agenda 3).

Mori presented SPC Consensus 0903-18 on the start of multi-platform operations, which urged the SASEC to consider how best to promote this occurrence.

SPC Consensus 0903-18: The SPC eagerly anticipates simultaneous scientific drilling on all three IODP platforms, scheduled to occur in a few weeks. This represents the realization of the full IODP vision, characterized by international cooperation to explore the most important questions of climate change, ocean basin formation, and seafloor life. SPC urges IODP-MI to actively promote this hallmark event in coordination with Program Member Offices, and encourages the Science Advisory Structure Executive Committee (SASEC) to consider how promotion might best be targeted to provide a lucid public vision of existing scientific achievements as well as the important science goals for the second half of this IODP phase.

Taylor said that three platforms operating in different modes is not exactly the original vision, which allowed for use of different platforms as needed. For example, NanTroSEIZE would have been partly drilled by the *JOIDES Resolution*. He said the program is close, but not quite where it thought it would be.

Finally, Mori presented SSEP Consensus 0905-01, in which the SSEP expressed concern that the consolidation of the two IODP-MI offices could “undermine support from the scientific community that will be needed for a successful renewal of the program.” Mori said that such a statement is not within the mandate of the SSEP, but explained that the SSEP wanted to make a statement. He said the SSEP is very representative of the IODP community, and if this panel has concerns, others in the community may have similar concerns.

Taylor, returning to the issue of a riser contingency for NanTroSEIZE, wondered if the issues associated with East Asia Margin (Proposal 618-Full3), i.e., political and site survey issues, precluded it from being a viable alternate for September 2010, and if so, what was the backup plan. Mori agreed, but said he did not have a good answer now. He explained that at the June 2009 EPSP meeting, the message was sent that CDEX needs to determine quickly if East Asia Margin is a viable possibility. Taylor said that from the list of three possible alternatives, two had logistical issues, while one (IBM Middle Arc Crust; Proposal 698-Full2) had science issues. He described the latter as straightforward to do.

Larsen expressed concern about discussing the latter proposal because of a potential conflict of interest with one of the SASEC members (Tatsumi, lead proponent of Proposal 698-Full2). He suggested that if anyone present has a potential conflict, they should declare it.

Larsen explained that the SPC asked for Proposal 618-Full3 to be scoped, but did not rule the others out as possibilities. He said he expected the question to be answered at the August 2009 SPC meeting, which may possibly be followed by an EPSP review of Proposal 618-Full3 in September. Taylor said that the preparation for planning a riser site has to start at least a year out or it is too late.

Arndt asked if riser drilling was not possible at NanTroSEIZE, and other contingency options weren't ready, why not use *Chikyu* for non-riser drilling of other highly rated science. Taylor stated that the SASEC needs to consider what accomplishments the program will be evaluated on for renewal. He said NanTroSEIZE is the top priority riser project, but if it

cannot be done, a high priority alternative that is feasible is necessary. Taylor said the program was sold on the need for riser drilling, and was concerned that there did not seem to be a good solution. He added that if riser drilling is not possible, *Chikyu* should not be used for non-riser drilling.

Becker said that the SPC faced the same conundrum: the concept of a riser contingency doesn't make much sense since it may take years of drilling to get good results. He wondered if after starting a contingency and drilling for a short time, drilling again became feasible at NanTroSEIZE, would the contingency drilling be stopped in favor of returning to NanTroSEIZE. Raymo said this was a critical issue, especially since the INVEST meeting starts in September. Kato said the SASEC needs to address how to develop science for riser drilling. Kono agreed, and expressed support for the efforts of the SPC in addressing this issue. He said the science evaluation should be left to the SPC.

Hayes likened the choice of a contingency riser project to that of choosing between landing sites for a spacecraft approaching the surface of Mars. He said that, in practice, the decision is always to land the craft at a safe location, even if the science to be done at that location is not the highest priority; in the end it usually turns out that some interesting science is done and learned. Hayes said the lesson is that if IBM Arc Middle Crust is feasible, and if it has survived SAS reviews for as long as it has, choosing it now would be a sound and rational decision for the health of the program, because five years on it will be better to have success of some kind compared to nothing. He recommended that the SASEC tell the SPC that programmatic success which gives some scientific results is more important than striving for some sort of scientific optimum.

Taylor said the choices are not at all optimum, but the choice is not between riser and non-riser. He stated that either *Chikyu* is used for riser drilling or it is "time out". He reiterated that if there is no viable riser alternative, do not do drilling. Taylor re-emphasized that programmatic success requires riser drilling. Becker suggested that rather than having *Chikyu* do nothing, it could be used for another high priority riser proposal residing with the SPC: CRISP-B (Proposal 537B-Full4 Costa Rica Seismogenesis Project Phase B), but this would require a major commitment.

Taylor said that the SPC has been doing what it is charged to do; however, the SASEC is charged with something else: long range success of the program and implementation of the ISP. He said the view of the SPC in this situation is not big enough, i.e., does not encompass the success of the program and its future. Mori disagreed, saying the SPC is cognizant of the importance of riser drilling to the program. He said the SPC had a long discussion in March about whether CRISP-B was a contingency or next riser project. There was agreement that NanTroSEIZE is the top riser project, but CRISP-B is viable with a funded 3-D site survey. Taylor said the 3-D data won't be ready in time for drilling in September 2010. Mori replied that the SPC recognizes the issue; he suggested that a message from the SASEC recommending a specific proposal for implementation would not be received well by the SPC. Taylor said that a statement may not be necessary, but if it turns out that East Asia Margin is not viable, and knowing that CRISP-B is not viable, he hoped that at its next meeting the SPC would determine what *is* possible within one year's time. He called this a big deal for the program, and a bigger deal for one of the program's IOs.

Larsen suggested that a message should go to CDEX, which was charged with presenting a report on East Asia Margin in March, but did not do it. Taylor said that CDEX cannot report if the Japanese foreign office will not give them an answer. Kono suggested that if this was the case, there was no possibility of going there to drill. Taylor agreed, but suggested it may

take some time before this is officially decided due to the delicate nature of the inquiries. Raymo said it was critical to get the information from CDEX because a lot is at stake.

Oshima said the search for a contingency riser project is a unique case. He said that from MEXT's point of view, a resolution on East Asia Margin is the first step because that is the first priority after NanTroSEIZE. Oshima suggested that a contingency option should be one that is best for the program, whether it involves riser or non-riser drilling.

Suyehiro said that the SAS is good at doing science, but there are DPGs and other means for making things happen. He added that if it is not possible to come up with another decent riser project, the program was finished. Taylor said that, in some ways, the SPC was acting as a DPG. It came up with one option: East Asia Margin (Proposal 618-Full3), but if this is not viable it is a huge problem for the current and next program. He repeated that the program needs to have success with riser drilling. Arndt said there is a viable contingency: IBM Arc Middle Crust (Proposal 698-Full2), which he described as being relatively well-ranked.

Mori declared that the SPC is trying as hard as it can to identify a riser contingency. He said some new issues have been raised at this meeting, for example, there may be serious problems with East Asia Margin. He suggested that the SPC could lean in the direction that has been discussed here, but would also probably talk about non-riser options for *Chikyu*. He suggested that the SASEC may want to make another statement about the importance of riser drilling. Becker noted that there is an existing statement from the SASEC on the importance of starting a new riser project (mentioned in the document: *SASEC Implementation Plan for IODP Expeditions: 2008-2013*).

Raymo wondered if there was a reservoir of riser proposals coming up in the system. Larsen said the prospects were not very good. Taylor stated that the issue is that a lot of money and time are required for a riser project.

Mori said that he would take the message he has heard back to the SPC: the SASEC stresses the importance of riser drilling, and non-riser drilling should not be considered as a contingency.

Hori said that MEXT will try to settle the boundary issues associated with East Asia Margin as quickly as possible, and he agreed that *Chikyu* should be used for riser drilling. But at the same time CDEX is part of the IODP and has to follow the way it works. He expressed his appreciation for the discussions on the contingency issue and hoped that a reasonable solution can be achieved that pleases everybody. He felt there was a strong push in one direction (to use *Chikyu* only for riser drilling), which he said could be very good, but was uncertain.

Kono suggested that the message to the SPC should be that riser drilling is important, feasibility must be factored in, and the science must be good. He urged the SPC to consider all options available in the time available.

Taylor said there was a need to return to longer-term planning as in the past, e.g., knowing one year out, and planning two years out. He said that was particularly important for the SASEC, which is charged with looking at long term issues. Kono said there are practical issues that made this difficult. He wondered if the IOs and OTF were prepared to make a two-year plan. Janecek said that the OTF has always tried to do that: at the August SPC meeting the goal is to put together a solid program that would start one year out, and a conceptual program that would start 1.5 years further out. He explained that, because fiscal guidance has collapsed, it is not possible to plan in advance beyond six to twelve months. He said it would be great to move back to longer term planning, but it would require a re-examination of how IODP-MI gets fiscal guidance and develops the program plan. Taylor said that the SASEC wants to help the funding agencies, and to do this requires coming up

with exciting, viable plans that are not fiscally unreasonable, though perhaps may be a challenge to the funding agencies.

Batiza, returning to Suyehiro's figure showing funding shortfalls, said that is "the elephant in the room." Janecek said that, even if it is not possible to achieve 100% funding, it is still possible to do long term planning, e.g., choose the projects to be run in FY2011 through FY2013, and put them on a schedule now. He suggested that unless two or three high priority projects are put on now, they will not happen.

Kono, returning to Mori's comments about problems with APLs, asked Mori if the SPC considered APLs to be scientifically a good thing to retain in the IODP, or whether they should be eliminated. Mori said that the SPC generally supported the APL concept, but that more clear rules (e.g., deadlines) that would avoid the need for late, ad hoc decisions, were needed. Kono asked if the SASEC should endorse SPC Consensus 0903-07 on APLs. Taylor said that the SPC was still working on the issue. Mori said there was no need for a SASEC statement.

6. Annual program plan

6.1. FY2010 program plan, budget and activities

Masaru Kono noted that the annual program plan was distributed immediately before the SASEC meeting, and that he barely had time to print it out before the meeting.

Suyehiro summarized the annual program plan. He noted that budgets for the IOs are still uncertain, and that the expedition schedule is not fixed. He said the annual program plan will be an evolving document, which currently includes the best estimates based on budgetary guidance from the lead agencies. Going into FY2010, a detailed budget plan will become available. Suyehiro explained that the current plan does not include costs for consolidation of the two IODP-MI offices. He said it was uncertain how that would go until the end of the current week, but as soon as the issue is clarified, he would work diligently on a concrete plan over the next few months. He listed other items included in the annual program plan: publishing the report from the INVEST meeting (which may continue into FY2011), second triennium review of IODP-MI (covering FY2007 through FY2009), salary support for chairs of SPC and SASEC, engineering development, data management (including continued development of SEDIS). Suyehiro noted that the annual program plan, with a total budget of \$120M, is now submitted to the SASEC for approval.

Kono asked for comments. Becker noted the high science operating cost (SOC) figures for CDEX for operations in FY2010, which will mostly be non-IODP projects. Larsen stated this was not unique to CDEX, though it was very apparent this year for CDEX. He said the problem is maintaining staff for future years, which means the IOs are expensive even if they are doing non-IODP work. Becker said he thought that by doing non-IODP work the IOs would recoup some costs. Divins explained that the cost of labor for non-IODP work would be recovered, but the budget has to include these costs in case the IO does not get non-IODP work. Taylor said the issue goes beyond SOCs. He pointed out that the *Chikyu* schedule for FY2010 (page 16 of annual program plan) shows less than one month of IODP operations, while the platform operating costs (POCs) are budgeted at \$38.5M. He declared that is inexplicable and not reasonable, and suggested something was not adding up in the budget. Divins explained that it is necessary to budget for costs to maintain infrastructure and employees in case there is no contract for non-IODP work; without a signed contract, the costs cannot be removed from the program plan. He said the savings would come later in the fiscal year, or in the next fiscal year.

Taylor said the SASEC has never before looked back to see what the savings were. He asked if there was a mechanism to do this. Raymo proposed that subsequent budgets have sections explaining: (1) how actual costs differ from what was budgeted; and (2) how the proposed budget differs from the previous budget. She said this would make it much easier to evaluate the budget. Suyehiro mentioned that this was done internally, but is currently not included in the annual program plan. Raymo commented that the SASEC has to approve the budget, and therefore needs to have that information. Kono agreed and asked Raymo to draft a statement, which was later accepted by consensus.

SASEC Consensus 0906-03: SASEC requests that in future years, the annual program plan (APP) document include three modifications that will enhance the ability of participants across the program to identify and evaluate year-to-year changes in budgets and services provided: (1) any major change in science services provided from one year to the next, especially within the science operating cost (SOC) portion of the budget, should be identified within an APP executive summary; (2) any significant change in what was proposed versus spent in the prior year's budget should be identified within the executive summary; and (3) the APP document should include budgetary tables in a format that allows easy comparison of budget line items from one year to the next.

Raymo, referring to the FY2010 annual program plan, asked if anything has changed from last year. Suyehiro said there were no changes. Taylor said there were big changes at the USIO-TAMU. Janecek commented that what has changed is that IODP-MI has no say over USIO SOC funds. Larsen explained that last year the USIO budget was \$35M; this year it is \$20M because of the difference in how money flows (i.e., no longer through IODP-MI).

Taylor asked which of the SASEC budget subcommittee members attended the most recent budget meeting (a few weeks ago). Harrison noted that the subcommittee comprised original members Raymo, Kawahata, Arculus and Mori (SASEC Consensus 0801-11). Kono noted recent additions to the subcommittee: Harrison and Tatsumi (SASEC Consensus 0901-04). Taylor noted that only one of the six subcommittee members (Harrison) attended the last budget meeting. He asked Harrison for input. Harrison said that the meeting was very similar to the one held one year ago: some IOs came in willing to be flexible, allowing the subcommittee to reorient their budget somewhat; others were more adamant that they needed all they had asked for. He said that currently the President is negotiating with one IO on what the budget will be next year.

Taylor asked how the budget process could be made more transparent. Raymo said that adding the sections described in Consensus 0906-03 would be helpful. Suyehiro suggested that tables showing the difference between FY2010 and FY2009 could be added. Raymo said that would not be very transparent.

Mével said it was difficult to be more transparent. She suggested there is a structural problem: the program planned for twelve months of operations per year but is not doing this. She said this needed to be considered for the future.

Harrison said he felt there was no lack of transparency at the recent budget meeting, rather there were lots of open discussions. Kono suggested that the problem was not one of transparency, but the fact that the annual program plan was made available only two days before the SASEC meeting. He said that even if the SASEC had two months to examine the document, it would still be difficult to look into all the details. This, he said, is why the budget subcommittee was formed, which has worked well; he thanked Raymo and Harrison.

Yeats suggested that a lot of the information is available in the appendices if you take the time to read it; what is missing is an income statement from non-IODP activities. Divins said

that one of the deliverables for the IOs is an annual report to IODP-MI. He explained that the annual program plan is a budget estimate; how the money was spent is contained in the annual report. He concluded that the necessary information is available. Kono said he realized there is an annual report, but thought that few SASEC members read it. He preferred Raymo's suggested additions to the annual report, rather than the combination of annual program plan and annual report. Taylor agreed that Raymo's suggestion was good. Kono said the SASEC should request the new sections starting next year.

Harrison suggested that if the budget process can get on a more regular schedule, then the budget subcommittee will be more successful; e.g., meetings can be organized earlier (for the last meeting there was only a few week's notice, hence the low attendance).

Suyehiro said that some items require long lead time (e.g., the expedition plans for FY2011 alluded to earlier by Divins and Janecek). He suggested that the SASEC should ask, while the funding agencies are present, IODP-MI to find the money. Taylor did just that, saying "find the money, Kiyoshi!"

Raymo suggested that the budget process was moving in the right direction timing-wise because the SASEC received the annual program earlier than last year. Larsen said that actually, the budget guidance was received later than ever. Janecek criticized the budget timeline. He said that in August the FY2011 schedule will be approved. In the fall of 2009 there should be an initial meeting of the SASEC budget subcommittee, IOs and IODP-MI to determine preliminary costs for that schedule. That preliminary estimate should go to the lead agencies. Budget guidance from the lead agencies should be received in winter 2009 to start the budget process. Janecek said that currently all of the processes are not connected, i.e., the schedule is approved, but many months later the fiscal guidance is received with no chance for discussions. Ideally it should be possible to find out early that the schedule is unrealistic so adjustments can be made, but with the current process, there is no possibility to do this. Kono noted that what Janecek describes is the ideal timeline as presented by Talwani (see minutes of the January 2009 SASEC meeting; agenda 6.1: SASEC budget subcommittee report).

Kono asked if there was further discussion about the budget.

Taylor asked Suyehiro if the annual program plan was in the process of being changed. Suyehiro replied that there are uncertainties as mentioned earlier, including the relocation of offices. He added that the more important issue is how to secure funding for FY2011. Taylor, recognizing that the annual program plan will change, asked if the SASEC should approve now, wait for a more final version, or approve in principle. Raymo asked if the lead agencies thought that the budget looked suitable. Batiza explained that he understood the budget to be the same as the guidance, so any changes should not be significant. Hori agreed. Kono noted that both lead agency representatives indicated that major changes from the current version are not expected. He asked for further comments. With no additional comments, he asked if the SASEC was ready to approve the annual program plan.

Janecek said that he did not expect the IOs' budgets to change, though he did expect changes regarding what IODP-MI will look like in the future, and the function of its employees. Kono said that office relocation issues should not affect scientific areas significantly. Suyehiro said that budget guidance from the lead agencies allows for some budget expansion to cover office consolidation.

Raymo moved to approve the annual program plan as presented at this meeting.

SASEC Motion 0906-04: SASEC approves the FY2010 annual program plan presented at its June 2009 meeting and recommends approval to the Board of Governors.

Raymo moved, Kawahata seconded; 9 in favor (Arndt, Becker, Hayes, Kato, Kawahata, Kono, Raymo, Tatsumi, Taylor), none opposed, 2 non-voting (Mori, Suyehiro).

6.2. Platform scheduling

Tom Janecek reported that currently nothing was scheduled for FY2011.

6.3. Other

Tatsumi asked about the salaries of SAS chairs. Suyehiro explained that the chairs of the SASEC and SPC receive compensation for giving up time to be chairs. Kono added that this was not just for U.S. chairs; Japanese chairs also received compensation, the difference being that in Japan institutions do not ask for overhead. Taylor noted that the chairmanship of the Board of Governors, SASEC and SPC is in phase, i.e., all have either U.S. or Japanese chairs concurrently. He opined that this was not good, and recommended that the Board of Governors or SASEC do something to change this condition. Kono noted that, in addition, new chairs of the Board of Governors, SASEC and SPC start at the same time. He suggested this timing be changed, e.g., by deferring the start of one or more chair. Suyehiro said that anyone capable of being a chair should be considered, regardless of whether or not they are from the U.S. or Japan. Kono suggested returning to this topic under agenda 9.

7. IODP New Ventures in Exploring Scientific Targets (INVEST) meeting planning

7.1. Summary of INVEST steering committee activities to date/future

Hans Christian Larsen provided an update of activities by the INVEST steering committee. He listed the steering committee members and displayed the INVEST planning timetable, noting that the registration dates for the 23-25 September meeting are 4 April through 3 August. He asked if the SASEC would like to see a third *Eos* advertisement.

Arndt asked about the status of registrations. Larsen said that about 135 people have registered, with approximately sixty each from the U.S. and Europe. He said the target is around 400, noting that it is normal for people to register later rather than earlier. Kono said he did not sense strong support for a third *Eos* advertisement.

Larsen listed steering committee activities, including meetings in August and December 2008 and May 2009, plus planned meetings immediately before and after the INVEST meeting. Larsen commented that the steering committee has been tasked with a lot and has worked very hard. He said the SASEC should be pleased with this committee.

Larsen reviewed the detailed INVEST meeting structure, comprising six main themes and several (six or more) breakout sessions per theme. He also listed the presenters and topics for the two opening addresses and nine keynote addresses.

Arndt asked for further explanation on how the meeting will work. Larsen explained that there will be a couple of keynote talks in the morning and afternoon, with parallel breakout sessions in between. The co-chairs will assign which person goes to which breakout session. Yeats asked how background papers will feed in. Larsen explained that white papers will be available on the web site, and attendees should read them; they will not be presented at the meeting.

7.2. Additional recommendations to the INVEST steering committee

Kono reminded the SASEC of previous action by the SASEC, including selection of the venue, naming of co-chairs and other members of the steering committee, choosing SASEC liaisons, amending the steering committee's mandate, and recommending dates of the

INVEST meeting. Most recently, the SASEC requested that the steering committee provide brief descriptions of the tentative INVEST themes (SASEC Consensus 0901-08). Kono asked Larsen if the steering committee provided the descriptions. Larsen explained that there was no time; the first time the steering committee discussed this was at its mid-May 2009 meeting. He pointed out that the two SASEC liaisons did not attend the planning meetings. Kono noted that the SASEC also recently emphasized to the steering committee the importance of attracting new communities to the INVEST meeting (SASEC Consensus 0901-12).

Taylor said that the third day session on “Science Implementation” should include a keynote address on transformative technology and engineering requirements for drilling; he suggested Greg Myers of IODP-MI give the address. He said the lack of such a presentation was a real mistake. Kono pointed out that at the previous SASEC meeting there was an agreement to not micromanage the steering committee; he said the SASEC can make a suggestion for what it would like to see. Hayes said he did not see this as micromanagement. Taylor asserted that the SASEC oversees the steering committee and can tell it what should be included. He said that if this is not done, the SASEC is not doing its job. Taylor admitted that a technology keynote address has fallen through the cracks, and apologized for not recognizing this earlier; however, he was adamant that this was very important. He added that such a topic would be of interest to industry, which the new program should try to engage.

Kawahata asked if the lead agencies will give a presentation on future activities for the new program. Larsen explained that the INVEST steering committee has asked him to gather and present comments from the lead agencies. In addition, funding agency representatives can bring posters, stand there and take questions. Kawahata said that the lead agencies are making a big effort to get large funding; he suggested it would be better to have the lead agencies speak for themselves. Larsen said that this would require five additional talks, for which there was no room on the agenda. Hori said that the IWG+ can discuss whether Larsen will transfer information from the funding agencies, or whether one of the IWG+ co-chairs will present the information.

Raymo, commenting on the INVEST web site, said it was unclear whether only students are encouraged to submit posters, or everyone. Hayes agreed it was unclear. Larsen said it was the former. Kato asked about the number of student and young scientist registrations. Larsen replied that currently only three students have registered; he did not have numbers on young scientists. He explained that this is an activity for the program member offices (PMOs); not for the steering committee. Kawahata said that more than 50-70 Japanese scientists will attend, with J-DESC supporting more than 50.

The committee agreed by consensus to request that the INVEST steering committee add a keynote address on technology issues, as suggested by Taylor, and improve the clarity of the information on the web site, as recommended by Raymo.

SASEC Consensus 0906-05: SASEC requests that the INVEST steering committee add a keynote address on technological opportunities for the post-2013 phase of the IODP, and suggests Greg Myers of IODP-MI for the role. SASEC also recommends that the structure of the meeting with respect to abstract submissions, poster, talks, etc., be made more clear on the web site and in the third circular.

8. Workshops and thematic reviews

8.1. Planning for long-term thematic reviews

Hans Christian Larsen reviewed the results of the second (October 2008) thematic review on Oceanic Crustal Formation and Structure. After listing the members of the review committee,

he presented several conclusions from the review. He noted that, overall, studies of oceanic crustal formation and structure have been very successful. Some specific conclusions include: (1) reoccupation of Hole 1256D is achievable without too much effort within the current phase of the IODP; (2) recommendation that scientifically and technologically long-term momentum towards mission Moho be maintained; and (3) significant achievements were possible only because ambitious, multi-expedition experiments were planned and scheduled.

Arndt asked how the multi-expeditions were organized. Larsen explained that Site 1256 was organized as a two-part expedition (Expeditions 309 and 312). Expeditions 304 and 305, addressing slow-spreading crust, were planned as back-to-back expeditions. Becker said this was the big difference between the ODP and IODP: both of these were accepted as two expeditions from a single proposal. Taylor pointed out that this also happened during the ODP with Legs 124 and 125. Becker stated that during the ODP, crustal drilling was carried out one leg at a time. Taylor mentioned that another difference was that Legs 124 and 125 came out of workshops that identified the issues; not from an individual proposal.

Taylor said he gave the thematic review report a rounding endorsement. Kono asked Arndt and Taylor to draft a statement endorsing the report. This was later accepted by consensus.

SASEC Consensus 0906-06: SASEC endorses the report of the second thematic review committee on IODP contributions toward understanding “Ocean Crustal Structure and Formation”, and applauds and thanks the committee for an excellent report on this exciting field of science.

Larsen listed the members of the committee for the third thematic review on the Deep Biosphere and Sub-seafloor Ocean, which will take place in September 2009, immediately prior to the INVEST meeting. Hayes said it looked like a good group.

8.2. Planning for the next long-term thematic review

Masaru Kono said that with the conclusion of the third thematic review all the basic themes and expeditions will have been covered by a thematic review. At the previous SASEC meeting, a decision on the topic of the next long-term thematic review was deferred until this meeting. He noted that one possibility for the theme was the seismogenic zone (i.e., NanTroSEIZE), but said he was not sure if the results were mature enough for a thematic review next year.

Arndt asked why the subject of continental breakup and sedimentary basin formation has not been treated. Larsen explained that thematic reviews were based on expeditions that have been completed; there have been no completed expeditions on that theme. Taylor suggested that such a review could perhaps be treated by the SASEC or SPC, but it was not appropriate for a thematic review panel. He suggested waiting one year before proceeding with the next thematic review. Kono described the thematic reviews as a building block for program renewal. He agreed that a review as suggested by Arndt may be necessary, but it would not be a thematic review. Kono asked if the committee agreed to defer a decision on the next thematic review for one year.

SASEC Consensus 0906-07: SASEC will wait another year before determining the subject of the next thematic review. The third thematic review on “Deep biosphere and sub-seafloor ocean” is to be carried out in September 2009.

8.2.1. Nomination of potential committee members and SASEC liaison

Not necessary.

Tuesday**16 June 2009****09:00-15:00****9. Evaluation of the current Board of Governors/SASEC/SPC structure**

John Hayes presented a report on behalf of the subcommittee, comprising Hayes, Kawahata and Wefer, appointed to evaluate models for the Board of Governors/SASEC/SPC structure (SASEC Consensus 0901-14). Hayes explained that the premise of the subcommittee's report was to assume the question was: if changes were to be made, what would be the changes that would yield the greatest reductions in cost and complexity, and the most benefits in terms of simplification. Hayes noted that the subcommittee conferred by e-mail, and their final report includes marked up changes to the terms of reference for both the SPC and the body that would replace the SASEC as suggestions for how to implement the proposed modifications.

Hayes suggested that the SASEC could be replaced with a new body charged only with planning and reviewing. The planning function would cover intermediate and long time scales. The role of the SPC would not change except that planning on time scales longer than two years would be the responsibility of the new planning and review committee (PRC). The role of the Board of Governors would not change. It would retain responsibility for all financial functions.

Hayes explained the rationale behind the suggested changes. He said that there has been overlap between the function of the Board of Governors, SASEC and SPC, which has often consumed time and not been beneficial, and may have created some friction. The suggested changes try to eliminate overlap to the greatest extent. Hayes said Larsen has stated that the Board of Governors and lead agencies really want an independent executive, apart from the SPC, that can render some independent judgment on the annual program plan in particular. Hayes said this was a reasonable point of view, but experience has demonstrated the inability of the SASEC to have a definitive review of the annual program plan because of realities of timing. This, he said, was the reason the budget subcommittee was formed, which has been fairly successful. Hayes suggested that if the lead agencies and Board of Governors still want a body that acts as a check on the annual program plan, they could create a "coordinating council" whose sole responsibility would be to approve the annual program plan, and would comprise budget watchdogs from the SPC and Board of Governors, the chairs of the Board of Governors, SPC, PRC, and representatives of the lead agencies. This group would meet once per year, and if it found problems the council would outline the required programmatic changes, identify financial mechanisms for making those changes, and leave the detailed planning and budgeting to the SPC and Board of Governors, respectively.

Hayes presented proposed terms of reference for the PRC. Membership terms would be three years. Member representation would be 4:4:3 for Japan, U.S. and ECORD. The chair would rotate between Japan, the U.S. and ECORD with a term of two years. The chair would be in charge of the reviewing function and responsible for interactions with the SAS and IODP-MI. The vice-chair would be in charge of the planning function, and there would be no progression from vice-chair to chair. The PRC would meet once per year and would create two reports on: (1) a review of accomplishments and operations; and (2) intermediate plans (e.g., thematic workshops) and long-term plans (refinement and extension of the science plan). The review report would cover the three basic sets of activities: completed expeditions, proposals in the review system, and elements of the SAS. There would be no attempt at completeness. In any given year, consultants, such as chief scientists on expeditions, proponents of proposals, chairs of the panels, committees and task forces within the SAS, would be chosen to represent both highlights and potential problems. This would allow the PRC to perform its reviewing function with as much information as possible. In any given

year, the PRC would not review everything, but over time would get a good overview of the entire system.

Kono asked for comments. Becker said he thought the maximum two year planning window for the SPC was too short, e.g., for riser proposals and other complicated proposals that need long term commitments. What was lacking from Hayes' report, he said, was a mechanism for how the PRC reviews would feed back into the system. Hayes explained that the PRC would write a report which would go to the SPC and Board of Governors. These bodies would then respond.

Mori said that, based on discussions from the January 2009 SASEC meeting, he thought the idea was to reduce the three layers represented by the Board of Governors, SASEC and SPC to two layers. He thought, if anything, Hayes' proposal added another layer, and in that sense was not a step in the right direction. Hayes explained that the essence of the subcommittee's proposal is for the creation of a PRC in place of the SASEC, which would result in a reduction of the number of meetings and terrific simplification of the tasks assigned to the committee. But if an executive authority is still required, a group such as a coordinating council would be one way to do it. Mori commented that reducing the number of meetings is not really simplification. He preferred more meetings of a single committee rather than fewer meetings of more committees. Mori said that Hayes raised a lot of good points, and the proposed changes may be an improvement, but a marginal improvement. He preferred a more significant change, i.e., reducing the three groups to two.

Kono suggested that the SASEC discuss if there is a need to change the current system, and if so how to change it, with one option being the recommendation from the subcommittee. He agreed with Mori, preferring fewer groups versus fewer meetings of more groups. Kono said that the subcommittee's recommendation is based on the big assumption that the Board of Governors would take on approval of the annual program plan. He expressed uncertainty on whether the Board could effectively do this.

Hayes likened the job of the subcommittee to throwing a bomb that would stir things up. He explained that part of the motivation for the subcommittee's recommendations came from his experience in the SAS. In particular, as a member of the SSEP, he felt he was doing a worthwhile job and the panel made a valuable contribution to an international project. He said he did not have the same feeling of accomplishment in general when leaving a SASEC meeting, but suggested that the reviewing and planning functions of the PRC would yield some accomplishments. Hayes mentioned that if there is a need for an executive authority, it is the Board of Governors, lead agencies and IODP-MI who need to say what will fulfill the needs for that function.

Taylor explained that IODP-MI is a corporation, and the Board of Governors is a corporate Board with corporate responsibilities. He said the SPC is the head of the SAS for science and planning; the SASEC sits between these two bookends with two primary functions: (1) to serve as an executive authority distinct from the Board in order to avoid corporate conflicts of interest with scientific advice; and (2) intermediate and long-range review and planning. Taylor said, in total, there were four functions distributed among three groups. Whether Hayes' plan to transfer the executive function to a coordinating council composed of the chairs of other groups would be acceptable is up to the lead agencies to decide. But to flatten the three-group structure it is necessary to determine where the current two functions of the SASEC would go. He asked the lead agencies where the executive structure has to reside.

Batiza explained that the review function lies with the Operations Review Task Force (ORTF). He said that the results of ORTF reviews may not get publicized widely, e.g., they

are not reported to the SPC or SASEC. Larsen noted that the public part of the reviews is posted on the IODP web site (<http://www.iodp.org/ortf/>); some confidential parts are not contained in the reports. He said a report about the reviews could be added to the SASEC meeting agenda. He added that the reviews are something that needs to be acted on by management.

Batiza mentioned that the executive authority is specified in the IODP *Principles of Scientific Investigation*. He explained how the original executive authority, the Science Planning and Policy Oversight Committee (SPPOC) was replaced by the SASEC, a smaller group designed to be more efficient. Batiza said he was interested in the discussion at the January 2009 SASEC meeting about reducing the number of layers as a means of streamlining the program, but felt that discussions today implied this would not be easy to do.

Allan observed that the relationships between the SAS and various IODP-MI task forces has never been fully thought out, and the ties are not as good as they should be. He suggested that part of this was due to the complexity of the program. As an example, he said the NanTroSEIZE Project Management Team (PMT) is doing an effective job, solving real issues, but it is not clear how closely it is tied with the SAS. Allan said that some of the task forces seem to duplicate SAS functions. On the subject of an executive authority, he explained that the way the program is set up requires a group distinct from the Board of Governors. Allan viewed the separation between science and operations as greater than is healthy for the program. He suggested that, whatever is done with the planning structure, there is a need for these elements to work more closely together.

Taylor noted that task forces are created by IODP-MI, not the SAS, and this is one reason for their separation from the SAS. He said task forces parallel what is going on in the SAS. Allan claimed that this is part of the problem: having parallel routes, often with duplicate things going on. He said that the SAS, which he called the critical part of the program, is not engaged in some of these activities at the level it should be. Kono suggested that discussing task forces was not very productive. Becker said that, currently, there is a lot of overlap now between the SASEC and SPC, e.g., long range planning. He wondered if the SPC should be taking an even stronger role in that direction.

Kono summarized the discussion. He said that if the Board of Governors has a distinct responsibility as a corporate body, the SASEC functions cannot be absorbed into the Board. And if an executive authority must exist, there is no way to abolish the SASEC. Raymo agreed that, given the discussion, three bodies are needed. She also agreed that the SPC should be planning more than one year out. She said the SASEC has ownership of the ISP and is responsible for ensuring it is being implemented, an important task at this critical time with planning for a new program underway. Raymo recommended that the SASEC get more involved, i.e., more than just as liaisons to subcommittees. She claimed the SASEC was getting better at approving the annual program plan, and expected this process to improve. She concluded there was no need for another committee to replace the SASEC.

Kono noted that Hayes said he does not feel a sense of accomplishment after attending a SASEC meeting. He wondered if things would really work better if the proposal of the subcommittee was implemented, and the SASEC was replaced by the PRC. He suggested the SASEC is working well as the executive body of the SAS. Raymo suggested that an extra half day could be added to SASEC meetings for science planning.

Kato stated that the SASEC's reviewing function was necessary. From yesterday's discussion on riser contingency planning he learned that the SPC has had similar discussions. He said that the SASEC tried to intervene with limited information compared to the SPC, which has

had discussions with the OTF and IODP-MI. He reiterated that the necessary function of the SASEC is evaluate what the program is doing, look at activity that is ongoing, and bring this knowledge to bear on future activities.

Yeats said that, from the Australia and New Zealand perspective, it is difficult to determine the distinction between the SPC and SASEC based on the information available on the IODP web site. After attending this SASEC meeting, it has become clear. The SPC evaluates proposals and keeps an eye on the ISP and long term goals. The SASEC should focus on longer term goals of the program. Yeats claimed that the “I” in IODP is missing, i.e., having three platforms working at the same time does not imply integration. He felt that the SASEC was not fulfilling its role as an executive committee, and suggested it should step up and make decisions about long term priorities. He suggested that the SASEC should specify the proposals which need to be implemented to demonstrate the strength of the program and allow for a future beyond 2013. Yeats said that the SASEC also needs to define the broad direction of the program by specifying the areas and types of projects to drill, and ensure that the program lives up to the potential of the science. He added that it was important to demonstrate integration. Yeats suggested that if there is no integration between platforms, then IODP-MI is unnecessary; the *JOIDES Resolution* should be run by the U.S., *Chikyu* by Japan, etc. He said the SASEC needs to look at how to integrate the various platforms.

Schuffert said that the real reason the SASEC exists is because the membership of the IODP is different from the membership of IODP-MI as a corporation. He called this a subtle distinction, but a real one. Schuffert said this committee, and the SPPOC before it, has been struggling to define its role because it has one foot in both camps. Allan added that he has never understood why the SASEC is an executive committee of the Board of Governors. Schuffert agreed, and suggested things would be much simpler if the SASEC was the executive committee of the SAS.

Becker suggested it was more important for the SASEC to approve the science plan than the program plan. He said this used to be a two-step process: at the January meeting of the executive authority the science plan was presented and approved; in June the program plan would be approved. With this process it was possible to look at what was missing from the science plan. Becker suggested the SASEC restore this process.

Taylor noted that the minutes of the March 2009 SPC meeting mentioned that no committee will ever disband itself. He wondered how the SASEC should answer that charge. He asked if the committee was reinvigorating itself, or just prolonging its existence.

Kono wanted to know if the Board of Governors can ever be changed to absorb the responsibilities of the SASEC. Taylor explained that the current contract between the NSF and IODP-MI requires a third body for the executive of the SAS. He said the SASEC was the group that realized the need for the INVEST meeting, and realized that planning had to start much earlier than anyone had thought. He wondered who else would look after the new science plan. Taylor said he found this discussion invigorating in terms of what the SASEC can and should do. He recommended that the committee focus on what it is supposed to be doing.

Kono suggested that, in light of this discussion, the SASEC postpone a decision on making structural changes. He thought that the type of changes that could be made given the boundary conditions that came to light during these discussions may make a small difference, but would likely not be worth the effort given the complexities that would accompany the change. Mori agreed. He said that the SASEC is needed in the current system. He suggested that perhaps there will be an effort to think more about this issue as part of the renewal effort.

Ludden said he wanted to see a summary of the discussion and conclusions at the next Board of Governors meeting.

Kono thanked the subcommittee for working out a detailed recommendation. He said the discussion was useful, and helped the committee recognize what it should do, and what is expected and needed of a SAS executive body.

SASEC Consensus 0906-08: Having discussed the report of the subcommittee that evaluated the Board of Governors/SASEC/SPC structure, SASEC is reinvigorated in performing its mandate to carry out its executive authority to endorse the science plan (in January) and annual program plan (in June), and to be the caretaker of the Initial Science Plan implementation and long range science planning. We thank the subcommittee (John Hayes, Hodaka Kawahata and Gerold Wefer) for their provocative and constructive input.

10. Program renewal

10.1. Update on the renewal process, deliverables and timeline

Masaru Kono presented the timeline, as of January 2009, for steps towards renewal. He also reviewed the timeline for planning for the INVEST meeting and reminded the committee that in SASEC Consensus 0901-13, the initial members of the committee charged with writing the next science plan were asked to provide a list of recommended names for additional members by this meeting. Kono suggested that it was premature to name additional members, and would be better to wait until after the INVEST meeting.

Kono presented a suggested timeline for writing a new science plan. He said that a framework for developing the new science plan should be discussed at this meeting. He also presented a suggested timeline for an external review of IODP science, noting that the review would feed into the new science plan.

Kono presented a revised timeline for steps towards renewal which, after further discussion by the committee was revised even further:

<u>Event</u>	<u>Date</u>
INVEST symposium	Sep. 2009
Team for new science plan	Oct. 2009
Summary of proceedings of INVEST	Dec. 2009
New science plan (outline/draft)	June? 2010
IODP science review committee	Late 2010
Internal reviews of science plan	Apr. 2011
External reviews of science plan	July 2011
External review of IODP science	Early 2011
Completion of science plan	April 2011
Approval by funding agencies	Late 2011

Raymo asked the SASEC liaisons to INVEST about the expectations for proceedings of the meeting. Tatsumi replied that it was unclear at the moment, but it was preferable to have the proceedings available as early as possible. He said that while the full proceedings would take some time to prepare, a summary of major topics addressed should be presented at the next (January 2010) SASEC meeting. Raymo suggested that perhaps this could be presented by the leaders of the science plan writing group. She also suggested establishing a subcommittee of the SASEC to present a report on the INVEST meeting at the next SASEC meeting. Kono suggested Becker, Arndt, Kato and Raymo as subcommittee members. This was accepted by consensus (see Consensus 0906-09 below). Raymo asked committee members to send suggestions for members of the science plan writing group. Kono suggested advertising for nominations via the internet.

10.2. Planning the next science plan

Hans Christian Larsen presented some thoughts for consideration when planning the next science plan. He listed a number of key issues and principles: (1) secure continuity from INVEST; (2) produce a realistic science plan with some clearly defined deliverables including broader impact, technological and societal relevance; (3) secure the highest level possible of scientific merit and innovation; (4) reach out beyond the currently engaged community and users; and (5) undergo mid-term external review, plus review of final draft by the highest possible level of scientific authorities, including scientists outside the field.

Larsen presented a number of suggestions on staffing and tasking the science plan writing group. He suggested ten to twelve members with about three chosen from the INVEST steering committee. He also suggested adding some members with program experience, a technology representative, and members from outside the program. Larsen said that the SASEC should decide on the format of the science plan, i.e., how specific in terms of implementation strategy, the nature of the mid-term review, and the nature of the final review (e.g., academy of science-level review).

Taylor thought it unrealistic to expect people from truly outside the program to help write the science plan. Larsen explained the intent was to have people that could view the science plan at arms length. Taylor said that these type of people would be more appropriate for the reviewing group. He suggested that members of the writing group be chosen from the pool of INVEST attendees. Raymo recommended that the new SASEC INVEST subcommittee provide suggestions. Arndt thought it would be useful to get someone from industry. Ludden said it may be difficult to get an industry person involved in the writing group, but from a European perspective, there is a strong desire to see some serious industry involvement in writing the science plan. Larsen commented that with the thematic review committees there is an effort to get external people involved; it would not be impossible to do the same with the science plan writing group. Raymo agreed with Taylor that it was unrealistic to expect someone external to the program to invest the time needed to help write the next science plan. She agreed that involvement of industry people, and people from new disciplines would be good.

Raymo asked who would designate the members of the writing group, and when. Larsen suggested that the members of the INVEST subcommittee stay an extra day after the INVEST meeting to meet with and get input from the steering committee.

Kawahata asked Larsen about the level of detail for the implementation strategy part of the science plan; he wondered if this should address the mission concept. Larsen said yes.

Taylor commented that the writing group will require some very dedicated people. Raymo added that people with corporate memory will also be required. Larsen said he would like to see new faces on the writing team. Mével said she was happy to hear that. She hoped to see a new generation involved in writing the science plan.

Taylor said that before January 2010 a lot has to happen. He mentioned that deliverables were specified in the timeline, but no process for achieving the deliverables. He said the SASEC needs to determine who will make this happen, and how it will happen. Raymo recommended that any SASEC members attending the INVEST meeting should meet during and after the meeting to come up with a comprehensive list of a dozen people to serve on the writing committee. She said it would be good to have members of the Board of Governors and lead agencies involved in the discussion. She added that the writing committee membership needs to be in place by the end of October. Hayes asked if leaders of the INVEST steering committee are expected to be on the writing committee. Raymo explained that Ravelo, Bach

and Inagaki have all agreed to be initial members of the writing team. Arndt asked who decides on the final composition of the writing team, and how. Raymo answered that the SASEC would decide on membership, possibly by email. Becker suggested that, given the importance of the task, the SASEC could meet again right after the INVEST meeting to decide on the writing committee.

Hayes said that for the COMPLEX meeting (Vancouver, 1999), a lot happened beforehand. He cautioned against leaving too many decisions until after the INVEST meeting.

Kono said that an earlier comment, to solicit opinions from the community, would probably not work due to a lack of time. Larsen said that opinions from the community could be solicited before the INVEST meeting. Arndt suggested that the best time to make decisions would be immediately after the INVEST meeting, when it is known who attended the meeting.

Kono asked if all SASEC members were attending INVEST; if so there could be a SASEC meeting immediately after INVEST to decide on members of the writing team. Tatsumi said this was a bit dangerous because the SASEC members cannot attend all the sessions. He also felt it was unrealistic to nominate members immediately after the meeting. He said input from the community was needed, and suggested that the PMOs be asked to nominate candidates. He also thought it was unnecessary to ask the community for nominations via a web site. Taylor suggested that input from the PMOs could be obtained before the INVEST meeting, and that the SASEC members could organize to determine who will be attending which sessions. He thought a meeting immediately after the INVEST meeting would work. Raymo agreed. She said the membership does not have to be finalized at that point, but it should be possible to come up with candidate names. Larsen said it would be possible to solicit nominations in August in advance of the INVEST meeting; the PMOs could do the same thing. Tatsumi was agreeable to this suggestion.

The committee continued to discuss the viability of a SASEC meeting immediately after the INVEST meeting. Taylor suggested a half-day meeting. He also recommended that formal nomination of the writing committee happen by e-mail in October. The committee agreed by consensus.

SASEC Consensus 0906-09: A SASEC INVEST subcommittee is formed with the tasks of: (1) nominating potential members for the Science Plan writing group, for SASEC email approval in October 2009; and (2) reporting to the January 2010 SASEC meeting. The subcommittee plus any other available SASEC or SASEC-elect members or INVEST steering committee members should meet in Bremen on the evening and/or morning after the INVEST meeting. Subcommittee members: Maureen Raymo, Nick Arndt, Keir Becker and Kenji Kato.

Taylor asked how the implementation plan aspects of the science plan would dovetail with the implementation strategy developed by the IWG+. Batiza replied that he expected the upcoming IWG+ meeting to produce a statement for the INVEST steering committee regarding platform availability, etc. He said the lead agencies envisaged that a member or members of the IWG+ would be involved in writing the science plan. Mével said that the UK funding agency representative on the IWG+ did not want to be involved in writing the science plan to avoid receiving the document that he helped write. Taylor said the IWG+ comprised members other than funding agency people. Mével explained that those were observers, not members. Kono suggested that the funding agencies can give input, but the writing of the science plan should be done by the writing team.

Oshima observed that there appears to be varying opinions on implementation strategies. He asked for clarification of what the SASEC meant by this expression. Kono explained that, currently, the IODP has a bottom up proposal process. A mission approach was tried but did not succeed, in part because it was a surprise to the community. That experience suggests that for the mission approach to succeed, it needs to be a built-in component of the new program – then the community will accept it – but it needs to be written into the science plan. Tatsumi thought it would be difficult to define such a strategy prior to the INVEST meeting, especially since the SASEC has not reached a conclusion on missions. Becker felt that the INVEST meeting would be the opportunity to define the implementation strategy, rather than doing it beforehand. Larsen suggested that the results of the INVEST meeting can be digested at the January 2010 SASEC meeting. He felt the implementation strategy was not the most pressing concern at this time.

Suyehiro pointed out that the science plan is a promise to achieve something. It has to be a realistic plan, and not just a “shopping list”. He said that IODP-MI, or the next program management organization, will be held responsible for delivery of the science plan goals.

Kono summarized the discussion, noting (as stated in Consensus 0906-09) that SASEC members will meet after the INVEST meeting to nominate members of the science plan writing team. In October there will be a vote (by e-mail). At the January 2010 meeting, the SASEC will return to these points. Tatsumi said that to produce a realistic science plan requires knowledge of the implementation strategy, and that requires a statement from the lead agencies or IWG+. Hori said that Larsen will address this issue in his presentation at the INVEST meeting. Kono added that when the science plan writing team is formed, there will be information from the funding agencies and IWG+ describing the new system.

10.3. Proposal handling system for post-2013

Keir Becker presented an interim report on behalf of the subcommittee (Arndt, Becker, Tatsumi) established to assess models for the proposal evaluation process for the post-renewal phase of IODP (SASEC Consensus 0901-16). Becker stressed that this was an interim report and recommended that the subcommittee continue to exist, get feedback from this meeting, the IWG+ and INVEST meetings, and aim for a final report at the January 2010 SASEC meeting.

Becker noted that the subcommittee took its mandate from the Ad Hoc Committee’s recommendation #5, which in part stated “the proposal handling process for the next phase of scientific ocean drilling needs to be revolutionized.” Becker said that when he asked at the January 2009 SASEC meeting what “revolutionized” meant, Talwani interpreted this to mean that the amount of nurturing should be reduced.

Becker explained the framework for the subcommittee’s interim report. He said that assessing models for the proposal evaluation process requires assessing models for the structure and function of the post-renewal SAS. He suggested that the INVEST meeting represents a key opportunity for community feedback on early ideas about processes and priorities. Becker listed a number of suggested desirable key functions for the post-2013 SAS, including: (1) earlier identification of platform-specific issues in the planning process; (2) stronger interactions among the SAS, IODP-MI and IOs; (3) more effective planning for riser and long-term non-riser projects; (4) faster processing; and (5) less nurturing and therefore quicker decisions. He suggested several requirements for achieving these objectives.

Becker presented end member models for three important aspects of the SAS: (1) totally integrated planning versus separate planning by platform; (2) unsolicited proposals only versus top-down initiatives; and (3) separate site survey funding (from national agencies)

versus program funding of site surveys. He said that e-mail discussion favored an intermediate approach with separate timetables and pathways through an integrated SAS, and a mix of unsolicited proposals and community-based initiatives.

Becker presented some potential changes, applicable specifically to the SSEP: (1) fewer meetings; (2) realignment of the thematic balance following priorities identified at the INVEST meeting; (3) less nurturing; (4) earlier scoping input; (5) elimination of external reviews; and (6) modification of the SSEP star grouping system.

Finally, Becker speculated whether the post-2013 architecture might be closer to the ICDP model, with: (1) the program providing only partial funding and proponents required to obtain the remaining funding from other sources; (2) a more workshop-driven process for development of proposals; and (3) the majority of costs borne by the national funding agency where drilling occurs.

Hayes suggested that the subcommittee broaden its report to include suggestions on how to get more good proposals, and how to overcome the “closed club syndrome” that, rightly or wrongly, many people perceive. Mével stated that program structure was discussed at the April 2009 ECORD “Beyond 2013” workshop in Vienna. She said that for the future it is necessary to think beyond the current IODP structure; to date this has not happened. She felt that the ICDP structure is interesting, but not necessarily applicable.

Raymo asked if program structure will be addressed by a breakout session at the INVEST meeting. Becker replied that there will be architecture breakout sessions. Larsen agreed, but said the discussions at the INVEST meeting will probably be at a higher level (e.g., large versus small projects, top down versus bottom up proposal process, long versus short term projects), rather than at the level of the mechanics of the evaluation process.

Addressing the suggestion for earlier scoping, Taylor said some level of prioritization should be required before resources are expended; the IOs cannot scope everything. Becker suggested two approaches: (1) IODP-MI may be able to do the early scoping; and (2) establishment of a technical readiness panel that could operate in parallel with the SSEP and might replace the current service panels. Taylor thought that before doing a technical review there should be some filtering based on scientific quality. Becker said that early in IODP it was suggested that a trigger for scoping could be when the SSEP forwards a proposal to the SPC. Allan said that during the ODP, TAMU had staff scientists that were used as a resource, but in the IODP the evaluation of science has been separated from the IOs, so that realities regarding implementation appear only late in the process. Larsen noted that the IOs do send representatives to the SSEP meetings, but they do not get used very much. He suggested that it may not take much to get some kind of mini-scoping earlier in the process without spending huge resources. Divins cautioned that the amount of work required by the IOs to do scoping should not be underestimated.

Addressing the suggestion to eliminate external reviews, Raymo said she believes external reviews play a very valuable role, e.g., in avoiding conflicts of interest, and avoiding a clubhouse view of the IODP.

Addressing the issue of long-term project planning, Arndt asked if any attempt has been made to encourage collaborations needed for multi-platform or multi-approach projects. He wondered how the priorities will be established, and what mechanisms will ensure that the priorities can adapt. He suggested that the SASEC should take the lead role in this type of planning, and encourage submission of multi-term projects. Arndt asked if a mechanism should be established to define projects, and whether there should be a top-down element in setting priorities. Raymo suggested that this was the role of the science plan. Arndt wondered

if there should be a fine tuning of priorities to meet goals that are not being achieved. Raymo stated that she did not favor having a small group of people dictating the best science. She said she did not like the top-down approach.

Yeats claimed that large-scale, multi-platform projects will not happen with a bottom-up approach. Raymo pointed out there was a difference between top-down approaches originating from the SASEC versus community-based workshops. Yeats said that the first step is science planning, which is a SASEC role. He agreed that the workshop model is the next step, but the workshops should be tasked with developing a multi-expedition plan. Raymo suggested that is happening now. Yeats maintained that it has not yet happened. Kono said that this approach did work for some aspects of the ISP, but not for others. He pointed to the workshop on continental breakup which led to submission of a mission proposal, but the proposal was not highly regarded by the SSEP and SPC.

Arndt, referring to yesterday's discussion on riser contingencies, said that there is no contingency plan. He suggested this was a product of the "trickle-up" mechanism. Kono claimed it was not correct to say there were no contingencies for riser drilling. Raymo blamed the riser contingency problem on a perfect storm of events: political, piracy, currents. She said it was not the job of the SASEC to find alternatives; it is up to the community.

Hori said that an important question for the future is how *Chikyu* can be utilized in the best way. He suggested that the difficulty in getting good riser proposals may be due to the characteristics of riser drilling, e.g., the requirement for long lead time planning. He added that a question that needs to be answered is whether a different system is necessary for the development of proposals requiring riser drilling. Hori said it was necessary for an early decision on drilling locations so that site surveys and detailed planning can proceed in parallel; a parallel approach was needed to avoid having to wait four or five years before drilling can start. Hori also suggested that perhaps only three or four riser projects would be needed for the next ten years. Kono commented that part of Hori's comments are addressed by Becker's presentation.

Kono asked the subcommittee if a new system to handle new riser projects was needed immediately. Tatsumi replied that for *Chikyu* drilling to continue after NanTroSEIZE, preparations should start now. Becker suggested waiting until priorities are established at the INVEST meeting. He thought there would be time to develop a new system by the time of the next (January 2010) SASEC meeting.

With no other comments, Kono said the SASEC will wait for the subcommittee's final report in January.

10.4. International Working Group *Plus* (IWG+) report

Masahiko Hori noted that he was one of the co-chairs of the IWG+. He explained that at the January 2009 IODP Council meeting the IWG+ was established to discuss the future of the program post-2013. The group meets once or twice per year, and plans to have a final conclusion by 2011. Members of the IWG+ are from member countries. Several observers are invited to the meetings, including the three IOs and IODP-MI, and two members from the community such as the SASEC chair. Hori explained that the first business of the IWG+ is to come up with a statement to the community about expectations for the new drilling program, including information on expected platform availability. He said this would be delivered to the community well in advance of the INVEST meeting. Other issues need to be identified and discussed. Discussions will continue over the next year, with the next six months being a very important period.

10.5. IODP-MI Board of Governors report

Brian Taylor reported that the Board of Governors have principally been addressing two main issues since January. First, IODP-MI has a new president, Kiyoshi Suyehiro. Actions of the Board and its subcommittees have largely been related to bringing on board the new President. Second, the IODP-MI members will meet tomorrow to discuss changes to the bylaws of the corporation that will: enable activities related to industry (such as the DeepStar consortium); allow the IODP-MI offices to be located internationally; deal with the issue of accepting large grants; and define the roles of the President and Vice President.

Kono asked if the bylaws are changed to permit an IODP-MI office anywhere in the world, is it the intention of the Board to proceed with consolidation of the two offices to one location in Tokyo. Taylor explained that in the advertisement for President, the Board of Governors indicated that it intended to allow the new President to have a say in where the office would be located. Also, for efficiency purposes, the lead agencies want both offices consolidated into one.

11. External program activities

11.1. Ocean Drilling Consortium (ODC) report

Kiyoshi Suyehiro noted that yesterday he provided information about the ODC (see agendum 3). Also, yesterday was the deadline for a response from industry. Suyehiro reported that he had received no responses, therefore there was nothing new to report.

Hayes asked if this means the ODC received no industry support. Suyehiro replied that he was not too concerned about the deadline; he would check directly with the industry contacts. He said there was still a big budget deficit that needs to be filled, and suggested that the ODC efforts may be reorganized and reprogrammed.

Kato asked about the difference between the ODC and non-IODP work. Divins said there was no difference. Taylor said that the ODC was one example of a non-IODP program.

11.2. Other external funding activities by the implementing organizations (IOs)

Divins (USIO) noted that he had already mentioned the potential Korean gas hydrates non-IODP work (see agendum 4.1).

Kuramoto reported that CDEX is negotiating with two entities for potential work after the current NanTroSEIZE Stage 2 campaign.

Tatsumi asked for confirmation that *Chikyu* will be used for a minimum of five months for IODP operations. Kuramoto said yes. Tatsumi asked if CDEX secures the non-IODP work, does that mean there will be money for more IODP work. Oshima replied that if the non-IODP work is not secured, there will be less time available for IODP work; if the contracts are secured then it will be possible to do more IODP riser drilling. Fukutomi confirmed that Japan is committed to five months of IODP operations. He reminded the committee of the long lead time necessary to prepare for another riser project.

12. Review of rotation schedule for SASEC members

Barry Zelt noted that the SASEC member rotation schedule appears on page 180 of the agenda book, and asked that any errors be reported to him. SASEC members Hayes, Kawahata, Kono, Tatsumi, Taylor and Wefer rotate off after this meeting. Kawahata reported that J-DESC has just started discussing staffing of the SASEC; new Japanese members and the candidate for the next vice-chair have not yet been fixed.

13. Other business

The committee did not raise any other business for discussion.

14. Review of action items, motions and consensus statements

The committee reviewed the motions, consensus statements and action items from the meeting. Most of these were recorded by and presented by Becker. During the meeting Hayes, Taylor, Tatsumi and Kono were thanked for their service on the SASEC. Subsequently, statements of thanks were written for Kawahata, Mori and Wefer. These were later accepted by consensus of the panel via e-mail.

SASEC Consensus 0906-10: SASEC thanks John Hayes for enriching our deliberations with his insightful perspectives and sage advice. We wish him well in his active retirement and expect to hear of his continuing exploits.

SASEC Consensus 0906-11: After completing his Ph.D. at Lamont in 1982, it was to the great good fortune of America in general and Hawaii in particular that Brian Taylor's return to Sydney fell a bit short, establishing him first as a professor and now as Dean in the University of Hawaii. Marvelously non-reticent and infallibly constructive, he has served SASEC since July of 2006. As he leaves us, we thank him for his friendship and generous service and wish him well as he continues his service as a member of the Board of Governors of IODP-MI.

SASEC Consensus 0906-12: Tatsumi-san has been a large part of the foundation of SASEC for three years. Fortunately, his personality has proven less magmatic than his interests. Indeed, he has been a stabilizing influence, only infrequently eruptive, and never intrusive. We thank him for his contributions and especially for his friendship.

SASEC Consensus 0906-13: The SASEC thanks Hodaka Kawahata for his service to SASEC. Kawahata-san, who has also served as a chair of the IODP section of J-DESC (Japan Drilling Earth Science Consortium), provided profound input from science communities not only in Japan but also all over the world. We also thank him for his insight into our discussions on the relationship between SASEC, SPC, and the IODP-MI Board of Governors. We are sincerely looking forward to seeing his great contributions to the SAS, or more generally to IODP, in near future.

SASEC Consensus 0906-14: SASEC thanks Gerold Wefer for his service over the last three years. Gerold has been a major actor in the drilling program for many years. Under his leadership, Bremen University has become a key institution for IODP, attracting scientists from all over the world to its core repository, and soon to the INVEST conference. His excellent performance and his calm and sage comments have contributed greatly to the effective operation of the committee. SASEC wishes him best of luck as he takes up his new role for the IODP as a member of the Board of Governors of IODP-MI.

SASEC Consensus 0906-15: The SASEC thanks Jim Mori for his service to SASEC. Jim, who has been a member of SASEC as a chair of the SPC, has both American and Japanese merits, is both gentle and strong-willed, and has acted impartially. We have learned a lot from his accurate and apt information on discussions in SAS panels, without which we could not form fair judgments as an executive committee of the SAS. We are sincerely looking forward to seeing his great contributions to IODP in the near future.

SASEC Consensus 0906-16: Our chairman, Masaru Kono, has wonderfully continued the traditions of SAS, in which the opinions of all are considered and all subjects are treated

substantially (and often with good humor). How can it be that anyone so well balanced runs an institute called “Global Edge”? Moreover, he has served as a member of SASEC since its inception. All members of the IODP community owe him thanks. It is our privilege to act as their representative, to thank him most sincerely, and to offer all good wishes for the future.

15. Future meetings

Masaru Kono noted that the next SASEC meeting should be in Asia/Oceania. He asked if the Japanese delegation had any plans for hosting the meeting. Chang said that Korea can host the meeting. Yeats noted that Australia would also be happy to host the meeting if arrangements for Korea do not work out. The committee fixed the next meeting dates to 18-19 January 2010 in Korea, probably in Seoul.

Oshima said that a two-day IWG+ meeting may take place in conjunction with the SASEC meeting. Hori said the first goal of the IWG+ will be to come up with a statement for the INVEST meeting, which, as currently planned, Larsen will present. But he suggested it may be better if representatives of the IWG+ present this information instead.

16. Closing remarks

Masaru Kono adjourned the meeting at 15:00.