Chikyu IODP Board #3 meeting
30 – 31 March 2015

Miyoshi Memorial Auditorium
JAMSTEC Yokohama Institute for Earth Sciences (YES)

Day-1 **Monday, 30 March 2015**

Agenda Items

1. Welcome Remarks (Hotta)

(09:07 h.)

Chair G. Kimura welcomed the CIB members, liaisons and observers. He confirmed the absence of Yoshi Tatsumi (for the entire meeting) and Masa Kinoshita (Day 1 only). He asked the JAMSTEC Executive director and CDEX Director General Hitoshi Hotta to deliver the opening remarks. H. Hotta mentioned that the group would understand CDEX's efforts since the last meeting, and hear presentations on the budget and other, *Chikyu*-related operations. He mentioned that *Chikyu* is currently working on a commercial drilling project in the Indian Ocean, which would likely last until the end of August, after which *Chikyu* will require formal maintenance in dry dock. He stated that IODP scientific drilling would most likely be conducted near the end of the coming Japanese fiscal year. He said it is important to remember the contributions that *Chikyu* can make to the science community. Even though there are still some difficulties, he looked forward to the participants having a vigorous discussion and producing good suggestions.

The participants' self-introduction started at 09:10 h.

2. Introductions and Logistics (Kuramoto/Eguchi)

(09:17 h)

Chair G. Kimura began Item #2 with a few instructions to the group about speaking during the meeting, such as having one person speak at a time after being called on by the chair, and that speakers should talk slowly and clearly. The CDEX science operation manager, Nobuhisa Eguchi, asked the participants if the Internet connection was working for them. Next, he gave a brief description about the emergency escape route and instructions showing the floor map of the venue. He also briefed the group on the reception starting at 18:00 h this evening in the Guest House, daily coffee breaks at 10:00 and 15:00 h, and lunch possibilities in the cafeteria or outside.

H. Villinger wanted to state a possible conflict of interest, since he is a co-proponent of IODP proposal 876-Pre, which was on the agenda.

Chair G. Kimura gave a brief explanation on the general rules for making a CIB decision by common consensus.

3. Approval of Agenda (Chair - Kimura)

(09:21 h.)

Chair G. Kimura shared the present agenda with the group, and it was approved with no major changes.

CIB_Consensus_0315-01: The CIB approved the #3 meeting agenda as is.

4. Introduce New CIB Members (Yamada)

(09:22 h.)

Yasuhiro Yamada, the CIB nomination committee Chair and the Director of JAMSTEC's Research and Development Center for Ocean Drilling Science, explained the three positions on the CIB that would need to fill over the next two years (Japanese fiscal year term). He mentioned that the selection procedure started with a call for nominations on 15 December 2014, and after discussion, selected the following replacements: as Chair, Yoshiyuki Tatsumi from Kobe University; as US Science Community Representative, Ben van der Pluijm from the University of Michigan-Ann Arbor; and for the Japanese Science Community Representative, James J. Mori from Kyoto University. H. Given asked who was rotating off to be replaced. N. Eguchi answered that G. Kimura and K. Nealson would leave, and that Y. Tatsumi would return as a chair. C. Moore and H. Villinger also confirmed that their terms would be expiring. N. Eguchi agreed, but added that their positions would expire at the end of March 2016. S. Kuramoto informed the group that Y. Tatsumi was in hospital although not serious.

5. Approval of Last Meeting Minutes (Chair - Kimura)

(09:29 h.)

Chair G. Kimura asked the group if they have any comments or questions about the last meeting's minutes. N. Eguchi added a comment that the newest agenda book included two new Action Items, and that one consensus had been reached since the last meeting. Chair G. Kimura asked the group if they would approve the agenda, and they approved.

CIB_Consensus_0315-02: The CIB approved the last meeting's minutes with no modification.

6. CIB Decisions since Last Meeting (Chair - Kimura)

(09:31 h.)

Chair G. Kimura began with Agenda item #6 by advising the participants to look at Agenda Book page 54. N. Eguchi explained that CIB_Consensus_0714-13 was made regarding the IODP Proposal 857-MDP "DREAM: Mediterranean Salt Giant" and 857A-Pre "DREAM: Deep-Surface Connection". G. Camoin asked a question if there was a context from the proponent regarding this consensus with the actual potential certainty. N. Eguchi answered that he had communicated with them and they would submit their full proposal as suggested by the deadline on 1 April. G. Camoin asked if that full proposal would be a regular proposal or intended for CPP. N. Eguchi answered that he had not yet heard about for which, although SEP and CIB recommended them to prepare for CPP.

7. CIB Action Item Status (Chair - Kimura)

(09:32 h.)

Chair G. Kimura described the CIB Action Item status. Three CIB Action Items had been confirmed during the previous meeting, and two CIB Action Items were added later, 02 and 05. CIB Action Items 02 to 04 were completed as discussed. CIB Action Items 01 and 05 should be discussed during this meeting.

CIB_Action Item_0714-01: The CIB to review the JRFB panel activities and will give feedback to the JRFB before its' next meeting.

To be discussed at this meeting.

The following questions were forwarded to the CIB by the JRFB chair:

Does the advice provided by the SEP meet the needs of the CIB? Are there additional items that the CIB would like SEP to comment on?

Has the CIB used the EPSP for advice on non-riser drilling since the start of the new IODP? If so, did the advice provided by EPSP meet CIB needs?

Are there any suggestions for improvements in (i) the type of advice being given by either SEP or EPSP, or (ii) the communication of that advice to the CIB?

CIB_Action Item_0714-02: The CIB to review the "Call for Proposal" wording presented by SSO and make appropriate changes.

Completed.

CIB_Action Item_0714-03: The following message should be provided to the community. Drilling equipment and Ship Maintenance: In view of the coming dry dock and overhaul of the *Chikyu's* BOP, riser drilling will be restricted in 2014 and unlikely to happen in 2015. Riser drilling is scheduled to resume in 2016 and 2017 at NanTroSEIZE Site C0002. Proponents seeking to utilize the *Chikyu* should be aware that operations will be delayed by the above items.

Completed as below.

CIB_Action Item_0714-04: The CIB will comment on Proposal 857A and DREAM WS report (electronically) within the next 2 months.

Completed by providing to the proponents on 29 October 2014.

CIB_Action Item_0714-05: CDEX will send the following *Chikyu*-related documents to the CIB members for their review. "Chikyu Staffing Procedure", "Chikyu Onboard Measurements Guidelines", "Chikyu Third Party Tool Guidelines", and "Chikyu Second Post Expedition Meeting Guidelines"

To be discussed at this meeting.

Chair G. Kimura asked if there were any suggestions to advise SEP or EPSP regarding item #1. C. Moore mentioned that comments provided by SEP on proposals were really good, very constructive, and valuable. D. Mallinson was happy, asking if there was anything else they could provide. He also mentioned that they were still feeling their way with the new consolidation of panels. He added that it would be beneficial for SEP to know how to help proponents. C. Moore asked about cases where proposals needed rewrites. If time is compressed, can things be fast-tracked? D. Mallinson agreed, saying that they will work closely with the watchdogs. He added that SEP has the capability to do that with fast-track external review, and extra outside meeting (normally e-meeting), if necessary. Depending on the window of opportunity, and where the ship was going to be, they look at what the proposal was urging in that area, and they try to contact the proponent to wrap it up for external review, and get the data outside of normal pathways. C. Moore clarified by asking about giving feedback to the proponent, would SEP send out for review or do it internally? D. Mallinson responded that all communication, including response letter from the proponents, are distributed to the watchdogs, and also recorded by the SSO.

Chair G. Kimura asked C. Moore to draft the consensus statement for this item.

T. Tsuji asked if EPSP advises *Chikyu* even for riserless operations. Chair G. Kimura said *Chikyu* riserless operation project uses the EPSP just as the JR does.

Chair G. Kimura stated that **CIB Action Item 0714-02** was completed. He also stated that **CIB Action Item 0714-03** would inform & advise the community regarding *Chikyu* maintenance plans; also that there would be no riser operation before 2016. One NanTroSEIZE riserless operation will be conducted at Site C0010 in 2016. He continued to confirm the other **CIB Action Items, 0714-04 and 0714-05**.

G. Kimura covered **CIB consensus items 0714-05** (support Mantle Drilling Working Group) and **0714-07** (establish IBM PCT).

H. Villinger asked when the IBM PCT would be invited. S. Kuramoto answered that CDEX had already initiated IBM planning; however, realistic plans are on hold since funds are not available while CDEX focuses on completing NanTroSEIZE. H. Kawahata commented that situation was understandable, however, the community would like to know about the future schedule for IBM. S. Kuramoto replied that there are no plans for IBM in the next five years. H. Kawahata said that the community would be disappointed to hear that information. Y. Kimura suggested that S. Kuramoto explain more about the IBM situation to the community since he knows how difficult it is to fix the future schedule these days. S. Kuramoto said that this is a topic for tomorrow morning to talk more on. D. Mallinson confirmed if proposal 698 was the IBM proposal, and then said it was a shame because it was a ready-to-go proposal. Chair G. Kimura concluded that the group should discuss this in more detail during the next morning's session covering Agenda Item 16. In the meantime, he also asked the participants to think about this IBM issue. C. Moore commented that we should manage expectations with riser drilling. Chair G. Kimura said that the CIB will be informed on how many operations *Chikyu* can perform within this phase of IODP - until 2023 - and also how we should approach the IBM proposal issue.

Y. Kimura asked for an exact list of CIB membership replacement, to clearly identify new CIB members since Y. Yamada's explanation was a little vague. Chair G. Kimura confirmed that CDEX staff would provide that shortly.

CIB_Consensus_0315-03: The CIB appreciates SEP's review of *Chikyu* drilling proposals. The SEP has members with a wide range of backgrounds that can provide insightful perspective on the strengths and necessary improvements of the proposals.

8. Chikyu Operation/status Update (Kuramoto)

Current Status

(9:52 h.)

S. Kuramoto presented the *Chikyu* schedule for JFY2014 and JFY2015: *Chikyu* is currently performing non-IODP/commercial drilling in India. This is a JDC contract with ONGC, a semi-governmental organization in India. Due to delays in beginning this commercial drilling, the schedules for non-IODP/science (Cross-ministerial Strategic Innovation Promotion Program: SIP) and IODP operations (in mid-March 2015) were pushed back. Since 2015 is *Chikyu*'s 10-year anniversary, a legally required five-year heavy maintenance period in dry

dock (4.5 months) is scheduled. For safety requirements, several pieces of equipment, such as the DCIS, must be replaced.

Y. Kimura added that this is bad timing; JAMSTEC has to renew planning and clear all budget accounts to fulfill its' requirements as a Japanese government independent agency every five years. The current budget surplus cannot be carried over after this five-year period. Additionally, a commercial drilling contract was canceled at the end of JFY2013. Initially, the Indian project was due to start much earlier, in Sept 2014, and *Chikyu* would have had time for other operations. However, the negotiations were extremely protracted, and significantly delayed. So the SIP operation was also put on hold, and then shifted to the next FY.

G. Camoin asked if IODP drilling will definitely occur. S. Kuramoto answered that *Chikyu* currently has commercial work; the money obtained will be used for IODP science operations. H. Given asked for general details about SIP operation (I.e. drilling target), and if it's a riserless operation? S. Kuramoto explained that it is riserless and drills the same area as IODP Expedition 331. S. Toczko added that IODP Expedition 331 drilled the exact same area as the SIP and recommended H. Given check the expedition reports if she was interested in the science. C. Moore wondered if the data from the SIP would open to public afterwards. S. Toczko was not sure. S. Kuramoto added that a scientific paper will be published. H. Given asked why the SIP needs to be in this time window; was it mostly because of financial issues? S. Kuramoto confirmed this. S. Humphris asked whether this is for riser or riserless operations, and if there are any limitations in the March 2016 IODP science operation window. S. Kuramoto replied that he recommends the Site C0010 observatory operation, which will replace the already installed temporary observatory with a long-term borehole monitoring system (LTBMS). S. Humphris confirmed that this is a riserless operation and a NanTroSEIZE project.

N. Eguchi reminded the group of **CIB_Consensus_0714-09**: The CIB had recommended "NanTroSEIZE riserless observatory" operations for the JFY 2014/2015 riserless expedition option. CDEX almost scheduled the expedition at the end of JFY2014, but it was delayed because of the Indian project. G. Camoin asked about the duration of the IODP expedition. S. Kuramoto answered that the expedition is about 30 days; he commented that NanTroSEIZE status will be updated later, including deepening C0002 site. N. Eguchi mentioned that the Site C0010 expedition already has IODP expedition number 365.

Y. Kimura explained that the SIP is a new type of science program, a cross-ministerial program. Chair G. Kimura clarified that "cross-ministerial" means not only MEXT but also other ministries. He asked confirmation that the budget has to be cleared every five years and if it will happen again after the next 5-year period. Y. Kimura commented that he was not sure about that because JAMSTEC will change its' status to a "national research organization" in next JFY (starting from 1 April 2015). However, the described budgetary system will most likely be applied to the new organization. H. Hotta commented that the new budgetary system would be more severe than the current one. Chair G. Kimura confirmed that the budget cannot be carried out over into the next five years. H. Hotta, agreed, and added that JAMSTEC cannot change the budget from one item to another. S. Kuramoto commented that the system was confusing, especially for people outside of Japan. At the end of the fifth fiscal year of this five year window, extra monies cannot be carried over into the next five year phase; expect that this would occur again between JFY 2018 and 2019. H. Nishi asked if two months operation for SIP this year was already decided. S. Kuramoto

answered that it depends on the budget. Unfortunately, the operation was divided into two parts although there would be two-month worth budgets now (combined last year and this year fund). The 1st part was finished; the 2nd part will be this year.

Chair G. Kimura called a coffee break at 10:16 hrs, and the meeting reconvened at 10:45 hrs.

NanTroSEIZE Update (Eguchi)
NanTroSEIZE PCT reports

(10:46 h.)
N. Eguchi briefly introduced the NanTroSEIZE PCT members, including newly added members (Kyuichi Kanagawa, Michael Strasser, and Yasuhiro Yamada), and mentioned the two meetings held so far, in Sapporo (July 2014) and San Francisco (December 2014). The agenda/minutes are included in the agenda book.

H. Villinger asked if the matrix previously mentioned is available anywhere. N. Eguchi answered that the matrix is still in development, and describes targets on the way to the final deep drilling target, the plate boundary fault. Currently, we've reached down to just past 3000 mbsf. The matrix lists possible achievements that can be reached along the way to the plate boundary somewhere around 5200 mbsf; there's a possibility that we may finish somewhere in between, due to technical issues. The PCT has been discussing this, but have not yet finished. H. Villinger confirmed that the matrix would help sell deepening the hole. D. Mallinson asked if the main target is just the plate boundary fault. N. Eguchi answered that plans are to go 200 m below it. G. Kimura explained that with detailed 3D seismic data, the PCT decided that the previously identified the megasplay fault is actually the plate boundary fault. Therefore, the PCT members agreed to focus on that.

C. Moore added that deeper drilling is difficult; a lot of learning is going on. N. Eguchi agreed. D. Mallinson made sure that the 3D seismic data are not in the data bank; any new data goes into databank has automatic trigger to review by SEP. N. Eguchi answered it was reviewed very long time ago and the data may not in the data bank. H. Given corrected D. Mallinson and others that there is no automatic trigger. N. Eguchi commented that the 1st review was back in October 2001 (proposal 603). C. Moore asked about reprocessing seismic data. N. Eguchi that this is in the PCT agenda. The NanTroSEIZE PCT is working with Greg Moore on reprocessing the 3D data. Data processing software/techniques have significantly improved in the last 10 years, so the PCT expects to see more details in the deeper part of the formation.

CDEX C0002 Task Force update (Sawada)
(10:54 h.)
I. Sawada provided an update on the CDEX C0002 Task Force. They have been meeting regularly to discuss plans for drilling deeper and the causes of hole instability in Hole C0002N/P during Expedition 348. Several potential causes of hole instability have already been identified: steeply dipping formations, bottom assembly caving due to vibration, insufficient hole cleaning, etc. I. Sawada said that changing the casing design, mud chemical properties, and mud density would be the main countermeasures. In addition, he emphasized more precise real-time data monitoring from the formation while drilling, mitigating vibration, mud pressure stabilizing techniques, and more advice from experts (e.g., safety advisory team) would be necessary.

I. Sawada presented operation guidelines, expandable casing, investigating mud property, non-stop drilling, 6-inch wireline coring system, and mitigating drill string vibration. I. Sawada discussed the revised casing plan, using expandable casing, etc. CDEX will re-enter the hole and take a temperature survey. Then CDEX will drill out cement at the casing shoe, conduct an extended leak-off test (XLOT), run a cement bond log (CBL) test, and confirm the cement conditions around the casing. After this, CDEX will conduct a 3D-VSP. If conditions are good, the plan is to drill ahead; otherwise, CDEX plans to set a whipstock and start a sidetrack hole. Expandable casing, a special type of casing, is required to reach the target. No one in Japan has experience working with expandable casing, so outside experts will need to be contracted.

Drilling fluid properties also need review, and CDEX contractors are currently testing an improved mix of additives. Particle sizes between 10-300 microns may be mixed in the drilling fluid. The CDEX Drilling Safety Sub-committee suggested using nano-sized particles (nano sealer); however, no such product is commercially available. Non-stop drilling, already successfully used during the Okinawa cruise last year, was also introduced. A smaller size (6-inch) wireline core system (NOV slimhole express) was briefly explained, and is similar in core size (ID) to current coring tools. To mitigate drill string vibration, stabilizers can be added to the drill string. Drilling parameter data shows vibrations downhole steadily weakens when they are used.

Chair G. Kimura asked the group if there were any questions. C. Moore asked if the six-inch hole would allow installation of the proposed instruments at the bottom. I. Sawada answered that it may require an instrument re-design, since the original design was based on an 8-1/2-inch hole. T. Tsuji asked about LWD and coring of the plate boundary fault since so many scientists are interested in that zone. I. Sawada answered that six-inch LWD tools are available. I. Sawada answered that in the 9-3/8-inch hole section, CDEX can use the regular coring tools. For the 6-inch hole, the NOV coring tools need to be used. T. Tsuji asked if the issue with steeply dipping formations is a problem expected all the way to the fault zone. I. Sawada said CDEX expects that it will be, but the 3D seismic reprocessing planned this year will help clarify the situation. Chair G. Kimura asked if there is enough time for the reprocessing for the VSP and drilling plans. I. Sawada answered that he hopes the time we have to reprocess the data is enough. G. Kimura confirmed that there were no more questions.

C0010 Observatory (Exp. 365 Summary)

I. Sawada went on to explain the Site C0010 observatory operation plans. G. Kimura asked the group if there are any questions or comments. C. Moore asked about the Site C0006 LTBMS. I. Sawada answered that the configuration for the Site C0006 LTBMS is same as that for C0010; however, the seafloor at C0006 is beyond reach of the ROV so the UWTV will be used for LTBMS installation. H. Given confirmed that this operation plan is for Site C0010; she asked if this would occur at the end of March and how many days are necessary for the operation. N. Eguchi confirmed this and said the operation will take 30 days. G. Camoin asked how many scientists would be onboard. N. Eguchi responded that this is more like a technical expedition, with not much need for scientists. S. Toczko added that CDEX does plan on having some scientists onboard. D. Mallinson asked what scientists CDEX would expect to be onboard. S. Toczko answered “observatory specialists, microbiologists, and geochemists”. Chair G. Kimura confirmed there were no more comments or questions.

9. Chikyu 5-year inspection and refurbishment plan (Kyo)

Shipyard and Sea Trial Schedule

(11:24 h.)

N. Kyo presented the *Chikyu* 5-year inspection and refurbishment plan. This inspection process would take 4.5 months this year (2015). Dry dock would start in the beginning of September soon after *Chikyu* returned from India, and other repair and maintenance work would be conducted in the same shipyard. CDEX plans to have a 10th anniversary event in November. After that event, other repair and maintenance work would be continued at the Port of Shimizu. After that, almost one month would be needed for a shakedown cruise in January 2016.

He continued to explain the sub-sea instruments or equipment needing replacement (e.g. R&M, BOP, riser tensioner) or upgrades (e.g. drilling control instrumentation system (DCIS), integrated automation system (IAS)). The BOP components are now in Singapore, and are almost finished with inspection; they would arrive in Japan in the end of September or in October after the completion of some remaining repair work. The BOP components and Riser tensioners function tests would be completed by the end of January 2016. He also said that the Riser pipes' flanges will be replaced with new ones starting from May to August at shipyard in Yokohama, which is the same place where BOP loading is planned. He added that tensioner maintenance was already finished.

N. Kyo explained that budget limitations forced CDEX to prioritize legally required work items. Class NK/ABS required items are scheduled. Other items include 5-year certification for industry work. The riser and BOP require this certification, especially for commercial drilling. He added that the riser pipes had already been off loaded and were ready to begin repair work; the BOP is also in Singapore as was mentioned earlier.

Major Work Items

N. Kyo updated the group with some developments that CDEX has been working on for future projects, although they were not listed in the agenda book:

1) Ultra-deep water drill pipe required a fatigue test and analysis since there was not enough technical data to CDEX for deep-water operations. CDEX succeeded in collecting good data from J-FAST in 7,000 m water depth with 850 mbsf penetration. This experience showed that CDEX needs 8,000 m or more of drill pipe in total.
2) Turbine driven coring system (TDCS) is an improved coring system based on TAMU's MDCB. N. Kyo confirmed that this design is close to final after prototype trials.
3) Carbon fiber reinforced plastic (CFRP) riser. CFRP is a new material for lighter and stronger riser pipes to drill in 4,000 m or deeper water. CDEX conducted a model test this year to evaluate if this new material was applicable for our riser system or not.
4) Long-term borehole monitoring system (LTBMS) for the future NanTroSEIZE C0002 deep borehole. The estimated formation temperature at the target zone is around 150ºC; therefore, CDEX had to develop heat-resistant electronic optical models. Currently CDEX is evaluating some optical borehole telemetry systems.
5) High voltage pulse drilling. This technology already exists for recovering rare earths, but only in the lab. CDEX has just started a feasibility study examining the possibility of applying this technology at the end of the drilling assembly.

6) *Chikyu* under water TV camera system ROV (CU-ROV). This is new for *Chikyu* and is the same as the VIT system on *JR*. This ROV launches and is recovered like VIT. We have 20 m cable, so if we deploy the platform with this under water TV camera system, this could go below the borehole wellhead

Lab improvements (Igarashi)

C. Igarashi from CDEX presented the *Chikyu* laboratory KAIZEN plan, especially regarding layouts for future *Chikyu* operations. After collecting feedback from past expeditions, a concrete concept was developed, centered around three lab layout themes: 1) optimization for deep riser drilling, 2) flexibility for lab operations, and 3) a safer and more comfortable work environment. Based on these concepts, she explained CDEX's vision for layout modifications. 1) Improve the efficiency of cuttings treatment by making space on the core processing deck. 2) Improve use of space in the lab by creating space for instruments in the core sampling room. For this, a wall will be removed. 3) Install new microbiological equipment (e.g. the Cell-Alive system and table KOACH) as proposed by the STP two years ago. An HEPA filter would also be placed inside the air ducts to reduce dust in the microbiology room, to be installed in other rooms later. She briefly explained the new lab layout design: 1) Separate and increased workspace for each WH and AH. 2) X-ray instruments are now located on two different floors, so all the X-ray related instruments will be consolidated in the off-time space. 3) A new layout for the PP and Geochemistry labs, and a new GC lab is under preparation. More display monitors for drill floor operations and real-time data will be installed. The library will be remodeled with more desks and chairs for individual scientists.

CDEX sent a survey on the modification plan to 275 scientists from past *Chikyu* expeditions, and received 40 replies. Most replies seemed happy with the new plan, or had no strong opinion. The lab modifications should be finished before the next IODP operation.

10. Chikyu Membership Status (Kuramoto)

Update since the last meeting

(11:51 h.)

S. Kuramoto presented the *Chikyu* membership status. Current regular members are ECORD and ANZIC (unchanged from last CIB meeting) with an annual contribution of 1 M USD and 300 K USD, respectively. CDEX received a letter of interest from Taiwan, who was invited in March 2014. Taiwan suffered the loss of a new research ship (with fatalities) and since then communication has been suspended. CDEX will try to resume communication.
China has been contacted through Yuzuru Kimura of MEXT. A meeting had been planned in Beijing but it was postponed. Communication will continue.

Other countries JAMSTEC is currently negotiating with are Malaysia, Myanmar, Vietnam, Indonesia, and the Philippines, and JAMSTEC continues to discuss possible membership with these countries. A delegation from Vietnam visited KCC last year to examine KCC facilities and core storage. They were also interested in drilling operations. Their membership is still under negotiation.
CDEX was invited to visit a Philippines university; CDEX also contacted the Philippine Minister of Science and Technology. The Philippines are interested in membership and invited CDEX to the annual meeting of their geological society. CDEX will present general information about *Chikyu* operations that meeting.

G. Camoin asked how funds provided by the members has been used, since there were no IODP expeditions last year. S. Kuramoto said these details will be covered on the second day of the meeting (Agenda Item #19), but he explained that the money received from members is handled separately within JAMSTEC. Basically, the money is in a separate account for IODP science operations, similar to the previous IODP SOC (Science operation costs) money from the previous IODP phase for science services and operation. If no operations are executed, the money can be carried to the next fiscal year, at least within a five-year term.

There were no further questions.

G. Kimura mentioned that Agenda Item #19 will be discussed on the second day and closed the meeting for a lunch break at 12:15 h; the meeting would be reconvened at 13:25 h.

LUNCH

11. Other FB, IODP Forum, and Agency Activities

JR Facility Board (Humphris)

(13:26 h.)

S. Humphris reported on the activities of the JOIDES Resolution Facility Board (JRFB). There have not been any JRFB meetings since the last CIB meeting (CIB #2). S. Humphris reported on what has happened in the meantime and gave some feedback (similar to ECORD meeting).

The JRFB schedules the *JR*, so the function of the FB is very similar to the CIB, but in addition, they run the advisory panels. One responsibility is to make sure the advisory panels are effectively feeding information to the CIB for good decision-making. There have been 3 meetings since the JRFB was set up; the next one is scheduled for 12–13 May. That meeting will finalize specific issues after input from the CIB and the ECORD FB.

There have been 5 JR IODP expeditions since the last CIB meeting (CIB #2) in July 2014. The Bengal fan expedition is in its final days and a number of other expeditions are scheduled, particularly in the Indian Ocean, West Pacific, and nearby seas. An ancillary project originally included in Exp. 359 (IODP Proposal 849-APL) planned to collect a high-resolution record of Cenozoic climate change during pre-monsoon and monsoon climates for the Indian peninsula. It was removed related to issues surrounding Exp. 353 (the Indian Monsoon expedition) involving significant problems getting Indian research clearances. Significant effort from Texas A&M, NSF, and finally intervention at the highest levels of government was needed to perform that project. Therefore, drilling in Indian waters was postponed; it also involved the ship undergoing Indian navy inspection prior to drilling. Because of the level of effort and the expenses involved in getting the clearance for the Exp. 353, the JRFB made the decision to remove the ancillary project from the monsoon cruise.

JRFB also provides information to the community about the future long-term *JOIDES Resolution* cruise track, which S. Humphris showed in a slide for 2014. The plan is to finish projects in the Western Pacific and Indian Oceans, and then head to the Atlantic across the Southern Ocean sometime in the 2018-2019 time frame. The FB will revisit this at their next meeting, and based on proposal pressure, will try to project forward how to schedule expeditions for the proposals already at the FB.

There have been some board membership changes. It was decided to increase the scientific membership to six (three from USA, incl. the chair, and one each from ANZIC, ECORD and JAPAN. (JRFB Chair S. Humphris was due to be replaced by Rick Murray, but since he took a position at NSF, she agreed to stay on for on additional year and will be replaced this fall). Other membership changes included: three members rotating off the JRFB, and Brad Clement is now the representative from the JR Science Operator (JRSO). There is a new member of the Ministry of Science and Technology of China, Qing Sun, and a new member from ANZIC, Mike Coffin.

She asked for special attention for this meeting. First there is feedback from the advisory panel. She confirmed that C. Moore is going to write the consensus statement. And there are two documents that she would like feedback on and also the approval of the CIB. The JRFB made some revisions to the proposal and site survey data confidentiality policies. This is in reaction to some issues raised by the SSO, in relation to the use of industry data and the proprietary nature of the data. This will create some reassurance that there is a good confidentiality policy. We tried to clarify how we handle these data. She announced that H. Given would probably talk about that in a few minutes.

There are also some new guidelines for amphibious proposals; these are joint projects between ICDP and IODP. Looking at continent-to-ocean transitions is something that should be done together in an integrated way. We should work to see that the proponents do not have to submit different proposals to different organizations that handle them differently. The IODP forum set up a small subcommittee to look into and try developing these procedures and guidelines. S. Humphris announced that K. Becker would talk more about this. She asked for feedback, comments, and suggestion about these policies.

Other things that came up last week at the ECORD FB (EFB #3) meeting; three members are rotating off the curatorial advisory board, which is dealing with sample curation issues. These people are Heinrich Villinger from ECORD, David Smith from the US and Masa Yamamoto from Japan. S. Humphris will take the lead on contacting the curators and asking for nominations of individuals and hand them around to all the FBs for approval. This she will do after the CIB meeting, but before September this year.

CIB_Action Item_0315-01: The CIB reviews and approves/disapproves three new Curatorial Advisory Board members, once the list is provided.

Another question that came up at the ECORD meeting was when should a proposal be retired from the system after it has been inactive? She would like to clear this issue, because there are still some proposals that have not been worked on for many years. She would appreciate any thoughts or advice considering these proposals.

H. Given wanted to clarify that the proposals S. Humphris mentioned are those that are sitting in the system in review (SEP) and not at the FBs. S. Humphris confirmed that these are proposals that have not yet made it to the facility boards, but nobody seems to take any interest in them.

ECORD Facility Board (Gohl)

(13:36 h.)
K. Gohl presented the newest updates of the ECORD facility board (EFB), including news, decisions on consensus and Action Items from last week's #3 ECORD facility board meeting (25-26 March 2015).

There are seven proposals at the EFB. Two of them were scheduled last year and are both advancing well.

Exp. 357 "Atlantis Massif" is scheduled for late 2015. This expedition is going to make use of the seabed drilling system MeBo70 and another seabed drilling system, the BGS Rockdrill-2. This will be a relatively low-cost expedition on the UK research vessel *James Cook* (around 4 M USD) as an in-kind contribution from the UK.

In early 2016, Exp. 364 "Chicxulub Crater" can most probably be organized within the limits set by the EFB. 8.5 M USD will be contributed by ECORD, 1 M USD by the ICDP (there is still some discussion, related to the use/purpose of this money within the expedition) and a possible contribution from Mexico. This is a requested contribution to provide a supply vessel. The plan is to drill one hole to a maximum depth of 1500 mbsf using a jack-up rig.

Two more expeditions were decided on. Proposal 813 "Antarctic Paleoclimate" was reconsidered due to increasing costs (mainly ship costs). Most likely the vessel *Nathaniel B. Palmer*, run by NSF and equipped with the BGS Rockdrill-2, will be used on the East Antarctic shelf. ECORD was asked to pay part of the ship costs, making the costs higher than originally expected. The limit has now been set to 9 M USD and ESO will negotiate with the NSF to reduce ship costs. The expedition is scheduled for 2018 and not for 2017 as originally planned. Therefore there will be no expeditions in 2017, but instead it's very likely there will be two in 2018, a "polar year", since there will be another expedition during the Arctic summer.

The second expedition (Proposal 708 "Arctic Paleoceanography"), with one site in the Arctic, will use a drill ship similar to the ACEX in 2004 (Exp. 302), but with deeper water and penetration depths. The EFB has limited their contribution to 15 M USD with an ice-breaker support as IKC, but of course the primary objectives should be achieved.

There are still three proposals (581, 637 and 716) in the EFB holding bin since last year. They will not be removed, because two of them can be done with seabed or geotech drilling at a relatively low cost. These proposals will be considered for scheduling after 2018.

K. Gohl presented a graph showing an overview of the updated schedule to 2018. Following after that (until 2023) is important, with respect to an annual budget of 7.5 M USD for expedition costs only (fixed costs not included). ESO has a strategy to run a number of low cost expeditions, and save for other mid- and high-cost expeditions. With this plan, ESO probably can better schedule new incoming proposals.

K. Gohl announced some membership changes. The EFB consists of a science board (currently five members) and other organizations. The science board will increase its membership to six; three from ECORD (including the chair), one from IODP-JR (USA), one from IODP-JR (non-US country) and one from IODP-*Chikyu*. Two science board members (Antonio Cattaneo from France and Marta Torres from the US) will rotate off at the end of

2015 and three new members will join; Gilles Lericolais (France), Stephen Gallagher (Australia), and Fumio Inagaki (Japan). K. Gohl will also rotate off as chair at the end of this year, with Gilles Lericolais elected to become chair in his place. There will also be a new vice chair, Dominique Weis (Canada). This is not as an extra position but to ease travel requirements that the chair normally has.

Other issues are:

- For Mission Specific Platforms a new third party tools policy was developed. It was accepted by the EFB and it will be posted on the IODP website.
- S. Humphris already mentioned the amphibious proposals; this was discussed last week and some changes were suggested. K. Gohl also said that K. Becker would talk about this. ECORD welcomed this new proposal category very much, since it is very likely that most of these amphibious proposals will be MSP-related projects.
- The next EFB meeting will be held in early April 2016 (dates not fixed yet), probably in Brussels, Belgium.

H. Given clarified the term "holding bin". This EFB holding bin that K. Gohl mentioned is different from the SEP holding bin, where the SEP is waiting for further site survey data to come in. The ECORD holding bin is for proposals that have been passed to the EFB and that are waiting to be scheduled.

No other questions arose.

IODP Forum (Becker)
(13:51 h.)
K. Becker began stating that the IODP forum has not met since the last CIB meeting (CIB #2). He provided some updates, presented progress on the science plan, scheduled IODP expeditions, announced a couple of updated forum issues, and also explained some details about the new amphibious proposals. As K. Gohl mentioned, these are likely to involve the mission specific platform. Some proposals may also include deep drilling using *Chikyu*.
K. Becker presented overview charts with the current status of expedition proposals related to each of the IODP themes (the color code in the charts displays which platform will be used).

The main message here is that there is good proposal pressure across most of the challenges and all the themes. Now the challenge is to achieve some of this potential in terms of having completed the science plan after ten years of the new IODP.

There are four challenge themes and K. Becker focused on *Chikyu*-relevant proposals.

Challenges in Climate and Ocean Change:
ACEX2 708: ACEX in the Antarctic Cenozoic is moving to the "done & scheduled" column (not relevant to *Chikyu* but K. Becker just pointed out that there was progress here).

East Asian Monsoon 618: K. Becker had a question; this expedition has a deep riser component offshore Vietnam, which is not being considered because of political issues in these waters? S. Kuramoto replied that *Chikyu* will not be able to operate in any disputed

waters and since one of the site of this proposal located in such an area, the CIB will not be able to consider this proposal as a potential *Chikyu* project.

The MDP DREAM set of proposals (IODP Proposals 857-MDP and 857A) address a lot of challenges.

Challenges in Biosphere Frontiers
There are two good options for *Chikyu*: the Mariana forearc (505), which is still in the realm of JRFB, but it could be moved to the *Chikyu's* schedule; and the Nankai T limit (865), which will be discussed later (Agenda item #16).

Challenges in Earth Connections
Here the *Chikyu* deep drilling capabilities can make a big contribution. The M2M, MDP proposal (805) had a consensus at the last CIB meeting (CIB #2) to create a mantle-drilling-technology working group. This will be revisited in Agenda Item #17.

The IBM drilling to the middle crust (698) has great potential for *Chikyu* in support of IODP achieving this particular deep challenge, now that the *JR* has successfully accomplished the three shallower components of this proposal (Exps 350, 351 & 352). The formation of a Project Coordination Team (PCT) has been approved, but it has not yet been active.

Challenges in Earth in Motion
Here again there is strong potential for *Chikyu* towards achieving the programs' science plan, especially Challenge #12 (control of earthquakes landslides, and tsunamis). These include NanTroSEIZE (603-CDP), CRISP (537B), and Hikurangi (782B). However, it could take more than 20 years of drilling to complete all these operations. This is the other challenge for the CIB; there is already a huge amount of drilling with strong scientific potential on the table, but at some point a choice has to be made.

K. Becker announced that he is going to be replaced as forum chair. The original plan was to name the new candidate by 31 March, but more time is needed to make the selection, which K. Becker interprets as a good sign that there are several strong candidates, making it difficult to choose one.

The next IODP forum meeting in July in Canberra will focus on two things. First, the IODP 2 science results, which are all coming from JR in the South China Sea and the Indian Ocean. Secondly, there will be a review of education and outreach activities across the program. K. Becker emphasized that Japan will also be represented.

K. Becker mentioned the special session on IODP at the AOGS meeting in Singapore this coming August, which could be a good opportunity to build potential partnerships among Asian countries.

K. Becker asked if there were any questions and since there were none, he moved to the next subject, the Amphibious Drilling Proposals (ADP).

The IODP forum recommended forming a small ICDP-IODP committee to discuss joint evaluations of proposals that span across the shoreline. The ICDP executive committee endorsed that. The members of this small committee are: K. Miller, P. Francus, F. Anselmetti,

J. Erbacher, S. Gulick, all experienced in both programs. They reported as of the January 2015 SEP meeting. K. Becker emphasized that the committee's duty is only the joint evaluation of ADP and it is not in their mandate to consider (once the proposals are accepted) how the two programs would share the implementation. This would be a next step between the FBs and ICDP.

The IODP forum is now following a timeline that will hopefully lead to the adoption of this ADP evaluation process in time, so that it can be implemented before October 2015. The report was presented and conceptually endorsed at the January 2015 SEP meeting. K. Becker presented this at the ECORD FB (#3 EFB) meeting this March, with some modification for today's meeting. If necessary, it will be modified again for the JRFB meeting in May 2015. If this is adopted it is going to involve essentially accepting a new category of proposals which will be something that the science support office will have to handle (the JRFB oversees the science support office). Thus, the process at the May JRFB meeting will be especially important, in terms of accepting this whole concept and process. Assuming that it is accepted at the JRFB, it has to be endorsed by the ICDP executive committee meeting in June and receive its final endorsement at the July forum meeting. If this all happens then it should be implemented in time to accept proposals for the IODP 1 October deadline and the annual ICDP proposal deadline in 15 Jan 2016.

One of the controversial aspects at the last EFB meeting was that some members did not like the original definition of ADPs as presented by the ICDP-IODP ADP committee (original definition in the agenda book: "*Amphibious drilling proposals are those in which the scientific objectives can only be accomplished by drilling both onshore and offshore.* They are differentiated from proposals where both onshore and offshore drilling is desirable, but where either onshore or offshore drilling is scientifically viable by itself.") It was not clear what purpose the second sentence served. Also the process would involve sending the proposals to two organizations, the IODP evaluation panel and ICDP advisory panel. Then it would be up to each of them if the proposal fits that definition. So, K. Becker modified the words and just deleted the second sentence:

"*Amphibious drilling proposals are those in which the scientific drilling at both onshore and offshore sites is required for full completion of the scientific objectives."*

Chikyu could be involved in some of these proposals for full completion of the scientific objectives. K. Becker asked for comments, and there were none.

K. Becker explained three basic principles for the coordinated IODP/ICDP evaluation of these ADPs.
(1) Adopt a general ICDP procedure for workshop to develop an ADP, using the regular ICDP workshop proposal deadline (Jan 15) and coordinate workshop proposal submissions with IODP national/consortium funding sources. Exceptions can be made for proponents who are already prepared to submit a full ADP.
(2) Adopt IODP procedures for SEP evaluation of full proposals with external reviews, using: the regular IODP fall proposal deadline (Oct 1) for potential January SEP decision for external review; and co-submission to ICDP at its regular Jan 15 deadline for evaluation at the regular spring SAG meeting.
(3) Flexibility in dealing with procedures in both IODP and ICDP.

(K. Becker said that it occurred to him that the CIB has a workshop process while SEP likes riser-drilling pre-proposals. He thinks this process can coordinate well with that.)

K. Becker showed a flow chart illustrating the workshop proposal submission process and evaluation. The original version is in the agenda book there; it was redrawn and simplified at the #3 EFB meeting.

ADP's generally should involve workshops bringing together members of the IODP and ICDP communities and justify the scientific need for both onshore and offshore drill sites. Workshop proposals will be submitted for the ICDP Jan 15 deadline, and co-funding proposals should be submitted to either national or consortium IODP programs (e.g. MagellanPlus, USSSP, JDESC). The Jan 15 ICDP submission will be reviewed by the ICDP SAG/EC and the IODP SEP *(SEP review similar to pre-proposals)* with possible advice from national/consortium IODP programs. Workshop funds will be provided by ICDP and possibly co-funds provided by IODP (national or consortium) committees (e.g. ECORD, USSAC, JDESC, etc.). Another important item is involving drillers (IODP platform operators, ICDP OSG, commercial drillers) at this stage to help develop cost estimates.

K. Becker showed another flow diagram from the report to illustrate the full proposal submission and evaluation process.

Full proposals will be submitted for the 1 Oct IODP deadline and co-submitted for the 15 Jan ICDP deadline. If a full ADP is positively reviewed at the January IODP SEP meeting, the IODP science support office will fast track the external review in time for the spring ICDP SAG meeting. Following external review, the full ADP will be evaluated at both the spring SAG meeting and the June SEP meeting. So, essentially no changes to procedures in either program. The big contribution of this integrated process comes after those two meetings, when the chairs/co-chairs will organize a joint evaluation to create one single integrated review document representing both programs. The motivation to develop this came from examples of separate contrasting review documents in the past.

H. Villinger asked if there was any discussion about what will happen to the ADP data and reports? Since ICDP does not have initial reports or a database that is publically available, he recommends this to be discussed. K. Becker answered that these issues had not been discussed; the ICDP-IODP ADP committee was assigned only to discuss having an integrated evaluation of the proposals, and not about any details of what happens if they are actually implemented. K. Becker's first reaction is that no IODP policy should be violated. H. Villinger is not sure if ICDP will agree. K. Becker mentioned that there will be other issues related to the implementation, e.g. in ICDP, often the country where the drilling takes place, wants to archive the cores. But such issues were beyond the authority of the ADP working group. K. Gohl does not think this would be a major problem although it certainly has to be discussed further. In terms on treating data/cores if the countries have these requirements (mentioned above), it could be decided that the cores/data collected offshore will be handled according to IODP standards and policies and cores/data from shore will be treated according to ICDP standards. In the end what counts is the added value of the science that is gained by integrating both programs in an ADP. H. Villinger disagreed with that, because ICDP does not have any real policy regarding data availability like IODP. K. Gohl mentioned that then this could be an encouragement for ICDP.

C. Moore asked if the ICDP had descriptions of cores and things like that. H. Villinger said that no, nor is there a report. It is necessary to go to the individual principal investigator (PI), which can be very time consuming. He also mentioned the legacy aspect; information can be lost if the PIs change jobs. Since there will be drilling on land and at sea you need to have to have access to both datasets.

K. Becker said this could be very useful if the CIB could make some kind of recommendation regarding this.

Chair G. Kimura agrees. ICDP has a responsibility for data core archiving and they are separated from IODP. Scientifically it is a very good idea to combine the two programs. The question is how to solve the problem with ICDP. G. Kimura suggested that since ICDP cannot do this, IODP could take everything (data, cores, and repository system), which would be effective but would also require money. The main issue is how to realize this.

K. Becker encouraged the attendees to make a formal consensus along these lines.

CIB_Consensus_0315-04: The CIB strongly supports the creation of Amphibious Drilling Proposals (ADP) under the umbrella of IODP and ICDP and the proposed joint evaluation process of ADPs. The CIB recommends that:

- After the completion of an ADP, detailed reports of both drilling campaigns (onshore and offshore) will be published.
- The data collected during the expedition will be made publically available after a moratorium period of one year.
- Samples from onshore and offshore drill holes will be stored at appropriate core repositories and made available to both scientific parties.

MEXT (Kimura)

(14:18 h.)

Y. Kimura first announced that he will be replaced by Eisho Sato at the start of Japanese Fiscal Year 2015. He continued, presenting JAMSTEC's budget situation. Around 100 M USD equivalent is allocated by MEXT to JAMSTEC for science drilling and within that about 70-80 M USD is allocated for *Chikyu* operations (*to make calculation easier, use 1 USD = 100 JPY*). The Japanese government is committed to supporting ocean drilling using *Chikyu* and to operating joint IODP activities. However, the total amount of JAMSTEC's budget decreases by around 1-2% year by year. This is due to Ministry of Finance (MoF) policy; they are open to cross-ministerial budgets though, for example, the SIP project in Okinawa. Sometimes MEXT can apply for supplementary budgets. E.g. after the 2011 earthquake, the Japanese government provided a huge supplementary budget, which included repair work on *Chikyu*. So, the costs are around 100 M USD equivalent, with some supplementary budget for fiscal year 2014, some of which will be implemented during fiscal year 2015 (because SIP II has been postponed). The Japanese government tries to keep this level of budget for *Chikyu*.

MoF-evaluated science drilling projects

MEXT applied for a budget (100 M USD as mentioned above) under the national "deep sea drilling program", a national drilling program for using *Chikyu*. Last year (in spring 2014) the MoF selected this program for their special evaluation, and Y. Kimura was occupied with this

evaluation for three months. Finally the MoF submitted a report of the evaluation and recommended several actions for improved contract procedures. Now they are following up their activities of the contract.

G. Kimura asked if there were any supplemental budgets available this year? Y. Kimura clarified that “this year” means FY 2014. This year there is supplementary budget, but he is not sure about next year (FY 2015).

No other questions arose.

NSF (Janecek)
(14:25 h.)
T. Janecek did not present anything. He said that he is attending strictly as an observer; therefore he had no formal presentation, but is willing to take any questions. There were no questions.

ECORD (Camoin)
(14:25 h.)
G. Camoin presented an updated ECORD membership status, provided some news regarding ECORD procedures, and also presented their educational outreach.

Currently ECORD has 17 members. The financial contribution of each country was shown in the slides. The contributions cover quite a wide range from 30,000 USD from countries like Poland and Israel, up to 5 M USD from Germany, France and a little bit less from the UK. These three countries are the major contributors; providing about 80% of the total budget. The annual overall budget is roughly 19 M USD. 2 M USD is allocated for fixed costs for the functioning of ECORD entities, but also for maintaining partnerships, e.g. they provide 7 M to NSF and 1 M USD to JAMSTEC. This means that ECORD has an annual budget of 7.8 M USD to run MSP expeditions. This budget must be considered as minimum budget, since there are some additional contributions, such as in-kind contributions.

News after the last CIB meeting (CIB #2) is that there may be a new contract with Spain, and they may rejoin ECORD soon. There are other potential newcomers to ECORD, e.g. Russia as an accessing member, which means that they will pay a minimum amount to get access to educational programs (they cannot send scientists at the moment). ECORD now has more contacts at different levels in Russia and they are optimistic about getting Russia on board within the next 2-3 years. ECORD has contact with other countries, such as Luxemburg, the Czech Republic, and especially Turkey. There are meetings planned during the EGU assembly where ECORD will work to convince them to join the program. The Turkish Ministry is also positive about an ECORD membership.

The annual report for fiscal year 2014 is now on the ECORD website, and hardcopies will come out in the next few weeks. This will be a summary of all activities during 2014, incl. science, operations, management, education, and outreach.

G. Camoin said that ECORD would most probably play a crucial role in the development of ADPs. For example, he mentioned the combination of the 796-Full proposal on Ligurian landslides and the NADIR ICDP proposal; this could be the first real amphibious proposal in the system.

G. Camoin noted that the in-kind contributions (IKC) mentioned before are crucial to save as much money as possible so that as many MSP expeditions can be run as possible. Potential IKCs include providing drilling platforms and systems, providing support vessels, and essential scientific services, hazard site surveys, onshore facilities near the drill site, ice management, remote logistics and assistance, or anything the operator would have to pay for to implement an MSP expedition.

ECORD recently adopted the procedure for IKCs. The three major items are:

1) Any IODP member and non-member country can propose IKCs following an open call,
2) All IKCs will first be evaluated by the operator and the ECORD council would review/approve the proposed cash value, and
3) IKCs will be rewarded with extra science party positions on the relevant MSP expedition as compensation.

Referring to K. Gohls talk, four out of five MSP proposals in the system are using IKCs. So, this system is already in place, even though the procedure has just now been adopted.

G. Camoin provided some news regarding ECORDs' educational program of. He showed what is run on a regular yearly basis. There are some programs directed to young scientists (summer schools, scholarships…) and other programs for teachers at sea. All countries and entities of ECORD can participate in these programs.

G. Camoin mentioned a program funded by both ICDP and ECORD; this program involves workshops for developing proposals for any IODP platform. In 2014, there have already been 6 workshops implemented; they were very diverse in regards to suggested platforms. One of them was addressing general procedures for all the platforms. In 2015 there are four workshops planned (two dealing with *JR* drilling, one could be more general adapted for any of these platforms concerning mantle, water, and life. The last focuses on submarine bioseismology, maybe for MSP.) What is new about this program is to initiate the submission of ADPs. ICDP and ECORD have decided to provide EUR 20,000 annually to support workshops developing these ADPs (about EUR 10K each).

Next G. Camoin announced four summer schools coming up this year, including an international foraminifera school and the virtual drill ship experience. He finished with announcing the next annual ECORD council and ESSAC meeting, to be held in Napoli, at the end of Oct 2015.

H. Kawahata wondered that with so many counties joining ECORD activities, how does each nation decide their level of contribution? G. Camoin answered that the contributions are negotiated between each country and ECORD. There is no fixed amount (there is a minimum of USD 30K), but the contract is for five years. Most of the current member countries are committed until fiscal year 2018, some of them for 2016, and one for 2015. Most of the countries have to renew their contributions, and ECORD has to convince them to continue funding. When ECORD tries to restart the negotiation it is on a several years basis; usually the budget stays the same for five years.

H. Kawahata asked why the European Commission doesn't provide money to ECORD. G. Camoin said that they are not ready to fund ECORD. They might fund the science, but they do not want to give money and not know where it will be put. So they still follow the way of the previous program in mind. They prefer project-based funding.

G. Kimura was interested in the ADP. If MARUMs' Achim Kopf is working on both ICDP and IODP, maybe the archiving and data set issues are already solved. G. Camoin said that if they submit these ADPs and if the SEP recognizes them as ADPs and they are implemented, he thinks that this problem will be minor.

N. Eguchi asked for confirmation on the EC providing money for scientific projects. Is it therefore possible that EC could provide money to the Mediterranean operations? G. Camoin said all you need to do is convince the EC. For instance I think there is room for something, at least for the (some type of project). For the DREAM type proposal it is not in the ECORD's hands. It is in the hands of the proponents. The EC will fund on a project basis, but they are not prepared to fund an annual contribution.

No more questions.

ANZIC (Heap)

(14:41 h.)

A. Heap gave a verbal update on ANZIC. ANZIC's funding for the membership expires within the 2015-2016 financial year and they are now planning for the next 5 years. ANZIC membership comprises two Australian government research organizations (the largest in Australia) and 15 universities. The New Zealand component is comprised of one government agency (the national geoscience agency) and two universities. The new consortium will be similar in number of members, with some universities leaving and some joining. The membership is still strong. While the Australian government contributes the majority of the membership fee, the other ANZIC members contribute about AUS 800K annually (committed for the life of the membership).

The ANCIZ membership will be the same as last time, joining the *Chikyu*, *JR,* and ECORD platforms at USD 1.5M to US/ECORD and USD 0.3M to Japan. We've been asked to provide an assessment by the Australian government about a reduction in the contribution by ANZIC. There is pressure on the Australian federal budget, so the current funding levels will need to be justified and reviewed. We should know the outcome by the July IODP forum. Hopefully, there will be some official approval by September/October 2015.

ANZIC is providing world-class scientists to different IODP legs (e.g. for Exp. 353, Exp. 354, Exp. 365) and is continuing to develop good proposals. There are two ongoing proposals for *Chikyu*. First is the Hikurangi margin in a slow-slip fracture zone, and we are waiting for final outcome on that. The Lord Howe Rise proposal was submitted last year and the SEP recommended going for a full proposal. JAMSTEC and Geoscience Australia will hold a science development workshop in Sydney to discuss this potential CPP very soon. Funding from the Australian government has been secured for the site survey. So, the work with JAMSTEC will continue in order to finalize this project.

A. Heap announced the IODP forum meeting and welcomed everyone to Canberra this summer.

H. Given asked if the scientists who compete to go on an IODP expedition have to come from one of the institutions or universities comprising ANZIC. A. Heap responded that scientists could come from anywhere, any university.

K. Gohl asked if A. Heap could say anything about the annual contribution to IODP after the renewal for the next five years; he wanted to clarify if in fact that was the AUS 785K. A. Heap answered that the AUS 785K comes only from the universities and publically funded research organizations. The rest comes from the Australian government. We have been asked by the government to look at what would happen if funding were reduced.

K. Gohl wanted to know if there are any chances of funding being increased, to which A. Heap replied as being rather unlikely. But ANZIC is asking everybody for assessment of their reduced funding, which does not necessarily mean that the contributions will in fact be reduced.

There were no further questions.

12. Chikyu Safety Review Committee Report

Chikyu Safety Review Update (Matsuda)

(14:49 h.)

Shigemi Matsuda briefly reviewed recent activities by the *Chikyu* Safety Review Committee and sub-committees, and also introduced the committee structure: two sub-committees supporting the committee. During the Drilling safety sub-committee held last March after Exp. 348, borehole instability problems were discussed, including what actually happened and what CDEX can do to overcome the problems. Based on the analysis, five technical suggestions and one management-related suggestion were made. Those were brought up to the committee meeting in June and were already introduced at the 2nd CIB meeting.

The second sub-committee meeting was held to review CDEX's Action Item progress; and additional recommendations were made. Those will be discussed together with the upcoming Site C0010 IODP operations at the next committee meeting this coming summer. Later this year, the Geo-hazard prevention sub-committee plans to be activated to solicit advice from additional experts.

H. Given asked if the committee members are all from CDEX. S. Matsuda answered no; they are from outside CDEX and JAMSTEC (e.g., professors, oil company employee).

Chikyu Safety Review Sub-committee Update (Nakagawa)

(14:55 h.)

S. Naganawa, Chair of Drilling Safety Sub-committee, summarized the Drilling Safety Sub-committee activities. The 2nd meeting was held on 13 March 2015, and they reviewed the CDEX report and the future NanTroSEIZE operation plan. The major problem during IODP Exp 348 was borehole collapse. The meetings' discussions focused on:

1) Interpretation of the breakout mechanism,
2) Drilling fluid management, and
3) Developing a new drilling program.

According to the iGM report (a consultant service company), formations with steeply dipping bedding planes, formations with potential weak planes, and anisotropic borehole breakouts were present. Prof. Morita, a sub-committee member, provided supplemental comments on the breakout mechanism. There were three contributing factors: stress, shale swelling, and temperature, all caused drill pipe sticking and borehole breakouts.

Regarding the management of drilling fluid suggested by Prof. Morita, the sub-committee members agreed: Nano-sealant is recommended as a drilling fluid additive. Maximizing mud weight as much as practically possible is also recommended.

The new drilling plan and casing program from CDEX included three new drilling plans. Case A – deepening the existing hole with sidetrack would be the most realistic plan, the sub-committee notes. However, the sub-committee would suggest reducing time spent for underreaming and manage the risk of using expandable casing, by drilling 1000 m in one interval (two casing + one contingency) while the CDEX proposal was to drill fast and set casing immediately at every 650 ±m interval (three casing + one contingency) with a 6-inch hole to be drilled through the plate boundary fault target.

Chair G. Kimura confirmed that there were no questions, and moved to break for coffee at 15:00 hrs.

Coffee Break

13. JR Advisory Panels Report/Proposal Overview

Science Support Office (Given)
(15:30 h.)

H. Given gave a brief explanation about the IODP science support office, located at the Scripps Institute of Oceanography and funded by the NSF. Their budget for this year was 1M USD and 87% of it is for personnel costs. They have four main tasks for the program:

1) Support JRFB and its science evaluation panel (SEP), environmental protection and safety panel (EPSP),
2) Oversee the proposal process for all of IODP,
3) Manage the site survey data bank (SSDB), which had been in Scripps prior to the science support office moving there, and
4) Maintain the IODP website (www.iodp.org) for the program.

H. Given said what holds IODP together are the science plan, memorandums on platform funding and staffing, common policies, common proposal process, expeditions, publication relations, workshops, discoveries, publications, and other outcomes.

She showed a graph of proposal submission status, with submission activity pretty much the same as before, and healthy, reminding the group that the new program started in October 2013. She gave more details, and describing the: percentage of active proposals, their target ocean, active proposal status by review stage, and lead proponent's affiliation. 17% of the active proposals involved *Chikyu* operation, and 12 proposals were uniquely for *Chikyu*. Also, that there are 1300 unique proponents.

She stressed that IODP proposal submissions must be made via the website (www.proposals.iodp.org); nothing else is accepted. The proposal submission guidelines document is continuously modified, so she recommended that proponents follow the current rules, at the following link (www.iodp.org/program-documents). Proposals would be continued to be refined at the facility boards (see detailed diagram on the p. 147 in the Agenda Book).

Some important policies (e.g. IODP proposal confidentiality policy and IODP site survey data confidentiality) are under revision (www.iodp.org/program-documents). H. Given will also redesign the webpage to add *Chikyu*- or MSP-specific policies as needed.

Call for proposals language was needed in early July to make the EOS AGU publishing deadline in December, and she requested that the CIB members inform her if any modifications would be needed. The group should check the wording related to *Chikyu* on the IODP website submitting proposal page, in the call for proposals, and respond with any comments.

H. Villinger commented that the PI for proposal 537B:CRISP is now in Spain. H. Given answered that she confirmed this affiliation, and it reflects the PI base at the time of submission. N. Eguchi commented that 835: JTRACK would be a riserless *Chikyu* operation. D. Mallinson also added a comment that 835: JTRACK had been waiting for the revision. H. Nishi asked if proposal 871: Lord Howe Rise Crustal Evolution was a full proposal. In response, H. Given explained that it was pre-proposal and the SEP recommended that it be developed into a full proposal. There will be a workshop, and then it will be developed into a full proposal.

No further questions.

Science Evaluation Panel (Mallinson)
(15:48 h.)

D. Mallinson presented the SEP update and reviewed the status of 16 proposals, including proposed sites and objectives. He mentioned that some of them are at CIB, a couple of them are at JRFB, and many of them are still at SEP.

(505 Full5) This Mariana project could be a riserless proposal for *Chikyu* even though its' potential sites are very shallow (150 or 250 m depth).

(537B-Full 4) CRISP-Stage 2 now has 3-D seismic data collected and processed in the workshop, which was held at UT Austin last year as SPC noted in 2011.

(603C-Full): As suggested by SSP in 2005, the proponents prepared 3-D seismic data. This would be a good option for the riser drilling in 2017. C. Moore commented that this is the hole being drilled and cased at Site C0002 now.

(618-Add5): East Asia Margin, this one is at JRFB, but also possible for *Chikyu* in riserless mode. There are two possible sites, which are almost ready to go. The main issue here is the problem of the proposed drill sites located in disputed waters in the South China Sea.

(698-Full3): IBM proposal is also ready to implement as PEP stated in 2011.

(781B-Full): Hikurangi subduction margin, which is the proposal for deep riser drilling with 6000 m of penetration. SEP reviewed and then forwarded to CIB with an "excellent" rating, so this project should be discussed at this meeting. N. Eguchi mentioned that the CIB received this proposal last time on Hikurangi, and they didn't take any action. The CIB will discuss this tomorrow as listed in the agenda.

(782-Pre): Kanto Asperity Project: This one is still at SEP.

(800-MDP) This one is scheduled for its first expedition by JRFB for November, and one of the three potential sites would need riser operation by *Chikyu*.

(805-MDP): Mohole to Mantle (M2M), there are 3 proposed areas, and one very close to the CRISP site. There still remain the great technical challenges of high temperature and deep-water operations. SEP recommended the proponents to submit revised proposal.

(835-Full) J-TRACK, this is potentially a *Chikyu* proposal due to the water depths of the sites. SEP recommended the submission of a revised full proposal.

(857-MDP) DREAM umbrella proposal of deep-sea records of Mediterranean events.

(857A-pre) DREAM-GOLD project has the listed SEP comments to improve the proposals. SEP recommended the proponents develop this as a CPP with industry and submit a full proposal.

(865-Full) Nankai trough deep biosphere; constraining the temperature limits of the microbial deep biosphere in the Nankai Trough subseafloor. This proposal has been forwarded to the CIB with "excellent" rating and will be discussed later during this meeting.

H. Villinger asked two questions. He commented if the borehole cap means a CORK in the response letter, and if so, that would be very expensive. D. Mallinson said that he was not aware of that himself, but they mentioned that a borehole cap with temperature and pressure gauge, so it seems like not a real CORK. H. Villinger continued asking what EMS was, which was described in the part "down-hole logging with tools like EMS to provide high resolution temperature". M. Kyaw described the EMS (The Environmental Measurement Sonde), as something like a temperature measurement instrument with only 0.1ºC precision; cheap but very reliable. He also mentioned that EMS is used only for borehole readings, not for sediment. C. Moore mentioned that it's possible to correct this for the sediment. N. Eguchi reminded C. Moore that this was something much like they used for JFAST. D. Mallinson asked if this matter would be discussed the following day. N. Eguchi told the group that they could discuss it tomorrow during Agenda Item #16.

(871-Pre): Lord Howe Rise crustal evolution, 6 proposed sites, with contextual framework, a CPP (complementary project proposals). Science meeting will be held in Sydney the following week. The proponent would like to drill 1 primary site and a few others from the other potential five sites if operational time allows. SEP recommended submission as a full proposal. D. Mallinson confirmed that the 3-D survey grid was funded by the response of A. Heap. Chair G. Kimura responded that the group would discuss this proposal tomorrow.

(876-Pre) The proposed sites are located offshore Nicaragua, in which there are four sites; 1a, 1b, 1c (deepest), and 1d. Drilling at this proposed water depth is beyond *Chikyu*'s present capability. WDs' recommendation is to develop full proposal.

(880-APL): IMTB proposal is not clear on its experimental design. This needs a better explanation with details and diagrams. Many issues and recommendations are provided.

Many of these will be discussed tomorrow at this meeting. No further questions arose.

H. Nishi asked if the 876-Pre proposal conclusion was that drilling there is beyond *Chikyu's* capability. In response, D. Mallinson said that the watchdogs said that would be beyond 10 km. H. Nishi asked if this is possible to implement with the current *Chikyu* capability.

N. Eguchi said that this issue is similar to the M2M proposal, that *Chikyu* cannot reach the target at this moment. H. Nishi commented that this was a very interesting and good proposal, so he wants to know if this is within *Chikyu's* capability. D. Mallinson also commented that this proposal is every bit as interesting as the M2M proposal.

21. Outreach Activities (10th anniversary activities – moved from day two)

(16:47 h.) (Omata)

Tamano Omata presented an update of CDEX/JAMSTEC outreach activity from the last CIB meeting. This includes IODP booths at the AGU fall meeting, AOGS, and the UN world conference on disaster risk reduction 2015 in Sendai, Japan, collaboration with media, list of activities, website renewal, and *Chikyu* 10th anniversary plans.

Website renewal plans include a complete overhaul (new design), aiming to provide the public and scientists with easier navigation and more information. This will also be easier for CDEX staff to update. It will be launched in April 2015, with two main sections: Chikyu and CDEX scientific drilling. An IODP page will focus on Japanese scientists for postcruise study, feasibility study, and funding info.

For the *Chikyu* 10th anniversary, she emphasized the CDEX/JAMSTEC would send the public a strong message that they continue to pursue ocean drilling research. There will be several events: a memorial symposium, an open ship in Yokohama, workshops and local activities with *Chikyu* sister cities (e.g., Hachinohe, Shingu), an anniversary report (in Japanese), and collaboration with media (e.g., National Geographic Japan).

Y. Kimura commented on the website renewal; it would be better if it is consistent with other IODP community web sites (so that the new website is user-friendly). H. Given mentioned that the iodp.org website is out of date, and some parts were just taken over from the previous IODP-MI website. This is a good opportunity to simplify it. T. Omata commented that the new website is based on a clean simple format, with the same blue used widely among the IODP community, so there should be some kind of consistency maintained.

14. Chikyu Scientific Highlight (NanTroSEIZE) (Chair - Kimura)

(17:00 h)
G. Kimura presented the present status of NanTroSEIZE, which has continued for more than 7 years, and is now nearing completion in its' most important phase – reaching and sampling the plate boundary. Some of the relevant points:

- 2 million years of activity
- What controls the rupture area? An evolved upper plate; possibly also the subducting plate and plate interface.
- Shallow localized seismic slip (to trench, like Tohoku)?
- C7 & C4 thin fault gouge band
- Vitrinite reflectance layers in these bands at these sites (C4 & C7).
- Suggests high velocity slip, right near the trench edge
- Only now is slip considered to propagate all the way to the trench.
- Dynamic rupturing may cause rapid weakening.

G. Kimura presented the current stress state at Nankai. If the in-situ stress state can be defined, the danger level can also better defined. The very important difference here is that NanTroSEIZE is drilling and sampling the in situ environment before the next mega earthquake. This can help define the danger in other subduction zones.

There were no more questions.

G. Kimura mentioned that riser proposals at other seismogenic zones are coming along. If observatory systems can be set up around the world, this will be a very important step forward in earthquake monitoring and tsunami warning. It's not clear how this could be connected to earthquake prediction, but the information gained will be very valuable.

G. Kimura declared the end of business for the day, and moved that everyone move to the planned reception.

Reception

Day-2 Tuesday, 31 March 2015

15. Chikyu Long-term Ops models (Kuramoto)

(08:59 h.)
Chair G. Kimura greeted the group, briefly mentioned that the day will be a busy one, and returned to **Agenda Item #15**.

Outlook for Future Operation Windows (S. Goto)

(09:00 h.)
S. Goto explained the 3-year plan for *Chikyu* ops. There was a long standby period, due to the long delays in negotiation for the India contract during this fiscal year. But now the project has started and is planned to be completed by the end of July. At that time *Chikyu* will return to Japan by the end of August. Once *Chikyu* is back, dry dock begins. We proposed last year to have an IODP expedition at the border of FY 2014-2015. However, that was cancelled by the abovementioned commercial contract delays. We now hope to have some IODP expeditions at the end of 2015, and again in 2016.

S. Goto presented the *Chikyu* funding structure this year. Base costs are covered by commercial drilling and by Japanese government funds. More will come from the commercial work offshore India. This gives us some carry forward funds from savings in day rates. We have USD 33M for shipyard work, due to JPY depreciation. Therefore some dockside items will be dropped or postponed from the original shipyard plans.

We are looking forward to more non-IODP and IODP work for the JFY 2015. We will have USD 99M for 2015. If dockyard work were not needed, we would have USD 33M, equivalent to 3 months riser drilling. But the dockyard work is required for the legally mandated 5-year ship inspection. We are now looking at riser drilling in 2018, with chances for 2 non-riser IODP operations between now and then. CDEX is always looking for more commercial work to offset the monies needed to expand operations.

H. Kawahata asked if CDEX asked the Indian contractor for the lost costs since CDEX was forced to wait for 6 months. S. Goto answered that this was very difficult to negotiate, and we are not considering negotiating with India on this matter. C. Moore asked where the shipyard work would be performed. S. Goto answered that the shipyard would be in Japan; payment on it is Japanese yen, but BOP maintenance etc. would be paid in USD. S. Kuramoto added to the S. Goto's comments, that, since there was no official letter from the Indian government, we cannot make any claims for money lost from waiting from September to February.

Potentials for New External Funding Sources (S. Kuramoto)
(09:15 h.)
S. Kuramoto began by introducing the *Chikyu* implementation policy, and then the *Chikyu* working plan, which essentially includes five months for science operations, five months for other/non-science operation, and two months for maintenance, per JP FY. This was already introduced at the Chikyu+10 international workshop in 2013 and during the last CIB meeting (#2 CIB). The *Chikyu* implementation policy aims at maximizing science output and outcome (by increasing IODP operations window, flexible adaptation of other sources of drilling, CPP-like projects, and building a robust funding structure). Since commercial work is not always available, the current funding structure is not that stable; it requires some changes to stabilize.

S. Kuramoto reviewed *Chikyu's* IODP long-term scheduling plans (presented at the last CIB) and also reviewed the last 10 years of *Chikyu* operations, including the theme categorization at the Chikyu+10 international workshop.

G. Camoin wanted to clarify if, after the Site C002 riser, three more riser expeditions (at maximum) could be drilled in the best case by the end of the program, He reminded the group that this is something the CIB should keep in mind. J. Mori asked about the cost different between riser and riserless operation. S. Kuramoto answered that riser operation cost is almost twice as that of riserless (basic cost is same). H. Villinger pointed out if we would like to keep 30% usage for IODP; there is already a problem with the 17% *Chikyu* usage in 2014. S. Kuramoto agreed with H. Villinger that there is always money issue.

G. Kimura asked about the IODP (IODP Exp. 331) Okinawa operation and another operation under the SIP (not open internationally). If these operation styles are applied to other operations whose scientific objectives are very similar, perhaps a kind of CPP operation

could be created, depending on funding. He wondered if JAMSTEC could do this kind of operation. S. Kuramoto answered that basically this is possible but in the case of SIP might be difficult. H. Hotta also commented that JAMSTEC data are basically open to the public, but this might not always be true for specific projects and their data obligations. G. Kimura pointed out that if SEP agrees with the rule; it sounds possible (SEP now understands what CPP types of proposals are). H. Hotta replied to G. Kimura that up to now, JAMSTEC has never thought about this possibility; JAMSTEC will need to examine this carefully.

H. Nishi asked about the distribution of the maintenance window, which is generally two months long and slightly distributed to over the years. S. Kuramoto answered that the law requires two to three months maintenance every year and major dock period every five years; he also explained that the maintenance period appearing in the presentation includes a “tie-up” period.

A. Heap asked what opportunities (for the membership countries) are available, looking at IODP window for next three to four years. S. Humphris followed up on A. Heap’s comment and said that we should not raise expectations in the community, regarding the next call for proposals. No more riser proposals would be necessary at this time. G. Camoin suggested that the CIB has to tell the community that proposals would be prioritized soon so that their expectations are not raised too high. H. Villinger agreed, saying that so many proposals are already here for *Chikyu*; he noted that *Chikyu* will be busy until 2020, given 6 months per year for science operations. He continued to add that he would also discourage sending the community the signal to send more proposals for *Chikyu*. N. Eguchi understood H. Villinger, but he asked if the MSP has the same situation as *Chikyu*. K. Gohl answered that it would be good to have a choice with variation of lower cost to higher cost. He commented that CIB should do the same as the MSP does. A. Heap asked to clarify how much opportunity is available (not to increase expectations in the community). N. Eguchi commented that it is already a CIB Action Item to check the call for proposal wording, which was mentioned by H. Given on Day 1, and H. Given again put up the Call for Proposals on the screen.

H. Villinger suggested stating that this year would focus on ship maintenance, but we have to discuss what will come after that for the next two years. H. Given agreed, but also added that the community does not see the severity of the situation and what happens over the next several years should be information open to all. H. Villinger commented that NanTroSEIZE not being finished is one of the problems; since Hole C0002F/N/P needs at least 300 days to complete. I. Sawada confirmed that this is not a fixed operational requirement, but it would at minimum need more than 200 days, in total.

G. Camoin pointed out that *Chikyu* has four multi-phases projects (not single expeditions); if the CIB compares their situation to the MSP. K. Gohl asked what would be the implications in discussions with MEXT, and also asked if it is “calling for more proposals”. Y. Kimura commented that MEXT is slightly decreasing the budget for scientific ocean drilling as S. Goto mentioned. However, at the same time, they consider *Chikyu* a national program, so they are committed to *Chikyu* and will welcome international science projects.

K. Gohl commented there would be high interest in scientific community; asked if there is already enough proposal pressure or not. J. Mori said that the pressure may already be more than enough, but at the same time he would not use “the CIB does not want to see new proposals” wording. He continued that the CIB has to convey the reality of the situation,

but the system should be open, since a brilliant scientific idea might pop up in the future. Y. Kimura commented that riser drilling is special in terms of long-term preparations that make it difficult to set up an annual budget. On the other hand, good proposal pressure is a good way for MEXT to set up the budget.

Chair G. Kimura replied that it is very difficult to make comments here because he is deeply involved in the NanTroSEIZE project. He continued to mention there have been many difficulties, which were not foreseen in the proposals, not only NanTroSEIZE but also for other projects. If we successfully finish NanTroSEIZE, the experiences compiled (with difficult riser drilling) can be used to encourage all kinds of riser proposals. N. Eguchi expressed concern regarding G. Kimura's possible CoI here as a NanTroSEIZE PI. Y. Kimura emphasized that MEXT recognizes *Chikyu* operations as a national program. S. Humphris suggested scheduling simple drilling operations before completing the NanTroSEIZE Site C0002 plan, by which time the budgetary situation might be better.

Chair G. Kimura suggested that the CIB make some statement to the NanTroSEIZE PCT thinking about the project completion, considering that the Japanese people are aware of Nankai region earthquake and tsunami possibilities and therefore can bring taxpayer pressure to complete the project.

C. Moore asked if the presently installed genius plug is similar to what will go into the hole. J. Mori talked about observatory objectives, and making hard decisions on how much time can be scheduled and how the extra information would be important. H. Villinger commented that the CIB should encourage the NanTroSEIZE PCT to make a decision and come up with the solution, considering the last PCT meeting minutes, of writing selling points for deepening the hole and the matrix. J. Mori suggested an external review if it is a critical decision for the program.

Chair G. Kimura paused the meeting for a coffee break at 10:15 hrs, and asked the CIB members and other facility board chairs and CDEX representatives to join a closed session and the meeting reconvened at 11:09 hrs.

CIB members returned to the meeting. Chair G. Kimura thanked the group for waiting; he summarized the CIB member discussion during the coffee break: there would be one more attempt for riser drilling; the NanTroSEIZE PCT has to think about how to finish the project within a five-month drilling schedule. "CPP riser proposals would be welcomed" would be sent out as the message to the community, regarding *Chikyu* riser proposals ("Call for *Chikyu* Proposal – Due to proposal pressure, we are requesting only CPP proposals for the *Chikyu*). H. Given asked if the CIB would make a consensus on this and clarify what CPP means in the statement. A. Heap appreciated the CIB making a statement regarding future riser drilling.

K. Baker asked if the CIB allows a one time five-month window. J. Mori answered it limits NanTroSEIZE to completion within 2017-2018 and then maybe return in the future. K. Gohl said he realizes the importance of this project, but asked if there was a realistic approach to the ministry for funding to complete the project. Chair G. Kimura answered that getting any extra funding will not be easy. Y. Kimura added it would be difficult to apply for additional non-IODP budgetary funds for the Nankai project. S. Kuramoto also added scientists can

apply for extra funds for observatory, sensors, etc., but getting sufficient funds for operations is more difficult.
S. Kuramoto stated that more effort on his part needs to be made in approaching Japanese industry groups for funding. This could include in-kind contributions, such as tools, equipment, and engineering.

Chair G. Kimura confirmed that there were no more questions/comments and moved to the next topic, External funding sources.

CIB_Consensus_0315-05: The CIB supports NanTroSEIZE operations for the projected IODP time slots in JFY 2017-2018. We encourage the installation of the observatory components for the unique data they may provide. For operational decisions and contingency planning, a summary science target matrix should be prepared by the PCT for each step of these operations. The CIB anticipates that this will complete the current phase of the NanTroSEIZE project. The CIB also recognizes that C0002 can likely be preserved for possible future deepening, observatory installation, and continued investigations.

CIB_Consensus_0315-06: The following sentence will be posted on IODP proposal solicitation announcement. “Due to current proposal pressure, the CIB actively invites only CPPs (Complementary Project Proposals) for IODP *Chikyu* Riser operation”.

(11:16 h.)
Chair G. Kimura sent out a message regarding external funding sources homework. Project base approach (e.g., Mantle Drilling proposal, DREAM/GOLD), in-kind contributions in engineering development (e.g., deep water riser, high–temperature) and new materials (carbon fiber) are needed. He continued to talk about technology-wise, not money-wise contributions, and that welcoming more contributions is encouraged. Chair G. Kimura concluded that the SIP type of operations is one such possibility; he would ask CDEX and JAMSTEC to consider this more.

G. Kimura asked for other ideas from the CIB members. SIP-type of operations might be important for IODP. Moved on to **Agenda Item #16**.

16. Chikyu Proposals (update and discussion) (Chair - Kimura)

Chikyu Project Update (CRISP, IBM)
New Proposals from SEP

G. Kimura stated that the CIB has endorsed forming a PCT for NanTroSEIZE, CRISP, and IBM-4, but not for Hikurangi. What should the CIB do with these? Activate their PCTs? Put them into the CIB 'Holding Bin"? Deactivate? N. Eguchi reminded everyone that a CRISP PCT was held in Dec 2013 at AGU. There was a site selection meeting and seismic data meeting, but that is all. For IBM, the CIB consensus was to create a PCT, but CDEX hasn't sent out invitations yet. NanTroSEIZE is up and running. No PCT for Hikurangi has been set yet.

H. Villinger asked how much lead-time CDEX would need if IBM drilling took place after 2018. S. Kuramoto mentioned the need for site survey data and then possibly 2 years from that. The operation time estimate was over 450 days (divided into 3 years). He also said that CDEX has ocean current data (1 yr worth) and are still collecting detailed bathymetry data

via AUV. Additionally, the PCT members have not officially started. There are some necessary technology developments underway, and some other operational aspects need to be considered. However, the work is within *Chikyu's* current capabilities. Funding is still very unclear.

G. Kimura said a clear message needs to be sent to the IBM PCT from the CIB. H. Villinger and C. Moore agreed that there was no pressing need for the CIB to take any action now. K. Becker suggested that any CIB message be accompanied with a note that the next riser project has been scheduled. G. Kimura and C. Moore suggested that the IBM and CRISP PCTs be placed "on hold" until an opportune window opens for their projects to move forward. There is no CIB "Holding Bin", so these PCTs will be on hold, for the near term. The group also agreed upon there will be no priority ranking made among the three proposals currently at the CIB stage, and the following consensus was made.

CIB_Consensus_0315-07: The CIB will keep three riser projects/proposals (537B, Costa Rica Seismogenesis Project Phase B; 698, Izu-Bonin-Mariana Arc Middle Crust; 781B, Hikurangi: Riser) without any stated priority. The CIB will not support PCT activities until an appropriate window of *Chikyu* opens.

865-Full: Nankai Trough T Limit

The CIB understood the scientific importance of this proposal and endorsed its implementation. The discussion focused on whether to proceed with establishing a PCT for this proposal.

H. Givens asked to confirm if a PCT can be established for a riserless drilling expedition, and N. Eguchi confirmed it depends on the complexity of operation but this proposal needs one. G. Kimura confirmed the need to establish the PCT, and then began thinking about scheduling. There should be a CIB priority discussion between NanTroSEIZE C6 LTBMS and this proposal for JFY 2016 riserless operation window. The JFY 2015 window will be occupied by the IODP NanTroSEIZE C10 LTBMS operation.

CIB_Consensus_0315-08: The CIB established a riserless Project Coordination Team for IODP Proposal 865, Nankai Trough T Limit, for scoping detailed implementation plan and preparation for its implementation in the future riserless operation window of D/V *Chikyu*. *The CIB recommends Kai Uwe Hinrichs (Chief Project Scientist; CPS), Fumio Inagaki (CPS), Masataka Kinoshita (member), TBN (member) and Ikuo Sawada (CDEX), Nori Kyo (CDEX), Nobu Eguchi (CDEX) and Yusuke Kubo (CDEX).*

Note, the forth slot for the science member will be determine later.

871-Pre: Lord Howe Rise Crustal Evolution

N. Eguchi described the pathway for riser proposals. Based on the SEP results, the new pre-proposals come to the CIB, and then the CIB encourages workshops (WS) to develop full proposals. If needed, a PAT can be established with CDEX, with TAT advice. Currently, the pre-proposals are at this stage. H. Givens pointed out that the LHR already has a WS scheduled, and stated that she was asked by JAMSTEC to state that this is a joint WS. Y. Kawamura stated that the PIs had wanted to request funds from the CIB, but the deadlines left little time for planning WS scheduling. If this is a feasible proposal, they'd like the CIB to help with a 2nd WS this summer. Chair G. Kimura asked the group if there was consensus for having a 2nd workshop, when N. Eguchi reminded him that the WS & proposal proponents need to submit a WS proposal to the CIB. D. Mallinson asked if this was all for

LHR? He had information that the Bend Fault group are organizing a WS this summer as well. C. Moore noted that they are looking at sites off Nicaragua, to which N. Eguchi noted were beyond *Chikyu's* current capabilities.

G. Kimura proposed including the bend fault with the M2M-class proposals. And therefore the CIB will only take on the LHR now. He then called a lunch break until 1300 h.

CIB_Consensus_0315-09: The CIB reviewed IODP Proposal 871-Pre "Lord Howe Rise Crustal Evolution" along with its' January 2015 SEP review and recognized the importance of this CPP project. The CIB endorsed its scientific objectives and agreed with the SEP reviews to develop 871-Pre to a full proposal. The CIB invited a "Full-proposal development workshop" proposal for PIs of this proposal with submission deadline of 30 April 2015.

Note, although this consensus was made after the meeting, we keep this here as a record.

CDEX received "Full-proposal development workshop" proposal from 871-Pre PIs by 30 April 2015 and discussed among the group. The following consensus was made on 7 June 2015, after the CIB member reviewed the workshop proposal.

CIB_Consensus_0315-16: The CIB reviewed 'Full proposal development Workshop' proposal for IODP Proposal 871-Pre. The CIB endorsed implementation of the workshop and formation of a Proposal Advisory Team (PAT) for the workshop. The team members comprise Yasu Yamada (JAMSTEC; Earth), Clinton Foster (Geoscience Australia; Oceans & Climate), Marco Coolen (Curtin Univ.; Life), Ikuo Sawada (CDEX), Nori Kyo (CDEX), Nobu Eguchi (CDEX), and Andrew Heap (Geoscience Australia).

Lunch Break

876-Pre: Bend-Fault Serpentinization

Coffee Break

17. Mantle Drilling Working Group (Chair - Kimura)

(13:03 h.)

S. Kuramoto reviewed **CIB consensus 0714-05**: formation of a working group to support existing proposals for full crustal penetration to the mantle, the draft Terms of Reference extracted from the Agenda, BEAM (Borehole into Earth's Mantle) activities in IODP (~2013), and steps into the next level of project approach in terms of science, engineering development, funding, outreach/PR. This requires a specific site survey to update the M2M proposal in the system; right now there are three possible sites: Hawaii, Costa Rica, and Mexico. JAMSTEC and the University of Hawaii are currently preparing for a site survey off Hawaii. Permission over the last two years was not received due to concerns about marine mammal protection. Engineering development is at very primitive state (deep water, deep penetration and high temperature tools required). Funding perspectives include approaching governments, inter-government organizations, and private funding. Outreach needs to address the importance of having the understanding of the taxpayers. He continued to explain JAMSTEC's current engineering approach to this project: new materials for deep riser system (e.g. carbon fiber), long-lasting drill bits, turbine motor, small scale CFRP riser pipe test, and new drill pipe (DP). Discussion on these has not progressed far within JAMSTEC; there hasn't been much progress since the last two workshops and the proposal had been sent for review.

H. Nishi asked who submitted the proposal to the program. S. Kuramoto answered Prof. Umino (Shizuoka Univ.) already submitted the M2M proposal (IODP Proposal 805-MDP). G. Kimura asked if Costa Rica is a candidate site; they include new pre-proposal in the workshop in the discussion. H. Nishi asked if new submission of either pre-proposal or others is necessary. S. Kuramoto answered that new proposals were not necessary, what is needed is more discussion on science, engineering, funding, and outreach. Establishing a working group is not recommended at this stage, he mentioned. K. Becker asked for more precise information about the specific site and site characterization. S. Kuramoto replied there are three sites, and if TAT needs more experts on engineering/drilling it is a good idea to invite more people. K. Becker commented that the three sites are necessary to transmit to TAT for discussion. TAT is not allowed to even look closer at the proposal. H. Given commented that the proposal is still at SEP. No specific site was discussed, and SEP commented they looked good, but different groups within the proponents favor different sites. S. Humphris commented that three sites information should be available to TAT because their sites are already defined; H. Given agreed. G. Kimura commented that the CIB already recommended the establishment of working group at the last meeting, and asked the CIB members about their thoughts. C. Moore commented that he worried that the proponents think only theoretically about the whole system. N. Eguchi added that large funding and technical issues are in the way. Currently, CDEX is working on this project domestically with TAT. S. Kuramoto commented that more knowledge about ultra-deep ocean drilling is needed. N. Eguchi commented that TAT already made recommendations to create a working group. S. Kuramoto commented that an additional working group is not necessary at this level; at another level, establishing another technology-focused working group would be needed. K. Becker said the TAT needs the site characteristics to provide sufficient advice. H. Given suspects that the PIs want to revise the proposal until the site survey data made available. D. Mallinson guessed, looking at the SEP review, to bring in some other people such as Dean Liver at the Jet Propulsion Lab might help improve the proposal.

H. Given wondered that the proposal reviews were not going to be available to the implementer. G. Kimura summarized that the CIB recommends that the CDEX working group keep going; the CIB will look at the record of communication with CDEX and TAT next meeting. H. Villinger commented that the site survey data looked good for the Cocos plate location. H. Given commented that no one is pushing this one, and H. Villinger commented that he is not sure the site survey helps decide the location according to the pros and cons tables of technology challenges. He also mentioned that the target is 7000 m below seafloor; that would be a challenge in any location. D. Mallinson commented that the proponents seemed to favor Cocos in the proposal. S. Humphris stated that their favorite is Hawaii because the temperature gradient is lower, compared to the other sites, referring to the technical report. She added that temperature gradient is a limiting factor for the Cocos location. D. Mallinson emphasized that they favor Cocos (but not technically). H. Villinger commented that he would not wait until the site survey data comes out. D. Mallinson commented that it would be based on technical aspects. G. Kimura commented that we should wait and see by the next CIB meeting.

CIB_ActionItem_0315-02: The CDEX will work together with the TAT regarding “Full Crustal Penetration drilling” and will report back to the CIB at the next meeting.

18. Usage of Membership Fee (ECORD and ANZIC) (Kuramoto)
(13:37 h.)
S. Kuramoto briefly mentioned how membership fees from ECORD and ANZIC are used and maintained. The membership fee is collected annually, and it is directly placed in a new secure account created separately from regular JAMSTEC accounts (Specific Contribution account). The secured money is kept in the account for 5 years. If the fee was not used within the mid-term project period, it can be carried over to the next fiscal year. In principle, all the money kept in this account should be used for scientific operation, much like a SOC from the previous IODP structure.

19. Chikyu Facility Procedures, Guidelines and Policies (Chair - Kimura)
Chikyu Staffing Procedures
Chikyu Onboard Measurements Guidelines
Chikyu 3rd Party Tools and Instruments Policy
Chikyu 2nd Post Expedition Meeting Guidelines
IODP Proposal Confidentiality Policy
IODP Site Survey Data Confidentiality Policy

H. Given noted that the "IODP Proposal Confidentiality Policy" and "IODP Site Survey Data Confidentiality Policy" are all primarily products of review and revision from the old program policies, and have already been approved by the other FBs, with no major changes from the previous versions. One issue that S. Humphris pointed out was that the language of these policies was improved. H. Villinger asked that safety requirements should be noted in the 3rd party tools and instruments policy. S. Toczko answered that this information is (will be) provided via the *Chikyu* wiki on the web site. There were no additional discussion/questions regarding these policies, procedures, and guidelines, CIB approved four *Chikyu* specific procedures, guidelines and policies and two IODP policies as they are.

CIB_Consensus_0315-10: The CIB approved "Chikyu Staffing Procedures", "Chikyu Onboard Measurements Guidelines", "Chikyu 3rd Party Tools and Instruments Policy" and "Chikyu 2nd Post Expedition Meeting Guidelines".

CIB_Consensus_0315-11: The CIB approved the revised version of "IODP Proposal Confidentiality Policy" and "IODP Site Survey Data Confidentiality Policy".

CIB_ActionItem_0315-03: CDEX will provide the policy updates to the CIB.

Nagoya Protocol on Access and Benefit Sharing: Implications for IODP (Morono)

Yuki Morono from KCC made a presentation and discussed how this can affect future expeditions. Since there hasn't been a specific policy created for IODP, this has the potential to cause issues for non-biologically focused expeditions. H. Villinger asked if this would apply to non-biological core samples that were later used for biological study. Y. Morono said that in that case, an application for permission would need to be submitted. A. Heap asked who would take this responsibility, the lead proponent? He noted that these samples could be around for years. H. Givens noted that the USIO's M. Malone is of the opinion that each IO should create their own policy. G. Kimura asked if this could affect the proposed

Nankai temperature limit project, and Y. Morono said it would. However, in that case, the presence of Japanese scientists should make this less of an issue.

CIB_Consensus_0315-12: The CIB recognized the importance of the Nagoya protocol and its potential effects on future *Chikyu* IODP operations.

20. KCC report (Kinoshita)

(14:15 h.)

M. Kinoshita presented KCC's major roles and responsibilities, which include curation of legacy and IODP core samples, maintaining the *Chikyu* lab mirror site, encourage intensive use of core and related information, curation-specific researches, and facilitate access to analytical facilities of KCC for IODP core study. KCC has upgraded advanced equipment and measurements with funds from JAMSTEC. He noted that the total amount of core samples reached 105 km by the end of January 2015 (including 5% of new IODP cores) in the repository since JR began operating in the KCC repository area in 2014. KCC maintains the IODP sample data & obligation policy. KCC also has other samples such as liquid nitrogen, 300 DeepBIOS samples, and some cuttings from *Chikyu* riser drilling. There have been many sample requests in 2014 with new JR cores from IODP Exp. 323 and 346. He mentioned that KCC is still developing a virtual core viewer, a CT analytical facility for IODP researchers, using iPhone or iPad. Educational outreach activities include pre-cruise meetings and a yearly J-DESC core school.

This fiscal year, KCC invited 10 young carrier scientists from China, Taiwan, South Korea, Indonesia, and Vietnam as a new activity, the Sakura Science School, to spend 10 days learning and training at the basic core school. The Japan Science and Technology Agency (JST) provided funds for this school. This outreach activity should continue for the next fiscal year (2015). New cores and sampling parties are planned for KCC in 2015, during which there will have been five expeditions from JR, and maybe one from *Chikyu*. He also mentioned that Kochi University has finished building a new core repository just before accepting more core samples. He stated that KCC has financial support from NSF USD 400K/year for maintenance and service for legacy cores (18,000 km worth) and samples. Contract for the legacy and JR cores is in the process of approval between Ocean Leadership and IODP/TAMU. M. Kinoshita will be leaving KCC soon to return to Yokohama. The new director of KCC will be Dr. Tsuyoshi Ishikawa, group leader of the isotope geochemistry group at KCC.

22. Next CIB meeting (originally item #23)

(14:30 h.)

Chair G. Kimura raised a question regarding the scheduling of the next CIB meeting. S. Kuramoto suggested that it would be better to hold it before JFY 2016, considering a possible conflict with ECORD-FB, but also to avoid the end of fiscal year. K. Gohl answered they will shift their next meeting to early summer, probably to the end of May or early June, so there would be no conflict. S. Kuramoto mentioned that the next CIB Chair, Y. Tatsumi, is based in Kobe, so one idea would be to hold the next CIB meeting there. However, S. Kuramoto should first ask Tatsumi if he could secure a venue. Chair G. Kimura confirmed that next February to March, which is not really the end of the JFY, would be good timing for the next CIB.

CIB_Consensus_0315-13: The CIB decided to hold its' next meeting in February-March 2016 in Kobe. A potential time window will be provided after consultation with the upcoming CIB chair, Yoshi Tatsumi.

Chair G. Kimura closed the meeting for coffee break at 14:34 h, and the meeting reconvened at 15:01 h.

23. Review of Consensus Statements and Action Items (originally item #24)

(15:02 h.)
N. Eguchi read out the list of consensus items, including 13 consensus and three Action Items, and opened each consensus/ Action Item for questions and discussion.

Regarding **CIB_Consensus_0315-4**, H. Villinger explained there were two versions: a strong statement and nicer recommendation that he would suggest we use. Chair G. Kimura asked J. Mori if there are any comments regarding the nicer version. J. Mori replied that it is okay with him. S. Humphris asked about the "data during the expedition" in the second bullet. Her question asked if it includes "data obtained post expedition". H. Villinger answered that this needs to be clarified that it refers to "data collected during the expedition".

Regarding **CIB_Consensus_0315-5**, H. Given asked what the "summary science target" means; she was concerned that while it's understood what that means now, it may be not understood so easily years from now. H. Villinger answered that PC members should know the meaning (so that is okay).

Regarding **CIB_Consensus_0315-6**, H. Given mentioned that right now, the proposal guidelines defining CPP are for *JR* operations, so "contact CDEX" should be mentioned regarding *Chikyu* operations. N. Eguchi made sure that this is for riser operations (although CDEX can accept CPP riserless proposals). H. Given pointed out that *Chikyu* does not have room for it. S. Humphris asked if the CIB would like to only accept CPP types of proposal because it is financially helpful. H. Villinger commented that it should include both riser and riserless. S. Humphris added that the CIB has more than enough riser proposals to last until the end of the program. Y. Kimura commented that the CIB does not want to limit CPP proposals for riserless operation. H. Villinger agreed that any CPP proposals are helpful. S. Kuramoto also agreed that riser operation is especially financially difficult, but CPP riserless proposals are also welcome. K. Gohl mentioned that the funding situation could change and this can be revised every year, so it is good to put this limit for now. K. Becker suggested adding "existing" or "current" before proposal pressure to make it clearer (this was added).

Regarding **CIB_Consensus_0315-7**, D. Mallinson suggested switching semicolons to commas (changed).

Regarding **CIB_Consensus_0315-9**, H. Given asked if TBD part will be filled out by email. N. Eguchi answered yes.

Regarding **CIB_Consensus_0315-10**, H. Given asked if the approved policies need to be posted on the iodp.org website. S. Toczko answered that the renewed CDEX website will have them. H. Given confirmed that she will post them at the iodp.org website as well.

Regarding **CIB_Consensus_0315-12**, A. Heap asked about the JRFB case. S. Humphris answered that JRFB has not yet discussed that, but the ECORD FB discussed it last week. A. Heap said this should be consistent.

Chair G. Kimura ensured that no other questions and comments remained regarding the CIB consensus and Action Items.

C. Moore acknowledged CIB Chair G. Kimura for his efforts and contributions to studying subduction zones since 1995. The group met C. Moore's words with applause.

CIB_Consensus_0315-14: Thanks to Gaku Kimura for not only service as head of the *Chikyu* IODP Board, but for a long-term commitment to ocean drilling and the study of subduction zones. In so doing he has showed well the personality necessary to forge our unified opinions.

CIB_Consensus_0315-15: We appreciate the influence of Ken Nealson on the *Chikyu* IODP Board. He planted the concept of investigating the temperature limits of life at the Chiyku+10 meeting and it has come to reality through a highly rated drilling proposal.

24. Other Business

(Chair - Kimura)

(15:10 h.)

Chair G. Kimura moved to the last Item.

N. Eguchi announced that he made a reservation at a *Shabu shabu* restaurant; he asked the group to let him know if they would like to join the dinner starting at 19:00 hrs.

Chair G. Kimura appreciated the group for all their contributions to the meeting and mentioned that he has one more year left until retiring. He said that he will continue supporting IODP after his retirement.

Chair G. Kimura called the meeting to a close at 15:26 hrs.

Meeting adjourned