

**REPORT  
OF  
IO / IODP-MI MEETING #4**

**Altis Hotel  
Lisbon, Portugal  
March 11<sup>th</sup>-12<sup>th</sup>, 2005**

**Attendees**

|                        |  |
|------------------------|--|
| Jamie Allan            | National Science Foundation                                |
| Jack Baldauf           | JOI Alliance, Texas A&M University, USA                    |
| Colin Brett            | ECORD Science Operator (ESO), British Geol Survey, UK      |
| Tim Brewer (IO-only)   | ECORD Science Operator (ESO),                              |
| Mike Coffin            | Ocean Research Institute, University of Tokyo, Japan       |
| Dan Evans              | ECORD Science Operator (ESO), British Geol Survey, UK      |
| Dave Goldberg          | Lamont Doherty Earth Observatory, USA                      |
| Colin Graham           | ECORD Science Operator (ESO), British Geol Survey, UK      |
| Thomas Janecek         | IODP Management International, Inc., Washington, D.C., USA |
| Yoshi Kawamura         | Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan   |
| Ann Klaus              | JOI Alliance, Texas A&M University, USA                    |
| Shin'ichi Kuramoto     | Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan   |
| Hans Christian Larsen  | IODP Management International, Inc., Sapporo, Japan        |
| Catherine Mevel        | EMA, Institut de Physique du Globe de Paris, France        |
| David McInroy          | ECORD Science Operator (ESO), British Geol Survey, UK      |
| Frank Rack             | JOI Alliance, Joint Oceanographic Institutions, Inc., USA  |
| Alister Skinner        | ECORD Science Operator (ESO), British Geol Survey, UK      |
| Hans-J. Wallrabe-Adams | ECORD Science Operator (ESO), University of Bremen, Ger    |

**March 11**

**IO Representatives only meeting  
09:00 –17:00**

**Report**

To be developed by IOs

**March 12**

**IODP-MI / IO meeting**

**09:00-17:00**

**Summary Agenda**

- 1) Review of Action Items from October, 2004 meeting
- 2) Items carried forward from IO-only meeting
- 3) Discussion of REVCOM results and standards for future meetings
- 4) Co-chief responsibilities
- 5) Development of IODP Third Party Tool Guidelines
- 6) Staffing Issues
- 7) Engineering development priorities
- 8) Annual Program Plan issues
- 9) Expectations for IO input/assistance to proposal proponents
- 10) Finalize Sample, Data, and Obligations policy
- 11) Status of publications
- 12) Data Management and Sample Policy updates
- 13) All other business

Items 11 and 12 were not discussed at this meeting. All other agenda items are discussed below.

**NOTE: The Appendix to this report contains the full agenda book**

**1) Review of Action Items from October, 2004 meeting**

The objective of this agenda item was to update attendees on the status of action items from the previous joint IODP-MI/IO meeting in Corvallis, OR (Oct 2004). Each original action item and time line is presented below along with a status report. *[NOTE: Information on some Action Items involving Hans Christian Larsen was supplied after the meeting as he was unable to attend due to travel complications].*

**A) Curatorial Issues**

**A.1: Core Distribution**

**Action Item:** Develop details for Conceptual Core Distribution Models and send to NSF/MEXT for comment.

**Time line:** Send to NSF/MEXT by mid-late November for comment. Present model(s) at December SPPOC

**Status:** *Several IODP and DSDP/ODP core distribution models were forwarded to SPPOC and NSF/MEXT. The IODP geographic core distribution model was approved by SPPOC and NSF/MEXT and awaits finalization of western Pacific boundary by SPC (to be done at SPC-Lisbon meeting). IODP-MI can then implement that model for IODP cores. For ODP/DSDP core distribution, the NSF/MEXT representatives indicated that the discussions were still ongoing and most likely redistribution of ODP/DSDP cores would not occur until FY07.*

## **A.2: Sample, Data, and Obligations Policy**

**Action Item:** Working group of A Klaus, S. Kuramoto, T Janecek to meet at IODP-MI headquarters to begin work on finalizing document. T. Janecek will develop full draft based upon this initial meeting. Hans Christian Larsen will work with Publications Task Force to finalize document

**Time Line:** Initial meeting of working group on Oct 1. T Janecek to prepare full draft ASAP. Hans Christian Larsen to present document to SPPOC in December.

**Status:** *A Klaus, S. Kuramoto, and T. Janecek met in November 2004 and discussed modifications to the policy. T. Janecek developed a second draft of the document based upon this meeting. Hans Christian Larsen to finalize document.*

## **A.3: Database usage between repositories**

**Action Item:** In IODP, the multiple repositories will be used by multiple platforms resulting in numerous database use and integration issues including:

Will all repositories need to have full access and knowledge of DIS, JCORE and Janus?

How will data management be coordinated?

Will a coordinated sample request numbering system be instituted in IODP?

Data Management Task Force to address these issues

**Timeline:** Unknown

**Status:** *SUPPLIED POST MEETING BY HANS CHRISTIAN LARSEN*

*Which database will be used by curators for collections retrieved by different platforms?*

*Bremen and Gulf Coast repository will use JANUS until a final resolution of the data base issue is resolved and a solution implemented by FY07. Kochi is not likely to receive IODP cores before FY08. If they receive ODP core in FY06, they likely will need to use JANUS. This will be resolved at data management coordination meeting in June 2005.*

*Will all repositories need to have full access and knowledge of DIS, JCORE and Janus?*

*This is to be avoided. This will be resolved at data management coordination meeting in June 2005.*

*How will data management be coordinated?*

*Currently, this is pursued through the IODP-MI – IO Data Management Coordination Group. A number of action items have been requested from IODP -MI to further map out what options we have. Hans Christian Larsen will provide further information to the IO's in April 2005*

*about the process to be followed. Data management coordination meeting in June 2005 will attempt to complete the current review phase of the different systems in use.*

*Will a coordinated sample request numbering system be instituted in IODP?*

*Yes. A position as IODP chief curator will rotate between the three IOs. IODP TAMU curator will serve first (from May 1st if possible). All sample requests will be directed to the chief curator with copy to the curator within the repository holding the actual core. Sample requests numbers are assigned by the chief curator. The number system will be sequential, but may include repository identification. The three IODP curators to propose to Hans Christian Larsen a numbering system along these lines.*

#### **A.4: Roles and responsibilities of Curators**

**Action Item:** Tom Janecek (working with curators at BCR, GCR, and Kochi) to develop a draft document addressing roles and responsibilities of IODP curators.

**Timeline:** Draft document by Jan 1, 2006.

**Status:** *Discussion deferred until final model for Core Distribution is determined. T. Janecek will still develop draft document by late Spring / early summer 2005. The document will initially focus on IODP cores only.*

#### **B) Publications Issues**

**Action Item :** Define Roles/Content/Production responsibilities for Prospectus and Preliminary Report Generation. H.C. Larsen (with A. Klaus, Dan Evan, S. Kuramoto) to use Publications Task force to work toward resolution of this action item.

**Time Line:** ASAP after discussion during November Publications Task Force meeting.

**Status:** *SUPPLIED POST MEETING BY HANS CHRISTIAN LARSEN*

*IODP-MI will be publisher of these Reports on behalf of the IODP. For FY05 and FY06, TAMU publications group will provide final editing and production of the reports for ESO and will conduct the entire process for USIO. Format issues: See below. IOs will be responsible for posting publications in PDF and HTML on the web. Location of the primary web site for posting publications awaits resolution of technical requirements for hosting publications. The choices are: Responsible IO website or IODP-MI website. In any case, all publications can be reached (by links) through the IODP-MI website.*

*IOs produce content of these reports according to the agreed standard templates for these. TAMU do the final editing and production for ESO (FY05&06). IODP-MI with assistance from*

*SPC review prospectus reports for science plan. IODP-MI review preliminary report for science assessment by Co-chiefs and staff scientist.*

*An IODP-MI - IO pubs meeting (video conference) on May 11 or 12 is scheduled to finalize issues about formats.*

*Shortly after IO meeting, Hans Christian Larsen, T. Janecek, and J. Baldauf discussed formats for prospectus development. J. Baldauf to send formalize suggested formats and distribute for comments. Left unresolved: Preliminary Rpt formats.*

## **C) Communications**

### **C.1: Contacts**

**Action Item:** T. Janecek to send IOs a list of areas (e.g., Publications, Data Management, Operations, etc) for which contact points are needed. IOs to send list of IO contacts, areas of responsibility, and reporting lines to T. Janecek who will then compile the information and return it to the IOs with a list of IODP-MI contacts .

**Time Line:** January 1, 2005

**Status:** *T. Janecek distributed a list of IOD-MI contacts at the meeting to all IOs. IOs will submit their contacts to T. Janecek ASAP. In addition to primary contacts for each topic, names should be supplied for those that should be copied on all correspondence related to that topic.*

### **C.2a: Daily/Weekly Reports and Site Summaries**

**Action Item:** IOs to supply each other with names of personnel to receive the full unedited Daily Reports. Others can be added by an IO on expedition-by-expedition basis if there is a specific need. The content of these Daily Reports should follow the current JOIDES Resolution model.

**Time line:** January 1, 2005

**Status:** *Done*

### **C.2b Posting of Daily Science Reports**

**Action Item:** The Science portion of Daily Report should be extracted and placed on IO website on a daily basis (or when there is science to report). The complete Weekly Reports and Site Summaries should also be placed on the IO website when sent from the ship.

**Time line:** January 1, 2005

**Status:** *Done*

### **C.3a: SPC/SPPOC Presentations**

**Action Item:** Han Christian Larsen to define content of IO and IODP-MI written reports for SPC and other meetings. Consensus is that these should be short (1-2 page) report –not simply printed copies of ppt presentations.

**Timeline:** ASAP.

**Status:** SUPPLIED POST MEETING BY HANS CHRISTIAN LARSEN

*IO, IODP-MI and other reports (agencies) to provide brief written reports (1-5 pages for SPC and SPPOC agenda books. Reports to focus on developments since last meeting relevant for the meeting and planning for the next half year. Text, tables and maps (if needed) in a memo type style with font size 12 (e.g., Times New Roman, Arial). Copies of the actual ppt presentations should not be included in the agenda book. The ppt presentations to highlight particular important aspect of the written reports, action items that need response etc. Reports to be submitted to the science coordinators at their request.*

### **C.3b: SPC/SPPOC ppt presentations**

**Action Item:** SAS group in IODP-MI Sapporo office to develop mechanism to link vetted powerpoint presentation to minutes.

**Time line:** ASAP

**Status:** SUPPLIED POST MEETING BY HANS CHRISTIAN LARSEN

*Science coordinators supporting SPC and SPPOC meetings will compile a list of requests from meeting attendees to receive post-meeting a CD with the presentations given and released for distribution between meeting attendees. They will not be edited or considered part of the formal minutes available on the web. A standard file labeling format will be defined and to be followed by contributors.*

### **C.4: Meeting Agenda Notification**

**Action Item:** IODP-MI to develop Master Calendar on the IODP-MI website to assist the community with meeting planning.

**Time line:** ASAP

**Status:** Done. It was suggested that port-calls be added to the Calendar. T. Janecek to address this issue.

### **C.5: Protocols for Calls for applications**

**Action Item:** Hans Christian Larsen to issue guidelines for the “Call for Applications” process.

**Time line:** ASAP

**Status:** *SUPPLIED POST MEETING BY HANS CHRISTIAN LARSEN*

*Assuming proper lead-in time in the future, call for applications will follow these guidelines:*

*1) SPC approval of science plan followed by general publication of science plan on iodp.org. Proposal abstracts for proposals within the science plan are posted with comments as necessary.*

*2) National offices inform their communities about the science plan*

*3) Program plan accepted by SPPOC*

*4) Expedition summaries prepared by lead proponents between SPC approval of science plan and SPPOC approval of program plan are posted post SPPOC on iodp.org and call for applications (with deadlines) made through this web site, through mailing lists, through publication in EOS and pro-actively by national offices.*

*5) National offices receive and prioritize applications and mutually agree on any departure from the standard staffing plan (i.e., Japan and ECORD swapping berths between different expeditions). IODP-MI is informed about the latter and inform IOs about such possible exchange of berths.*

*6) IOs receives prioritized list of applications from national offices and approval from IODP-MI to follow requests from national offices to swap berths (if relevant) and start the staffing process. Problems (if any) with securing correct expertise are identified and national offices informed by IOs with copy to IODP-MI.*

*7) IODP-MI is overseeing the whole process and monitor national balance.*

*Comment: IODP-MI is clarifying with LA if steps 1&2 prior to SPPOC are acceptable.*

### **D) Expedition Technical Assessment**

**Action Item:** IODP-MI (T. Janecek) to develop written expectations/standards, process, formats, guidelines for IOs

**Time line:** ASAP

**Status:** *First Draft in review at IODP-MI. Will be distributed for IO review by late Spring.*

## **E) Safety**

**Action Item:** T. Janecek to determine status at of HSE document on the agenda for December SPPOC meeting.

**Time line:** Before December SPPOC meeting.

**Status:** *Done- presented at December SPPOC meeting.*

## **F) Minimum Measurements**

**Action Item:** IODP-MI to review Minimum Measurements document and address outstanding issues in current document.

**Time line:** ASAP

**Status:** *Still in review by IODP-MI. To be included in IODP Policy manual, which will be generated in 2005.*

## **G) Engineering Development**

**Action Item:** T, Janecek to verify Engineering Development definitions for IOs for FY06 Program Plan and also to verify how replacement costs for large items are defined.

**Time line:** ASAP

**Status:** *Done. Definitions and Engineering development also discussed later in agenda.*

## **H) Other**

### H.1: Co-Chief Monitoring

**Action Item:** T.Janecek to verify with NSF/MEXT how co-chiefs are to be counted in terms of national balance (i.e., as part of the science party or independently).

**Time line:** ASAP

**Status:** *Done. Co-chiefs counted as part of scientific party*

The status of action Items not resolved at this meeting will be reported at the next IO meeting (Fall 2005).



## **2) Items carried forward from IO-only meeting**

Most of the Items Carried Forwarded from the IO meeting are incorporated into the other agenda items. One additional item was discussed in this section, **IO working groups**.

### **A) IO Working Groups**

The IOs developed a series of “Working Groups” centered on 5 themes. The IO working groups will develop inter-IO visions on each of the below themes, and report to next IOs meeting.

Deliverables will be a 5 to 10 page written report, spreadsheet (by end of September) and a 20 minute presentation (for October meeting). Draft mandates of each working group are presented below. Working group representatives are yet to be determined (See IO-only report for more details on these Working Groups).

#### **•Engineering Working Group (Tools systems\* and operations capabilities)**

\*Tools systems: borehole completions, downhole tools, rig infrastructure, wireline logging, logging while drilling, measurements while drilling, BHAs, drill bits.

The working group shall identify existing IO capabilities, develop a 5-year IO specific development ‘roadmap’ and discuss this to determine what elements are common among IOs. The development needs should be prioritized based on science requirements. Two timelines should be considered, a short (< 2yrs) and a long (> 2 yrs). The following should be considered when producing the development ‘roadmap’: scope, schedules, resource requirements (cost and manpower), possible need to do a market survey (i.e. new development versus ‘off the shelf’), implementation, information exchange, possible need to bring in expertise, desktop studies, design, testing and usage. Development ‘roadmaps’ should be justified, with an estimate of the return on investment included.

#### **•Science Capabilities Working Group (Core logging systems and laboratory systems)**

The working group shall identify existing IO capabilities, develop a 5-year IO specific development ‘roadmap’ and discuss this to determine what elements are common among IOs. The development needs should be prioritized based on science requirements. Two timelines should be considered, a short (< 2yrs) and a long (> 2 yrs). The following should be considered when producing the development ‘roadmap’: scope, schedules, resource requirements (cost and manpower), possible need to do a market survey (i.e. new development versus ‘off the shelf’), implementation, information exchange, possible need to bring in expertise, desktop studies, design, testing and usage. Development ‘roadmaps’ should be justified, with an estimate of the return on investment included.

#### **•Outreach Working Group (Internal and external communications, ship to shore, port calls, museums, conferences, exhibition booths, websites)**

The working group shall identify existing IO capabilities, develop a 5-year IO specific development ‘roadmap’ and discuss this to determine what elements are common among IOs. The development needs should be prioritised based on science requirements. Two timelines

should be considered, a short (< 2yrs) and a long (> 2 yrs). The following should be considered when producing the development ‘roadmap’: scope, schedules, resource requirements (cost and manpower), possible need to do a market survey (i.e. new development versus ‘off the shelf’), implementation, information exchange, possible need to bring in expertise, desktop studies, design, testing and usage. Development ‘roadmaps’ should be justified, with an estimate of the return on investment included.

**•IT Infrastructure Working Group (Database, information management, network requirements, metadata, standards)**

The working group shall identify existing IO capabilities, develop a 5-year IO specific development ‘roadmap’ and discuss this to determine what elements are common among IOs. The development needs should be prioritized based on science requirements. Two timelines should be considered, a short (< 2yrs) and a long (> 2 yrs). The following should be considered when producing the development ‘roadmap’: scope, schedules, resource requirements (cost and manpower), possible need to do a market survey (i.e. new development versus ‘off the shelf’), implementation, information exchange, possible need to bring in expertise, desktop studies, design, testing and usage. Development ‘roadmaps’ should be justified, with an estimate of the return on investment included.

**•HSE Working Group (Policies, procedures, documentation, training)**

The working group shall identify existing IO capabilities, develop a 5-year IO specific development ‘roadmap’ and discuss this to determine what elements are common among IOs. The development needs should be prioritised based on science requirements. Two timelines should be considered, a short (< 2yrs) and a long (> 2 yrs). The following should be considered when producing the development ‘roadmap’: scope, schedules, resource requirements (cost and manpower), possible need to do a market survey (i.e. new development versus ‘off the shelf’), implementation, information exchange, possible need to bring in expertise, desktop studies, design, testing and usage. Development ‘roadmaps’ should be justified, with an estimate of the return on investment included.

**3) Discussion of REVCOM results and standards for future meetings**

The main topics of discussion for this agenda item were to clarify recommendations from previous REVCOM meetings, discuss implementation of any cross-IO recommendations, and discuss standards and formats for future REVCOM meetings,

A number of question were raised by the IOs about the process of recommendation implementation, about feedback about IO input to the process, and about some of the specific recommendations. The IOs asked whether the published (online) REVCOM report was the “official” statement from IODP-MI or was there an additional document or statement forthcoming from IODP-MI. IODP-MI considers the report to be the official statement to not

only the IOs but to SAS and IODP-MI itself. In addition, many of the recommendations in the REVCOM reports are applicable to all IOs and these should be brought forward by IODP-MI and specifically discussed at future IO meetings.

The IOs asked about the input to the REVCOM meetings required by IODP-MI. Was the material provided sufficient? Should anything else be added? Were the formats acceptable? The IOs were told that the material they have provided to date has been excellent. However, the REVCOM 301 report recommended the inclusion of the Operator's Expedition Operations report to the meeting agenda book and IODP-MI requests that the IOs now include such a report in the meeting agenda book material.

There were questions about one of the REVCOM 302 recommendations that states IODP-MI will be responsible for distributing, collecting and collating "end-of-cruise" questionnaires to the scientific staff. The USIO was concerned this was subsuming one of their obligations. It was explained that this recommendation did not refer to all IOs but specifically to ESO. IODP-MI offered to assist ESO in developing, distributing, collecting and collating end-of-cruise questionnaires. IODP-MI will assist in any aspect of the questionnaire process that is requested by any IO.

IODP-MI explained future REVCOM improvements including (1) establishing a pool of engineers/technical experts so that they can obtain a familiarity with the program and provide more consistent input (2) developing a follow-up procedure to monitor the implementation of recommendations, (3) conducting "executive sessions" which include the IODP-MI personnel, industry representatives and outside scientists and (4) finalizing a set of standards and protocols for the REVCOM meeting.

The next two REVCOM meetings will be conducted for Expeditions 304/305 and Expeditions 303/306, most likely early-mid summer for (304/305) and late summer/early fall for 303/306.

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| <p><b>Action Item 05-03-01:</b> T. Janecek to work with USIO to determine venue and date for next two REVCOM meetings.</p> |
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A discussion ensued on about the development of an IODP Policy Manual, which would contain, among many other things, policies and protocols for the REVCOM meetings. IODP-MI explained that it is now in the process of generating a Policy Manual (using the old ODP Policy Manual as a template). Several sections of this Policy Manual concern IO ship operations and they will have to be updated by the IOs to ensure accuracy.

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| <p><b>Action Item 05-03-02:</b> T. Janecek to send IOs the expected Table of Contents of this new Policy Manual and work with IOs to ensure that all aspects of the Manual are updated.</p> |
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#### 4) Co-chief responsibilities

The main objective here was to discuss the inclusion of the Operations and Science Review component of the Preliminary Report into Co-Chief Responsibility document(s) used by each IO. **Appendix C of the Agenda** contains an example of a letter sent by the IODP-MI Vice Presidents to the co-chiefs on expeditions 304, 305, and 306 that outlines the operational and scientific information requested by IODP-MI in the Preliminary Report. The IO representatives suggested several modifications to letter. IODP-MI would revise the letter based upon the comments and circulate it to the IOs for additional comments. This revised letter will then be inserted into the co-chief responsibility package used by each IO.

**Action Item 05-03-03:** T.J. aneck to modify Co-chief letter detailed in Appendix C and send to IOs for further comments before it becomes part of standard Co-Chief responsibility package used by each IO.

#### 5) Development of IODP Third Party Tool Guidelines

The main objective of this agenda item was to discuss specific IO concerns regarding Third Party Tools with the goal of including responses to these issues in the new guidelines to be developed this spring by the SciMP and SPC.

Specific Third Party Tool issues (from the IO and IODP-MI viewpoint) include:

- The new policy needs a clear and viable method of enforcement. This could be via some combination of IODP-MI and the technology panels
- There needs to be a clear definition of the stages that a tool must move through to go from conceptual idea to an operational tool.
- There must be clear definitions and protocols for funding, tool testing, tool maintenance, and data access.
- Third Party Tool use in an expedition must be clearly defined at the time of scheduling by the Operations Task Force. The purpose of the tools (e.g., scientific use or engineering use) must be clearly defined.
- A viable way must be found to provide access to items with potential confidentiality issues (e.g. blueprints, proprietary software)

**Action Item 05-03-04.** T. Janecek to bring these issues forward to SCIMP and SPC and ensure they are properly addressed as the Third Party Tool policy is developed in 2005.

## **6) Staffing Issues**

The objectives of this agenda item were (1) to determine issues and problems the IOs may be having with respect to maintaining country/consortia balance during shipboard staffing and (2) to develop a more rigorous set of policies and protocols to assist the IOs. In addition, issues surrounding the selection process for co-chief scientists were discussed.

### **A) Comments on National Office Draft Staffing Memo.**

The National Offices have developed a rough draft of guidelines for maintaining IODP member science party quotas during the staffing process (Appendix E in agenda and below).

#### **DRAFTGUIDELINES FOR STAFFING SCIENCE PARTIES IN IODP**

This is a draft of set of guidelines for IODP member science party quotas, following the desire by ESSAC (and we assume the other National Offices) draft general guidelines for staffing.

- 1) Contemporaneous application deadlines and nomination submissions in Europe, USA and Japan.
- 2) Co-chiefs should not be counted in the science party quota (science party +2 cochiefs); this doesn't affect the MoU but allows for more flexibility
- 3) Automatic banking of unused births is a basic guideline but flexibility must be assured on the long run (2-3 year periods?)
- 4) National Offices should tune and predict the staffing of the upcoming expeditions taking into consideration the interest among their science communities and availability of scientists to avoid shortfalls in staffing that cannot be adjusted towards the end of these 2-3 year periods; this implies some flexibility to guide line #3
- 5) IODP-MI Sapporo Office will supervise National Offices negotiations and the long term balance of the consortia sailing quota.

The following comments/concerns about each Item Number in the Draft Guidelines (see above) came out the general discussion at this meeting. These comments/concerns will be forwarded by IODP-MI to the National Offices.

Comments on Item #1: The National offices need to forward more the 8 applications, if possible, to the IOs. Additional applications above the minimum amount provide the IOs with flexibility in selecting applicants for needed disciplinary balance (in addition to national member balance).

Comments on Item #2: This statement is incorrect. According to the Lead Agency representatives, the co-chief scientists are to be counted in the total scientific party balance. The IOs should also strive to maintain a balance among the co-chiefs, although it is clear that this balance may need to be kept over a longer period of time than the scientific party.

Comments on Item #3: Members countries/consortia are allocated a set participant level for each expedition. If National offices choose to not use their allocation they need to send a letter to

IODP-MI stating that understand they are not using their allocation. IODP-MI can then instruct the IOs to staff additional scientists from other member countries, if applicable. If National Offices do not choose to use their allocation and have not arrange a “trade” with other National offices (see Comments on Item#4 below), the unused berths cannot be “banked’ for future use.

Comments on Item #4: Should member countries/consortia wish to exceed their allocation, “trading’ berths is acceptable. This “trading” should be done by the National Offices (preferably at yearly National Office meetings) and will be supervised by IODP-MI.

General comment: From time-to-time, the nature of an expedition may require additional sea-going engineering/technical support to successfully complete an expedition. This may require the IOs to reduce the overall total number of scientists (but keep the overall ratio intact).

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| <p><b>Action Item 05-03-05:</b> T. Janecek to forward IO comments on Draft Staffing Guideline Memo to the National Offices.</p> |
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### **B) Comments on Co-chief selection process**

The IOs were asked (1) if they prefer a pool of Co-chiefs for each expedition or a prioritized list and (2) when in the scheduling process do they see the best time for selection of co-chiefs.

The IOs preferred to have an unprioritized pool to help them maintain flexibility in the staffing process (both for member country and disciplinary balance). They would like to see co-chiefs selected when one of the Operations Task Force scheduling options is selected by SPC at its annual fall meeting. The IOs were informed by the SPC chair that the co-chief nominations will now be sought at the spring SPC ranking meeting and complete CV’s of interested Co-Chief scientists will be available to the Operations Task Force for its summer ship scheduling meeting.

The issue of Co-Chief balance was raised. The Lead Agencies reiterated the balance for Co-chiefs should be 7:7:3 (on a yearly basis). Member country/consortia should bring questions/issues with the ratio to the IODP Council meeting in June.

### **7) Engineering development priorities**

IODP-MI explained the proposed procedure for Engineering Development for the FY06 Annual Program Plan and for FY07 and beyond. By Lead Agency agreement, Engineering and Technology development projects are split into two classes, with both representing SOC costs.

#### **Class A: Engineering Science Support Projects:**

For a project to be defined as Engineering Science Support, it cannot exceed \$100,000/year or \$500,000 in total expenditures. These projects are primarily the maintenance and upgrade of existing tools and support facilities to meet user needs for better tool performance and integrated science requirements. IOs will be responsible for initiating these projects.

### **Class B: Engineering Development Projects:**

For a project to be defined as Engineering Development Project, it would have total development costs over \$500, 000, or annual development costs exceeding \$100,000 for any year of the project. This development will be based primarily upon priorities established by the Science Advisory Structure (SAS) as it reviews proposals and determines the engineering needs to address the objectives set forth in the Initial Science Plan.

### **Engineering and Technology Development ---FY06 Plans**

For FY06, the SAS was not in a position to provide the long-term prioritization for the Engineering and Technical development so IODP-MI has requested the IOs to include IO-derived Engineering and Technical development plans in their Annual Program Plan submissions. IODP-MI will then send these Program Plan submissions to SPC for comment on the priority of the proposed developments (within the context of the Initial Science Plan and with an understanding of proposals likely to be drilled in the next few years). After receiving these comments from SPC, IODP-MI will determine how to best address the *Engineering Science Support* projects within context of Annual Program Plan. If **Engineering Development** projects are requested, IODP-MI will work with engineering consultants to develop appropriate timelines, cost estimates, scope of work, planning requirements, etc for RFP(s) to be issued at the start of the fiscal year.

### **Engineering and Technology Development ---FY07 Plans**

For FY07 and beyond the SAS should be in a position to prioritize Engineering and Technology needs. This actual process of this prioritization is still under discussion but will most likely involve iteration between the new Engineering Development Panel and the Science Planning Committee. This evaluation/prioritization will be based upon review of proposals in the system and consultation/discussion with the IOs. After receiving these comments from SPC, IODP-MI will determine how to best address the *Engineering Science Support* projects within context of Annual Program Plan. If **Engineering Development** projects are requested, IODP-MI will work with an IODP-MI Engineering Task Force to develop appropriate timelines, cost estimates, scope of work, planning requirements, etc for RFP(s) to be issued at the start of the fiscal year.

### **8) Annual Program Plan issues**

This agenda item included a short presentation by IODP-MI outlining (1) the timetable for FY06 Annual Program Plan preparation and (2) Annual Program Plan formats.

The formats for the IO portions of the Annual Program Plan have been standardized for FY06. The format outline is:

- 1) IO Organizational Structure
- 2) Explanation of Expedition Operations
- 3) Planned SOC activities and costs utilizing the following Work Breakdown elements for the budgets:

- Management and Administration
- Technical, Engineering and Science Support
  - b-1 Technical, Engineering and Science Support
  - b-2 Engineering Development
- Core Curation
- Data Management
- Publications
- Logging
- Education and Outreach

Within each Work Breakdown Element the following sub elements are utilized:

- (1) Salaries and Fringes
- (2) Travel
- (3) Supplies
- (4) Shipping
- (5) Communication
- (6) Contractual Services
- (7) Equipment
- (8) Other Direct Cost

The timetable for development and submission of the Annual Program Plan is outlined in the table below:

|  |           |
|--|-----------|
| Lead Agencies provide IODP-MI with budget guidance for APP     | January   |
| IODP-MI sends individual budget guidance to IOs                | Feb 1     |
| Implementing Organizations send individual APPs to IODP-MI     | April 15  |
| IODP-MI forwards informational copy of APP to Lead Agencies    | May 15    |
| IODP-MI forwards draft Annual Program Plan to SPPOC for review | June 1    |
| SPPOC discussion and approval of Annual Program Plan           | June 15   |
| IODP-MI submits Annual Program Plan to Lead Agencies           | Aug 1     |
| IODP-MI modifies Annual Program Plan if any changes requested  | Aug       |
| Formal Approval Annual Program Plan                            | September |



A general question and answer session between the IOs and IODP-MI followed and the following action items resulted:

The general time frame of Annual Program Plan preparation for FY06 is compressed because SPPOC is being held in June. The consensus among the IOs and IODP-MI is that in future years all efforts should be made to hold SPPOC in July.

**Action Item 05-03-06:** T. Janecek to forward request to SPPOC to hold future summer SPPOC meetings in July in order to provide sufficient time for development and evaluation of the Annual Program Plan by IOs, IODP-MI, and SPPOC.

Not all IO representatives received the budget guidance format and timeline letters sent by IODP-MI.

**Action Item 05-03-07:** T. Janecek to forward APP format letters and timelines to Yoshi Kawamura

The IOs requested that an annually updated SOC/POC guidance memo be included in all future Annual Program Plan guidance letters from IODP-MI.

**Action Item 05-03-08:** T. Janecek to work with Lead Agencies insure that SOC/POC guidance is included in all future APP guidance letters from IODP-MI

EMA and ESO representatives expressed concern that Lead Agency budget guidance and the timelines for APP development presented by IODP-MI were not in accord with the ECORD budget cycle. As the timing of Lead Agency budget guidance is not a flexible parameter and the APP must be developed and approved during the spring and early summer of each year it was not apparent to the meeting attendees what could be done. It was suggested that EMA bring forth this issue to the IODP Council in June.

### **9) Expectations for IO input/assistance to proposal proponents**

This agenda item consisted of a general discussion of ways to increase the level of technology definition in proposals. Discussion centered around how to get a better definition of technology needs before a proposal is ranked and how to educate proponents.

The consensus seemed to be that much of the tool and technology definitions needed to come at the SSEP level. This obviously definition will require checks and balances between the SAS and

the IOs. The new mandates for the Engineering Development and Science and Technology Panels may provide the appropriate mechanism to obtain critical technical inputs early on in the proposal nurturing stage without imposing undue additional resource commitments by the IOs. This new SAS process will need to be closely monitored over the next 6 months and an initial evaluation discussed at the next IO meeting in the fall.

**Action Item 05-03-09:** IODP-MI (T.Janecek) to work with SAS Panel chairs (SSEP, EDP, STP) to develop mechanisms to increase tool and technology definitions in proposals before they reach SPC for ranking.

Education of proposal proponents is also a key element to increasing the level of tool and technology definitions in proposals. Education can come through such avenues as challenge-building and proponent helper workshops and developing the necessary legacy documents for tools, CORKS, etc. This education will not be without cost, though, as IO personnel time and resources will be needed for attending and preparing for workshops as well as preparing the required legacy documents. This additional support may be as much as 0.5 FTE per platform. Key areas to for IODP-MI to target for proponent education include Observatories (sensors, tools, CORKS, etc), Microbiology, and Coring tools.

## **10) Finalize data, sample and obligations policy**

This agenda item dealt with the finalization of the Sample, Data, and Obligations Policy. A.Klaus, S.Kuramoto and T. Janecek revised a previous version of this document after the Corvallis meeting. This document needs to go through another revision. The consensus was that a small working group could best address this issue.

**Action Item 05-03-10:** A. Klaus, S. Kuramoto, and D. Evans. to discuss modifications to current draft and forward to comments to Hans Christian Larsen for finalization

## **11) Data Management updates**

Discussion deferred to later date

## **12) Publications**

Discussion deferred to later date

## **13) Other business**

### **Future IO meetings**

The style, content and frequency of future IO meetings was discussed. The consensus is that the Spring meeting should be held independently of SPC and other SAS meetings. This would be a 2-3 day meeting where the IOs would meet separately for at least one day, primarily to discuss

issues surrounding the main working group themes. The joint IO/IODP-MI/liaison meeting would follow this IO-only meeting. The proposed date and venue for the next Spring IO meeting is February 2006 in Sante Fe.

The fall meeting would coincide with the SPC meeting. It would be only 1 day total (1/2 for IO only and 1/2 day for a joint IO/IODP-MI meeting).

**Action Item 05-03-11:** T. Janecek to work with IO representatives to determine logistics and agenda for next IO meeting

**Timeline:** ASAP

**APPENDIX  
TO  
IO/IODP-MI MEETING  
REPORT #4:  
AGENDA BOOK**

## **IO / IODP-MI Meeting #4**

**Altis Hotel  
Lisbon, Portugal  
March 11<sup>th</sup>-12<sup>th</sup>, 2005**

### **Attendees (for both meetings)**

|                        |  |
|------------------------|--|
| Jamie Allan            | National Science Foundation                                |
| Jack Baldauf           | JOI Alliance, Texas A&M University, USA                    |
| Colin Brett            | ECORD Science Operator (ESO), British Geol Survey, UK      |
| Tim Brewer             | ECORD Science Operator (ESO),                              |
| Mike Coffin            | Ocean Research Institute, University of Tokyo, Japan       |
| Dan Evans              | ECORD Science Operator (ESO), British Geol Survey, UK      |
| Dave Goldberg          | Lamont Doherty Earth Observatory, USA                      |
| Colin Graham           | ECORD Science Operator (ESO), British Geol Survey, UK      |
| Thomas Janecek         | IODP Management International, Inc., Washington, D.C., USA |
| Yoshi Kawamura         | Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan   |
| Kenji Kimura           | MEXT, Japan  |
| Ann Klaus              | JOI Alliance, Texas A&M University, USA                    |
| Shin'ichi Kuramoto     | Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan   |
| Hans Christian Larsen  | IODP Management International, Inc., Sapporo, Japan        |
| David McInroy          | ECORD Science Operator (ESO), British Geol Survey, UK      |
| Catherine Mevel        | EMA, Institut de Physique du Globe de Paris, France        |
| Frank Rack             | JOI Alliance, Joint Oceanographic Institutions, Inc., USA  |
| Alister Skinner        | ECORD Science Operator (ESO), British Geol Survey, UK      |
| Hans-J. Wallrabe-Adams | ECORD Science Operator (ESO), University of Bremen, Ger    |

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### **March 11**

#### **IO Representatives meeting**

**09:00 –17:00**

#### **Agenda**

To be developed by IOs

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**March 12**

**Joint IODP-MI / IO meeting**

**09:00-17:00**

**Agenda**

**1) Review of Action Items from October, 2004 meeting (Appendix A)**

The objective of this agenda item is to update each other on the status of action items from the previous IODP-MI/IO joint meeting in Corvallis OR. These action items are attached in **Appendix A**

**2) Items Carried Forward From IO-Only meeting**

Self-explanatory. Depending on the items and number of issues this agenda item may be deferred to later in the agenda.

**3) Discussion of REVCOM results and standards for future meetings (Appendix B)**

The main topics of discussion for this agenda item will be to (1) clarify any recommendations (2) discuss implementation of any cross-IO recommendations (3) discuss standards and formats for future REVCOM meetings, and (4) any other issues brought forward from the IO-only meeting from the previous day.

REVCOM 301 and 302 reports are attached in **Appendix B**.

**4) Co-chief responsibilities (Appendix C)**

The main objective here will be discuss the inclusion of the Operations and Science Review component of the Preliminary Report into Co-Chief Responsibility document(s) used by each IO. Any other issues regarding co-chief responsibilities can also be brought to the table.

Attached in **Appendix C** is an example of a letter sent by the IODP-MI Vice Presidents to the co-chiefs on expeditions 304, 305, and 306 that outlines the operational and scientific information requested by IODP-MI in the Preliminary Report.

**5) Development of IODP Third Party Tool Guidelines (Appendix D)**

IODP is lacking new Third Party Tool Guidelines. SPC has requested that SciMP and TAP (which no longer exists) to develop a joint report for SPC and OPCOM to consider and move forward to SPPOC (see **Appendix D**). SciMP expects a draft report to be ready by March 7<sup>th</sup> (See SciMP Action Item in **Appendix D**). If possible, this draft will be sent to you prior to the IO meeting.

The main objective of this agenda item is to discuss specific IO concerns regarding Third Party Tools with the goal of including these issues into the new Guidelines to be developed this spring.

Attached in **Appendix D** is a copy of the old ODP Third Party Tool Guidelines.

#### **6) Staffing Issues (Appendix E)**

The objectives of this agenda item are (1) to determine issues and problems the IOs may be having with respect to maintaining country/consortia balance during the shipboard staffing and (2) to develop a more rigorous set of policies and protocols to assist the IOs.

The National Offices understand the need for better coordination between the individual offices and the IOs. As such, they have developed a very rough draft of protocols to help guide the staffing process. This draft guideline and some background email are found in **Appendix E**. We will review this draft document and provide specific suggestions for its improvement.

#### **7) Engineering development priorities for FY06**

This agenda item will be used to continue a discussion on FY06 Engineering Development that should begin at the IO-only meeting. Engineering Development Projects have been defined by the Lead Agencies as projects with development costs over \$500,000, or annual development costs exceeding \$100,000 for any year of the project.

NSF/MEXT have made it very clear IODP-MI that all Engineering Development priorities must come initially from the SAS. However, at this point, it is not clear that SAS is in a position to provide useful input for FY06. Thus in order to move forward on this issue, the following plan will be utilized by IODP-MI to evaluate FY06 engineering development needs.

- 1) Develop proposals for engineering (technology) development “roadmap(s)” on an IO by IO basis.
- 2) Discuss these plans among the IO’s and with IODP-MI to try to develop an integrated “roadmap” based on operational and scientific needs (as expressed in the long-term plan)
- 3) Present these plans to the SAS for evaluation
- 4) IODP-MI and IOs (through a task force effort) will develop a long-term engineering development plan that has SAS backing and which has addressed appropriate timelines, cost estimates, scope of work definition, and planning requirements
- 5) Determine how to best address these engineering development needs based on annual program plans

Items 1 and 2 can take place before and during the IO-only and joint meetings. Depending on the outcome of these discussions we may be in a position to present a preliminary FY06 roadmap to SPC for evaluation and comments.

### **8) FY06 Annual Program Plan issues (Appendix F)**

This agenda item will be a general question and answer session between the IOs and IODP-MI to ensure that all IO representatives understand the format and timelines for generation of the FY06 Annual Program Plan.

**Appendix F** contains the general formatting guidelines that were sent to all IOs from IODP-MI in February.

### **9) Expectations for IO input/assistance to proposal proponents**

This agenda item will consist of a general discussion as to what level of technical expertise the IOs can supply proponents while proposals are being developed and nurtured by the SSEPS. If we are to make sure proposals have enough technical information in them to be evaluated properly by the SSEPS, SPC and OPCOM there will have to be a mechanism to (1) determine what level of technical information is required for the evaluation, ranking and scheduling process and (2) the best way to obtain this information in a timely fashion without overloading the IOs. The new Engineering Development Panel may be able to assist in this process.

### **10) Finalize Sample, Data, and Obligations policy (Appendix G)**

This agenda item will deal with the finalization of the Sample, Data, and Obligations Policy. The main work of finalizing this policy will be done by a small-working group of IO and IODP-MI representatives. Input from the larger group will be requested during this agenda item. Comments from this discussion will be utilized by the Working Group in finalizing the Policy.

A copy of the latest draft of the policy is included in **Appendix G**

### **11) Status of publications**

IODP-MI will update the IOs on publications issues that have been resolved since the last meeting as well as report on progress of issues that are still outstanding.

### **12) Data Management updates**

IODP-MI will update the IOs on data management issues that have been resolved since the Corvallis and Kochi data management meetings as well as report on progress of issues that are still outstanding.

### **13) All other business; then end of meeting.**



# **APPENDICES**

## Appendix A – Action Items from Corvallis, OR meeting

### IODP /ODP/DSDP Core Distribution

Two models for core distribution were proposed:

Model 1:

- IODP cores distributed via geographic distribution
- DSDP/ODP Cores consolidated:
  - West Coast Repository cores to Gulf Coast Repository (GCR)
  - East Coast Repository to Bremen Core Repository (BCR)  
(w/ Caribbean/GOM to Gulf Coast Repository)

Model 2:

- IODP/DSDP/ODP cores distributed via geographic distribution
  - Arctic- BCR
  - Atlantic- BCR
  - Caribbean and GOM-GCR
  - Southern Ocean-GCR
  - Pacific-GCR
  - Marginal Seas and Indian Ocean- Kochi

A working group was established to determine the budgetary and logistical details of each model and then forward this information to NSF. The working group consist of J. Firth, Y. Kawamura, U. Roehl, T. Janecek

**Action Item:** Develop details for Conceptual Core Distribution Models and send to NSF/MEXT for comment.

**Time line:** Send to NSF/MEXT by mid-late November for comment. Present model(s) at December SPPOC

### Sample, Data, and Obligations Policy

The interim Sample, Data, and Obligations Policy needs revisions for readability and content. Significant content input needed on the Curation Procedures (e.g., how to submit a sample request, creation of permanent archive, when can archive be sampled?, etc ) and Definitions (e.g., who is the IODP curator, what is the moratorium period, etc).

**Action Item:** Working group of A Klaus, S. Kuramoto, T Janecek to meet at IODP-MI headquarters to begin work on finalizing document. T. Janecek will develop full draft based upon this initial meeting. Hans Christian Larsen will work with Publications Task Force to finalize document

**Time Line:** Initial meeting of working group on Oct 1. T Janecek to prepare full draft ASAP. Hans Christian Larsen to present document to SPPOC in December.

### **Database usage between repositories**

In IODP, the multiple repositories will be used by multiple platforms resulting in numerous database use and integration issues including:

- Which database will be used by curators for collections retrieved by different platforms?
- Will all repositories need to have full access and knowledge of DIS, JCORE and Janus?
- How will data management be coordinated?
- Will a coordinated sample request numbering system be instituted in IODP?

**Action Item:** Data Management Task Force to address these issues

**Timeline:** Unknown

### **Roles and responsibilities of Curators**

In IODP, what are the roles and responsibilities of the curators at each of the repositories. In particular:

- What guidelines will be established regarding roles and responsibilities of the curators related to DSDP/ODP cores? Does the BCR Curator have responsibility for administering sample requests from DSDP/ODP core that resides in this facility? Or does the USIO Curator maintain responsibility for administering these requests?
- What guidelines will be established regarding roles and responsibilities of the curators related to IODP cores? Will the Curator affiliated with an IO be responsible for administering sample requests for IODP core that was collected on that IO's drilling platform or that resides at that repository? How will sample request across multiple repositories be handled? Will scientists need to submit a single request or multiple separate requests related to samples at each repository? Will requests be approved as separate parts related to different repositories or as one integrated study by all affiliated Curators and/or by one Curator?
- What guidelines will be established regarding roles and responsibilities of the curators related to the CAB? .

**Action Item:** Tom Janecek (working with curators at BCR, GCR, and Kochi) to develop a draft document addressing roles and responsibilities of IODP curators.

**Timeline:** Draft document by Jan 1, 2006.

## 2) Publications Issues:

The majority of the items in this section were tabled for this section pending the outcome of the upcoming Publications Task Force. The main discussion topic in this section was the need to standardize the Prospectus and Preliminary reports between the IOs with particular attention paid to Roles, Content and Production responsibilities.

**Action Item** : Define Roles/Content/Production responsibilities for Prospectus and Preliminary Report Generation. H.C. Larsen (with A. Klaus, Dan Evan, S. Kuramoto) to use Publications Task force to work toward resolution of this action item.

**Time Line:** ASAP after discussion during November Publications Task Force meeting.

## 3) Communications

### Contacts

Lines of communication between IODP-MI and the IOs (and between the IOs themselves) are not well-defined. It is not often clear who is the contact point for each area of responsibility at IODP-MI and the IOs and what are the lines of responsibility and reporting for each contact.

**Action Item:** T.Janecek to send IOs a list of areas (e.g., Publications, Data Management, Operations, etc) for which contact points are needed. IOs to send list of IO contacts, areas of responsibility, and reporting lines to T.Janecek who will then compile the information and return it to the IOs with a list of IODP-MI contacts .

**Time Line:** January 1, 2005

### Daily/Weekly Reports and Site Summaries

The distribution of the summary reports coming from the (e.g., daily, weekly, site summaries) are not consistent between the IOs. Discussion revolved around who should be on the distribution lists for each type of report. Some of the content of the daily report is sensitive/confidential in nature and cannot be distributed beyond directors/key personnel at the IOs, IODP-MI and the funding agencies. The weekly reports and site summaries generally have this sensitive information removed and can be posted to a wider distribution.

**Action Item:** IOs to supply each other with names of personnel to receive the full unedited Daily Reports. Others can be added by an IO on expedition-by-expedition basis

if there is a specific need. The content of these Daily Reports should follow the current JOIDES Resolution model.

**Time line:** January 1, 2005

There is a lot of interest in the community to see the science portion of the daily reports. There isn't any sensitive/confidential information in these science reports so they could be extracted from the Daily Report and placed on the web.

**Action Item:** The Science portion of Daily Report should be extracted and placed on IO website on a daily basis (or when there is science to report). The complete Weekly Reports and Site Summaries should also be placed on the IO website when sent from the ship.

**Time line:** January 1, 2005

### **SPC/SPPOC Presentations**

Discussion centered on the need to develop short but informative written reports for SPC/SPPOC and other SAS meetings, to minimize overlap of oral presentations, and to improve access to reports and ppt presentations used at meetings.

**Action Item:** Han Christian Larsen to define content of IO and IODP-MI written reports for SPC and other meetings. Consensus is that these should be short (1-2 page) report –not simply printed copies of ppt presentations.

**Timeline:** ASAP.

A lot of effort goes into presentations used at SPC/SPPOC and other SAS meetings. The full contents of these presentations are not consistently entered into minutes (especially for meetings where there are not any official reporters (e.g., most technical panel meetings).

**Action Item:** SAS group in IODP-MI Sapporo office to develop mechanism to link vetted powerpoint presentation to minutes.

**Time line:** ASAP

### **Meeting Agenda Notification**

The numerous SAS and management meetings require long-lead time planning for the IOs to ensure that the correct personnel can be available for the meeting and that the proper information is prepared for the meeting. Meetings should avoid known port-calls or other conflicting times for the IOs. The development of a Master Calendar on the

IODP-MI website that incorporates SAS meetings, Task force meetings, OPCOM, REVCOM, port calls, etc, would help IOs with meeting planning and preparation.

**Action Item:** IODP-MI to develop Master Calendar on the IODP-MI website to assist the community with meeting planning.

**Time line:** ASAP

#### **Protocols for Calls for applications**

The protocols and procedures for issuing and posting the “Call for Application” needs to be better defined so that all the IOs and IODP-MI issue consistent information.. It is generally agreed that IODP-MI should issue the initial announcement/

**Action Item:** Hans Christian Larsen to issue guidelines for the “Call for Applications” process.

**Time line:** ASAP

#### **4) Expedition Technical Assessment**

Specific details about the new expedition technical assessment committee (REVCOM) were presented. Discussion centered on the roles of IODP-MI and the IOs, the frequency of meetings, confidentiality of reports, standards for review and the process/procedures utilized for each REVCOM.

A consensus formed on having a biannual review process at least for JOIDES Resolution reviews. MSP reviews will normally be once per year (or after each MSP operation. The frequency of Chikyu reviews is not known at this time.

The IOs agreed that an representative from each IO should be present at each review and that there is no need for a national office presence. The group also agreed that a pool of industry representatives with various backgrounds and expertise (separate from TAP) should be established for these reviews. This would provide for a more consistent review process for the IOs.

The IOs requested that IODP-MI consider science party input very carefully as their perceptions throughout the expedition and as time passes after an expedition.

The IOs requested that a process/procedures for the reviews as well as the standards/expectations upon which the reviews are based be codified by IODP-MI.

**Action Item:** IODP-MI (T. Janecek) to develop written expectations/standards, process, formats, guidelines for IOs

**Time line:** ASAP

## 5) Safety

The status of the overarching Health, Safety, and Environmental (HSE) document was discussed. The IOs have provided their comments and revisions but it is not clear where this document stands with respect to SPPOC approval.

**Action Item:** T. Janecek to determine status at of HSE document on the agenda for December SPPOC meeting.

**Time line:** Before December SPPOC meeting.

## 6) Minimum Measurements

The IOs addressed this topic during their meeting session and over the past year have developed a draft of Minimum Measurements document in conjunction with the SciMP. IODP-MI can assist with the development of this document by helping to establish priorities for measurements on the different platforms and repositories and developing a more integrated document.

**Action Item:** IODP-MI to review Minimum Measurements document and address outstanding issues in current document.

**Time line:** ASAP

## 7) Engineering Development

The definition of Engineering Development for the FY05 and beyond Program Plans was briefly discussed. More information was needed by the Lead Agencies regarding the exact definition and further discussion was delayed until this information was received.

**Action Item:** T, Janecek to verify Engineering Development definitions for IOs for FY06 Program Plan and also to verify how replacement costs for large items are defined.

**Time line:** ASAP

## 8) Other

### **Co-Chief Monitoring**

The protocols for monitoring the national balance for Co-Chief scientists are unclear. Are Co-Chiefs considered to be part of the science party or are they to be considered separately.

**Action Item:** T.Janecek to verify with NSF/MEXT how co-chiefs are to be counted in terms of national balance (i.e., as part of the science party or independently). \

**Time line:** ASAP



## **Appendix B: REVCOM 301 and 302 reports**

# **REVCOM Meeting**

IODP Expedition 301  
Juan de Fuca Hydrogeology

December 9<sup>th</sup> and 10<sup>th</sup>, 2004  
Washington, D.C.

## REVCOM 301 PARTICIPANTS

|                   |  |
|-------------------|--|
| Stephanie Banks   | GZA GeoEnvironmental, Inc, Providence, RI, USA             |
| Barbara Bekins    | U.S. Geological Survey, Menlo Park, CA USA                 |
| Christian Bückner | RWE Dea, AG, Hamburg, Germany                              |
| Andrew Fisher     | University of California, Santa Cruz, CA USA               |
| Jeff Fox          | Texas A&M University, JOI Alliance, USA                    |
| Steve Howard      | Howard & Associates International, Inc., Lafayette, LA USA |
| Thomas Janecek    | IODP Management International, Inc, Washington, DC, USA    |
| Geir Karlsen      | BP America, Houston, TX, USA                               |
| Miriam Kastner    | University of California, San Diego, USA                   |
| Yoshi Kawamura    | Center for Deep Earth Exploration, JAMSTEC, Japan          |
| Adam Klaus        | Texas A&M University, JOI Alliance, USA                    |
| Yoichiro Otsuka   | IODP Management International, Inc, Washington, DC, USA    |
| Frank Rack        | Joint Oceanographic Institutions, JOI Alliance, USA        |
| Derryl Schroeder  | Texas A&M University, JOI Alliance, USA                    |
| Manik Talwani     | IODP Management International, Inc, Washington, DC, USA    |

## INTRODUCTION

IODP Expedition 301, Juan de Fuca Hydrogeology, was the first part of a multidisciplinary program designed to evaluate the formation-scale hydrogeologic properties within oceanic crust; determine how fluid pathways are distributed within an active hydrothermal system; establish linkages between fluid circulation, alteration, and microbiological processes; and determine relations between seismic and hydrologic anisotropy. The highest priority objectives of IODP Expedition 301 were achieved. Two new basement holes, Holes 1301A and 1301B, that penetrate ~110 and ~320 m into basement, respectively, were created and instrumented multi-level CORK observatories. An old CORK observatory in nearby Hole 1026B was replaced. All of the holes have multiple isolated intervals to monitor and sample pressure, temperature, chemistry, and microbiology, and will serve as observatory points for planned cross-hole experiments. Several short-term downhole experiments (logging, VSP, packer) were completed and high quality sediment and rock samples that will be used in lab-based studies of physical properties, microbiology, geochemistry, petrology, and alteration were recovered.

The REVCOM 301 met on December 9<sup>th</sup> and 10<sup>th</sup> at IODP-MI headquarters in Washington DC to review the operational aspects of Expedition 301. The review concentrated on “lessons learned” from the expedition with an emphasis on “what should be done differently in the future.”

The committee review was based upon confidential reports submitted by the US Implementing Organization (USIO) and Andrew Fisher (Expedition 301 Co-chief scientist). In addition, Adam Klaus (on behalf of the USIO) and Andrew Fisher presented summaries of these confidential reports.

Following these oral presentations, the review committee identified specific pre-cruise, syn-cruise, and post-cruise topics for discussion. The Committee spent the remainder of the first day of the meeting discussing these issues and developing specific recommendations for the USIO, for IODP-MI and for the Science Advisory Structure. On the second day of the meeting, the committee reviewed the recommendations and came to a consensus on each one. These recommendations are listed in the next section of this report.

Finally, the committee was asked by IODP-MI how this operational review could be improved for future expeditions. These suggestions are listed at the end of this report.

## **RECOMMENDATIONS BY REVCOM 301**

REVCOM 301 identified four main areas of improvement for future operations including:

- General Science and Lead Time Planning
- Engineering Support
- Observatory Management
- Community Awareness and Education

While the primary focus of REVCOM 301 was on USIO (JOI Alliance) operations during Expedition 301 (with an eye toward future riserless operations) it became apparent to all the participants that many recommendations would be equally valuable for other IODP operators, to IODP management and to the Science Advisory Structure. As such, many recommendations are also directed to these entities.

### **A) General Science Planning**

The REVCOM participants identified the need to (1) significantly improve the lead time for expedition preparation, (2) improve the level of communication between the IOs and co-chief scientists/proponents/3<sup>rd</sup> party tool designers, and (3) ensure that the Science Advisory Structure, the IOs, and IODP-MI are all aware of significant changes in operations as proposals move from ranking to scheduling. The following recommendations resulted:

#### **Recommendation 301-01**

Science Advisory Structure must move toward a system of ranking proposals 24 months prior to the start of a Fiscal Year to insure proper lead-time planning for all expeditions. Some drilling expeditions may require less lead time and this will allow some flexibility in scheduling (for example, if POC or SOC funding falls short of expectations), but longer-term planning will allow scientists to consider operational issues, secure external funding for developments, etc.

**Recommendation 301-02**

IOs need to identify funds in Annual Program Plan budget to facilitate regular meetings with 3<sup>rd</sup> Party tool designers/builders/proponents.

**Recommendation 301-03**

To increase the level of IO and proponent interaction during the planning process for engineering-intensive expeditions, hold multiple planning meetings utilizing the Planning/Integration/Compatibility (P.I.C.) concept. These meetings must have formal minutes. Roles and responsibilities of IOs, proponents and 3<sup>rd</sup> party tool designers/builders need to be identified, documented and communicated. A “Project Handbook” defining the planning steps for an expedition (with associated timelines for implementation) should be prepared and utilized during this planning process.

**Recommendation 301-04**

SPC and OPCOM should be kept aware of fundamental changes to operational plans that may occur as part of the planning process once an expedition has been scheduled. Some changes are to be expected as a result of normal planning activities, but these should not involve deviations from primary scientific objectives, as described in the proposals ranked by the SAS, scheduled by OPCOM, and forwarded to the IO for implementation.

**B) Engineering**

Engineering issues were a dominant theme during REVCOM 301. Based upon the Co-chief scientist and Operator reports and subsequent discussion by the REVCOM 301 participants, it became apparent that the level of engineering support for Expedition 301 was inadequate. A number of factors combined to exacerbate the problem, including limited lead time in program preparation (due to a compressed ranking and scheduling time frame) and recent turnover in TAMU engineering personnel. The following recommendations were made to address the level of engineering support for future operations:

**Recommendation 301-05**

For engineering intensive expeditions, IOs need to determine shipboard engineering staffing needs first and then fill in remaining berths with scientific staff. Concurrently, IODP-MI to discuss with Lead Agencies (1) integration time for maintaining country balance with respect to staffing (2) reducing country/consortia staffing levels to facilitate proper shipboard staffing of engineers on bunk-limited platforms.

**Recommendation 301-06**

For engineering intensive expeditions like Expedition 301 USIO should assign the appropriate level of dedicated Engineers or Engineering technicians to pre-cruise and syn-cruise activities.

**Recommendation 301-07**

IOs should incorporate tests of functionality and compatibility of all operational systems (e.g., casing seals, hangers, coring systems, etc.) as a standard operating procedure into two-year project management plan for expeditions. Report and documentation of tests should be part of regular planning P.I.C. meetings between IOs and co-chiefs/proponents

**Recommendation 301-08**

USIO should incorporate a cementing program project management plan in next Annual Program Plan. All IOs need to insure that appropriate cementing expertise is used when identified in the Planning/Integration/Compatibility/Review process

**Recommendation 301-09**

USIO should incorporate a design plan for casing seals in its next Annual Program Plan.

**Recommendation 301-10**

Expedition 301 Review Committee strongly encourages IOs to continue and expand interaction with drilling contractor personnel in pre-expedition planning and during shipboard operations.

**Recommendation 301-11**

Expedition 301 Review Committee affirms importance to IOs of documenting procedures for CORK installation, casing installation, borehole seals, etc. The REVCOM 301 participants strongly encourage cross-training among IOs for these procedures.

**Recommendation 301-12**

To improve ability to achieve critical objectives and investigate operational problems:

- 1) USIO to improve Rig Instrumentation System sensor reliability and data access
- 2) USIO to investigate lease/purchase of through-the-pipe TV camera system
- 3) USIO to consider replacement of current subsea camera and image capture system

**Recommendation 301-13**

The IOs should investigate methods to increase flexibility of technical personnel to support engineering or other non-standard operations during shipboard operations.

**C) Observatory Issues**

The third major area of discussion during REVCOM 301 centered on observatory management and CORK development/management plans. Participants saw the need for a more coordinated process of CORK management, data and legacy hole documentation, integration of plans with other initiatives and engineering development. The following recommendations resulted from this discussion:

**Recommendation 301-14**

IODP-MI should take the lead in working with other organizations/programs/initiatives (e.g., OOI) to coordinate development of legacy documentation for observatories.

**Recommendation 301-15**

IODP-MI to work with other science organizations, funding agencies and IOs through workshops, detailed planning groups, and task forces to (1) encourage the standardization/modular design of CORK systems and (2) ensure legacy/design documents are available for publicly funded development.

**Recommendation 301-16**

IODP-MI to set up a Task Force for Observatory Management, which will have an initial emphasis on CORK Management. A starting point for this Task Force would be a review of REVCOM 301 recommendations. Suggested Mandates/topics for this Task Force include:

Cork Engineering

- Development
  - Who should do this?
  - How will testing be accomplished?
- Technical Support
- Who will provide this?
  - Shorebased
  - Shipbased
  - Spare parts
- Other engineering tasks
  - Integration with 3rd party tools
  - Feasibility review of proposals
  - Standardization of designs and components
- Testing after deployment
  - When should this be done?
  - Should there be a testing plan for each deployment with a submersible?

Cork Documentation and Data

- What is documentation is required?
  - Drawings
  - Instruction manuals
  - Visits to CORK
- Data archiving
  - What is moratorium period?
  - Who will manage these data and ensure that it is delivered?
  - Who will formulate the data structure?
- Where will the repository be located?
  - Drawings
  - Data

### CORK Management

- Later experimental proposals
  - Who will evaluate these
  - What will be the criteria?
  - Concern about the effect of active experiments on long-term monitoring
- Connections to the Ocean Observatories Initiative
  - Are there issues that IODP should address to facilitate this?
  - Opportunities for CORK proponents?
- Consider report of Borehole Observatory PPG

### **Recommendation 301-17**

Evaluation of the operational success of a CORK expedition is difficult until some measurements are conducted and the results found to be satisfactory. The Observatory Task force should develop objective measures to evaluate the integrity of CORK installation.

### **D) Community awareness and education**

During the course of the meeting, REVCOM 301 participants became aware of several areas where IODP (i.e., IODP-MI, the IOs, SAS) needs to provide the ocean drilling community with more information or provide a means to access information. The areas are broad-ranging, from specific details concerning design standards for 3<sup>rd</sup> party tools to a more general understanding the scientific priorities of individual expeditions.

The following recommendations resulted from these discussions:

### **Recommendation 301-18**

IODP-MI and IOs to work together to create mechanisms to improve community awareness and education on:

- 1) Standardization of design of 3<sup>rd</sup> party tools
- 2) Understanding the prioritized science in prospectus
- 3) Understanding risk/benefits/costs of tool usage in order to make better informed decisions about operational tradeoffs.
- 4) Scientific needs of individual expeditions to improve staffing discipline allocations on expeditions

### **Recommendation 301-19**

Strongly encourage IOs to respond to laboratory reviews submitted by shipboard scientific party.



## **REVCOM IMPROVEMENTS**

REVCOM 301 participants made the following suggestions to IODP-MI regarding the logistics of future REVCOM meetings.

### **1) Develop a pool of engineers for the review process**

To provide consistency in the review process from expedition to expedition a pool of experts (engineers, operations managers, etc) should be established. This group of experts would develop a familiarity with IODP and its operations and thus could provide more consistent review of operations as well as assist IODP-MI in assessing how well recommendations have been implemented over time. In addition, a pool of experts would allow IODP-MI to choose the expertise needed for a particular review and not overburden any two or three individuals.

### **2) Provide IO Operations report to committee members**

The IOs should provide their detailed Operations Report to the committee. These reports typically provide the necessary details that REVCOM industry experts would find valuable in assessing operations.

### **3) Provide Co-chiefs with REVCOM reports**

In order to provide consistent and useful input from the co-chief scientists with respect to operational reviews, the co-chiefs should be sent previous REVCOM reports. Examples of previous reports will allow co-chiefs to understand the level of detail they need to provide to REVCOM. In addition, they can make an assessment, first hand, as to how well many of the recommendations have been implemented. IODP-MI should provide a follow-up phone call and/or email to the co-chief scientists once they are at sea to encourage them to keep detailed notes on operations and suggested improvements. These procedures will be implemented beginning with Expedition 305.

### **4) Define committee membership**

The first two REVCOM meetings consisted of IODP-MI personnel, IO representatives, outside experts and scientists knowledgeable about the particular expeditions. As many of these participants will vary from meeting to meeting it is important to identify who will be the core group (or perhaps “executive committee”) for each REVCOM. IODP-MI will determine this membership issue before the next REVCOM meeting

### **5) Allocate time for Executive Session**

All REVCOM meetings should have an “Executive Session” without the co-chief scientist(s) and IO representatives. Recommendations from this Executive Session will be presented to all REVCOM attendees prior to the end of the meeting.

### **6) Create more detailed Agenda**

A more specific agenda has been requested by many of the participants. For future meetings, IODP-MI will provide a more detailed agenda well in advance of the meeting.

**7) Develop a Follow-up procedure**

A recommendation was made for IODP-MI to establish a formal follow-up procedure to assess how well the recommendations have been implemented. IODP-MI will develop this procedure and have it in place by the next REVCOM meeting.

**8) Add extra meeting day for multiple expedition REVCOM meetings**

When reviewing more than one expedition (e.g., the upcoming 304/305 and 303/306 REVCOM meetings), an additional day should be allocated to the agenda.

# **REVCOM Meeting**

Arctic Coring Expedition  
IODP Expedition 302

October 23 & 24 2004  
Washington, DC

## **REVCOM 302 PARTICIPANTS**

|                  |   |
|------------------|---|
| Jan Backman      | Stockholm University, Stockholm, Sweden                     |
| Dan Evans        | ECORD Science Operator (ESO), British Geol Survey, UK       |
| G. Leon Holloway | ConocoPhillips, Houston, TX, USA                            |
| David Huey       | Stress Engineering, Houston, TX, USA                        |
| Thomas Janecek   | IODP Management International, Inc., Washington, D.C., USA  |
| Yoshi Kawamura   | Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan    |
| Roger Larson     | Graduate School of Oceanography, Univ of Rhode Island, USA  |
| Catherine Mevel  | EMA, Institut de Physique du Globe de Paris, France         |
| Kate Moran       | Graduate School of Oceanography, Univ of Rhode Island, USA  |
| Ken Miller       | Department of Geological Sciences, Rutgers University, USA  |
| Yoichiro Otsuka  | IODP Management International, Inc., Washington, D.C., USA  |
| Dennis Nielson   | DOSECC, Inc. Salt Lake City, Utah, USA                      |
| Terry Quinn      | College of Marine Science, University of South Florida, USA |
| Alister Skinner  | ECORD Science Operator (ESO), British Geol Survey, UK       |
| Manik Talwani    | IODP Management International, Inc., Washington, D.C., USA  |

## **REVCOM 302 Observer**

|              |  |
|--------------|--|
| Kenji Kimura | Ministry of Education, Culture, Sports, Science, and Tech, Japan |
|--------------|--|

## **INTRODUCTION**

The Arctic Coring Expedition (ACEX) was the first mission specific platform (MSP) expedition led by the ECORD Science Operator (ESO) in the context of IODP. This complex operation was the first attempt to drill ice-covered areas in the region and required an armada of three ships: the drillship (Vidar Viking) was protected by a conventional icebreaker (Oden) and a nuclear icebreaker (Sovetskyi Soyouz) from drifting ice. A total of 495.5 m was drilled in 5 holes, with an average recovery of 68%, representing a composite section of the 57 Ma old sediment sequence deposited on the Lomonosov ridge.

The REVCOM 302 met on October 23<sup>rd</sup> and 24<sup>th</sup> at IODP-MI headquarters in Washington DC to review the operational aspects of Expedition 302. The review concentrated on “lessons learned” from the expedition with an emphasis on “what should be done differently in the future.”

The committee review was based upon confidential reports submitted by the ESO and the Expedition 302 Co-chief scientists (Jan Backman and Kate Moran). In addition, confidential statements from eight ACEX scientists were reviewed and taken under consideration by the REVCOM 302 participants.

The meeting began with oral presentations by Kate Moran and Dan Evans summarizing the Co-Chief Scientist and ESO reports. Following these oral presentations, the review committee identified specific pre-cruise, syn-cruise, and post-cruise topics for discussion. The Committee spent the remainder of the first day of the meeting discussing these issues and developing specific recommendations for the ESO, for IODP-MI, and for the Science Advisory Structure. On the second day of the meeting, the committee reviewed the recommendations and came to a consensus on each one. These recommendations are listed in the next section of this report.

## **RECOMMENDATIONS BY REVCOM 302**

REVCOM 302 identified several main areas of improvement for future operations including:

- General Science Planning
- General Operational Planning
- Roles and Responsibilities
- Procedures and Policies

While the primary focus of REVCOM 302 was on ESO MSP operations during Expedition 302 (with an eye toward future MSP operations) it became apparent to all the participants that many recommendations would be equally valuable for other IODP operators, to IODP management, and to the Science Advisory Structure. As such, many recommendations are also directed to these entities. The recommendations in this document are made with an eye toward standardization of the planning and execution of MSP operations. MSP operations by their very nature have many unique aspects, but the development of a “standard” process and “standard” personnel roles and an understanding how each MSP operation deviates from those standards provides valuable information to proponents, operators, management and the scientific community

### **A) General Science Planning**

REVCOM participants came to a clear consensus that the pre-cruise planning process for MSP operations needs to be considerably improved by ESO, the SAS, and IODP management (IODP-MI). A more rigorous prospectus process is required, one that defines a timeline for implementation of tasks including bidding, contracting, staffing, pre-cruise and post-cruise meetings. The recommendations detailed below provide a mechanism that can be utilized to improve this process.

#### **Recommendation 302-01**

The prospectus is the single IODP plan that specifically describes the science goals of the expedition and how these goals will operationally be achieved. Prospectus development of an MSP expedition should follow the traditions of scientific ocean drilling. Major elements of this process are outlined below:

- 1) The proposal or Complex Drilling Proposal (CDP) planning documents should form the basis for the scientific portion of the prospectus.
- 2) The Co-Chief scientists represent the proponent group, science party, and the IODP science community. Co-Chief scientists should be selected as soon as possible after expedition has been scheduled.
- 3) The Co-Chief scientists and Staff Scientist are co-authors of the Prospectus. The Co-Chief scientists lead the scientific portion of the prospectus, obtaining input from the proponents of the proposal or CDP members, the scientific panel structure, OPCOM, and the operators and their subcontractors. This recognizes the fact that the operator has fiduciary responsibility for producing a prospectus, but it is the scientists who have the responsibility for defining the science of an expedition. The scientific portion of the prospectus should also outline shipboard and shore based sampling strategies that are within the purview of the scientific party.
- 4) The Staff Scientist leads the operational portions of the prospectus in consultation with its subcontractors, the funding agency, OPCOM, the panel structure, the co-chief scientists, and the proponents/CDP members. This includes all aspects of shakedown, equipment/development and pre-cruise logistics.
- 5) Shipboard and downhole measurements will be outlined in the prospectus, recognizing the wide range of measurements possible on varying MSP operations. The operator is responsible for providing these measurements through Science Operations Costs (SOC), but should do so in close consultation with the Co-Chief scientists, the science planning structure (specifically SciMP reporting through the SPC), and OPCOM. It is recognized that planning and implementation of shipboard and downhole measurements on MSP operations are particularly difficult tasks that should be approached with close interaction and flexibility on the part of the operator and co-chief scientists.
- 6) The prospectus must:
  - include drilling strategies, with time estimated for all components of operations (and the level of confidence of the time estimates).
  - include optional (alternate) downhole measurement strategies with associated time estimates.
- 7) The following aspects of cruise preparation/planning need to be adequately conveyed to OPCOM and the co-chief scientists:
  - a timeline for implementation tasks including bidding, contracting, staffing, pre-cruise and post-cruise meetings.

- a schedule for all aspects of the expedition, including shakedown (should one be required), tool development schedules and test dates, and equipment acquisition plans.
- roles and responsibilities of the operations team.
- approximate costs (or relative costs, if absolute numbers cannot be shared) for various operational components.

### **Recommendation 302-02**

The Operators need to maintain flexibility in the development of the laboratory environment for each MSP operation. Proponent and SCIMP proposals regarding alternate approaches to obtaining a minimum set of measurements should be incorporated at early stage in the pre-cruise process.

## **B) General Operational Planning**

The REVCOM participants came to a consensus that many of the operational difficulties resulted from the lack of time/funding for adequate testing and subsequent modification of equipment. Proper technical and environmental/safety feedback between the operators, OPCOM/IODP-MI, and the proponents/Co-Chief scientists was inadequate during the lead-up to the ACEX operation. The following recommendations were made to improve operational planning for future MSP operations.

### **Recommendation 302-03**

The MSP Operators should incorporate adequate shakedown time (with associated costs) into operational plans forwarded to OPCOM. The decision to forego a shakedown exercise should be relayed to OPCOM for a discussion of operational ramifications of this decision.

### **Recommendation 302-04**

The MSP Operators (in conjunction with IODP-MI/OPCOM) need to develop a timeline for responding to safety and environmental issues raised by EPSP and the operator's safety panel. The MSP Operator must prepare a written response (submitted to OPCOM and EPSP) for operator variations from EPSP protocols.

### **Recommendation 302-05**

OPCOM should routinely evaluate the operator's state of readiness with respect to equipment procurement, development or modifications. MSP Operators must demonstrate to OPCOM (or its designated scoping group) that sufficient expertise is available to operate drilling, coring, and scientific tools.

**Recommendation 302-06**

The MSP Operator should investigate alternate pipe severing capabilities to explosives. A report on these alternate capabilities should be forwarded to OPCOM.

**Recommendation 302-07**

The MSP Operator needs to improve Offshore Database cross-platform functionality to supply basic drilling and coring information (e.g., depth, core, section, etc) and output of standard core logging equipment (e.g., multisensor track) to the science party. The MSP Operator should utilize knowledgeable members of scientific community to test functionality of these systems.

**C) Roles and Responsibilities**

The REVCOM 302 participants came to the clear consensus that certain roles (and responsibilities) need better definition for future MSP operations. Clarification of duties and communication pathways will help to resolve many pre-cruise and syn-cruise issues.

**Recommendation 302-08**

The MSP Operator should develop a standardized MSP personnel document with generic roles and responsibilities defined for personnel such as the Drilling Superintendent, Operations Superintendent, and drilling crew. This document should be customized for each expedition.

**Recommendation 302-09**

The role and responsibilities of the MSP Staff Scientist need to be more clearly defined. This person historically has multiple roles including that as (1) a representative of the Operator, (2) a representative of the drilling program, and (3) a integral member of the science party. The MSP Operator should develop an exchange program with the other Implementing Organizations (IOs) to increase their level of understanding of the role and develop standards for the role.

**D) Procedures and Protocols**

The ACEX expedition was developed and planned during a time when IODP was just starting and a Central Management Organization (IODP-MI) was not fully operational during most of this planning. As a result, many procedures and processes were not standardized and/or properly codified, leading to confusion and miscommunication between the operator and scientific community. The following recommendations were made to increase the standardization of processes in several pre-cruise, syn-cruise and post-cruise areas so that all parties better understand the expectations placed upon them.



**Recommendation 302-10**

The level of communication between MSP Operators and scientists can be improved by instituting regular meetings between the Drilling Superintendent, Operations Superintendent, Co-chief scientists, Staff Scientists, logging operator, and curator.

Meeting times should include:

- Port-call meeting to discuss overall plan for expedition, roles and responsibilities, modifications to plan, etc.
- pre-site meetings to outline the expected operations, safety issues, sampling, downhole operations and optional drilling scenarios.
- Post-site meeting to review operations and discuss new operational plans if necessary.
- Daily briefings should be held if it is logistically feasible for all parties to meet.

**Recommendation 302-11**

IODP-MI should work with operators and SCIMP to develop curatorial guidelines that incorporate issues specific to MSP operations.

**Recommendation 302-12**

MSP Operators should utilize protocols and procedures developed by IODP-MI Education and Outreach Task force for pre-, syn-, and post-cruise outreach to the media, scientific community, and general public.

**Recommendation 302-13**

IODP-MI should directly send out and receive expedition evaluation questionnaires from scientific party. IODP-MI should compile questionnaire results, distribute results to Operator, and respond to scientists.

**E) Overarching Recommendations**

Several recommendations made by the REVCOM 302 participants did not fit into specific categories and/or are overarching in nature. These recommendations are presented below:

**Recommendation 302-14**

IODP-MI, as the CMO, is the overall manager of operations and conducts this management with the advice and consent of the relevant funding agencies, the IOs and the scientific advisory structure.

**Recommendation 302-15**

To provide a consistent basis for expedition evaluation, IODP-MI needs to develop specific review/evaluation goals with a focus on time period of evaluation, expectations of science community, limitations of operator, and risk factors. Technological difficulty of an expedition must be taken into account.

**Recommendation 302-16**

The MSP Operators should maintain a cooperative attitude of communication and interaction with the scientific community.

## Appendix C: Co-Chief Responsibilities

Example of letter currently send by IODP-MI Vice Presidents to each Co-chief scientist.

To: jrs\_ildefonse@iodp.tamu.edu  
From: Thomas Janecek <tjanecek@iodp.org>  
Subject: Expedition Assessment  
Cc: hclarsen@iodp-mi-sapporo.org, Baldauf@iodp.tamu.edu, annklaus@iodp.tamu.edu, jr\_staffsci@iodp.tamu.edu, malone@iodp.tamu.edu  
Bcc:  
X-Attachments:

Dear Benoit,

As you begin the drilling operations of your expedition, we would like to take this opportunity to inform you about a formal expedition review process that IODP-MI has instituted. This review process is divided into two parts, an **operational** review and a **science** review.

The operational review is conducted by an IODP-MI committee known as REVCOM (Review Committee) and is generally conducted 1-3 months post-expedition ( see description below).

The expedition-based science review falls into two phases: An initial review to be included in the preliminary report and approved the the IODP-MI VP of Science Planning and a later second phase conducted by the Science Advisory Structure in conjunction with the VP Science Planning. The second phase will be held well after the Expedition Report has been completed to more properly assess the long term science impact from the expedition or a group of related expeditions.

Preliminary scientific assessment:

What we would like to see in the IODP Preliminary Reports is a first, brief assessment of how successful the expedition was in terms of meeting the scientific objectives laid out in the Scientific Prospectus (and the original

proposal). Clearly, at this point in time, a full scientific assessment is not possible. However, the success of the science can be presented as percentage of planned drilling accomplished (number of sites and per site) and the actual core recovery versus expected/predicted. A preliminary assessment of how less-than-planned recovery and depth penetration might affect the science should be stated. Also, comments on how well predictions of lithology, age and stratigraphic completeness were, and if they were different, how this impacted the science negatively or positively. If any specific and important targets were missed, how successful (compared to the prospectus) were the down hole experiments and logging. Also, surprises and unexpected observations should be recorded (i.e., science by serendipity). A balanced and honest estimate of how well the overall science objectives were met should also be included. If any objectives were left unachieved, this should be clearly stated. Finally, on the basis of the actual expedition results, the most critical post expedition scientific studies should be summarized.

This preliminary scientific assessment prepared by the co-chiefs and the staff scientist should be presented as a separate section (1-2 pages) within the preliminary report and be named "Preliminary Scientific Assessment". Each site report might also include comments in this regard.

#### Operational assessment:

IODP-MI has recently conducted two operational reviews, one for Expedition 301 (Juan de Fuca) and one for Expedition 302 (ACEX). These reviews focused on "lessons learned" and "How do we do things better in the future". Areas of discussion included pre-cruise planning, syn-cruise drilling operations, communications between scientists and operators, Roles and responsibilities of scientists and operators, general procedures and policies (e.g., curation, communications), laboratory operations, etc. Each of these REVCOMs resulted in approximately 15 recommendations that will be implemented for future operations. IODP-MI will work to insure implementation by incorporating these recommendations into the contracts we have with the Implementing Organizations.

Each REVCOM consists of IODP-MI personnel (the president of IODP-MI and the Vice President of Operations), the expedition co-chiefs, representatives of the operators, three industry experts and three scientists knowledgeable about the expedition objectives or goals. The committee review is based upon confidential reports submitted by the Implementing Organization and Expedition Co-chief scientists. In addition, oral presentations summarizing these confidential reports are provided to the Committee by a representative of the implementing organization and one of the co-chief scientists. Following these oral presentations, the review committee identifies specific pre-cruise, syn-cruise, and post-cruise topics for discussion. The Committee then spends the remainder of the first day of the meeting discussing these issues and developing specific recommendations for the Implementing Organization, for IODP-MI and for the Science Advisory Structure. On the second day of the meeting, the committee reviews the recommendations and comes to a consensus on each one. The recommendations are then compiled into a short summary report, which is posted on the IODP website.

For the Expeditions 304 and 305 we plan to combine REVCOM meetings and thus will hold the REVCOM meeting sometime in mid-Spring of 2005 after Expedition 305. In preparation for that meeting we are asking that co-chief scientists prepare a written report (as long or as short as you like) that provides details of problems you encountered during the preparation and execution of Expedition. IODP-MI will also solicit the scientific party for their comments. All reports and comments are confidential and seen only by the REVCOM participants and the IODP-MI VP of Science Planning (only a summary report with specific recommendations is published).

We urge you to email one or both of us if you have any questions regarding this review process or wish to discuss any operational or science issues in more detail. We realize that your time is valuable and writing yet another report may seem onerous, but we can only improve operations by getting first-hand accounts.

Again, thank you for your time and commitment towards making Expedition 305 a success.

Best Regards,  
Tom Janecek and Hans Christian Larsen

## **Appendix D: Third Party Tool Guidelines**

### **SPC and SCIMP Third Party Tool Actions:**

**SPC Consensus 0410-37:** The SPC requests that the SciMP and the TAP work with the IOs to develop a draft third-party tools policy for the IODP. The SciMP and the TAP should submit a joint report for the March 2005 SPC meeting, and the SPC and OPCOM intend to submit a final report for consideration by the SPPOC at its mid-2005 meeting.

**SciMP Action Item 05-02-03:** A SciMP working group to coordinate with IO's on development of a draft general policy statement on third party tools and instruments [laboratory, downhole, and observatory], both developmental and off-the-shelf prior to the March 14 SPC meeting (deadline for draft report to SciMP co-chairs 7<sup>th</sup> March) . A follow-on draft policy will be developed by 16<sup>th</sup> May for forwarding to for SPPOC for mid-June meeting.

### **ODP Third-party tool development guidelines**

Downhole measurements form an integral part of the technology that is routinely used in ODP. In addition to the standard downhole tools that are available on all ODP scientific legs, ODP has historically drawn upon tools developed outside the framework of its primary contractors. These tools are known as "third-party" tools.

Support for the development of third-party tools can come from a variety of sources. In the United States, third-party tool development has generally been supported by the National Science Foundation, using funds earmarked for ODP and allocated to highly ranked, unsolicited proposals. International partners operate a similar procedures.

Tools that are developed with this type of funding are specifically intended for deployment in ODP. However, scientists sometimes wish to use existing tools that have been developed externally for different purposes. In both cases, it is important that third-party tools are certified as satisfying all the operational and safety criteria that ODP applies to its own in-house tools.

Third-party tools are required to make a transition from the development stage to

certification for deployment downhole in ODP under the management of either ODP Science or Logging Operator. To facilitate this transition, a set of guidelines has been formulated for the overall process of bringing third-party tools through development. The aim is to improve communications between ODP and those outside investigators who wish to develop a third-party tool, with the objective of preserving ODP's safe, secure, and scientifically beneficial operations.

In response to the revision of the ODP advisory structure, and the mandate of the Scientific Measurements Panel (SciMP), the following guidelines for third-party tool development have been modified to reflect the fact that the Science (ODP/TAMU) and Logging Operators (ODP/LDEO-BRG) are responsible for assisting with and monitoring third-party tool developments and reporting status to SciMP. These guidelines indicate a general progression through which new tools are introduced to ODP operations. More detailed technical specifications are available from the ODP Science Operator and or Logging Contractor.

### 1. Classification

ODP defines three types of third-party tools: development tools, certified tools, and mature tools. A development tool is either a tool that is under development externally for use specifically in ODP or a tool that has been developed outside ODP for other purposes and is being considered for ODP deployment. A certified tool is a tool that has been developed outside ODP, either for specific ODP application or for other purposes, and is now deemed to satisfy all the criteria for scientific deployment in ODP. Where there is likely to be a long-term requirement for the data provided by a certified tool, it may be a candidate to become an ODP mature tool. A mature tool is an established tool that has become part of the range of ODP tools operated routinely by the Science or Logging Operator. Such a tool will effectively be owned by ODP and will no longer be a third-party tool. Data acquired through the use of Third Party Tools (including mature tools only) are subject to the same dissemination rules as any other data collected onboard the JOIDES Resolution.

### 2. Development tool

For a tool to be considered a development tool, several criteria must be satisfied.

(1) There must be an identified Principal Investigator who is the primary proponent for the use of the tool in ODP.

(2) The Principal Investigator should formulate a development plan in consultation with the Science or Logging Operator, as appropriate.

(3) The development plan should:

- indicate the usefulness of the proposed measurements and the financial and technical feasibility of making them
- include a brief description of the tool, schematic diagram(s), details of the operational procedure, and technical specifications such as dimensions, weight, temperature and pressure ratings, cable-length restrictions, cable type, etc.

- identify development milestones in terms of both the level and the timing of technical achievements
- make provision for initial testing on land
- satisfy safety considerations
- specify shipboard requirements such as the data processing necessary to make the information accessible on board ship, any special facilities (emphasizing where the tool is not compatible with existing hardware and software), and appropriate technical support
- make provision for transporting tools for shipboard testing, in terms of both cost and time
- contain a signed (pro forma) statement of (a) agreement with these requirements and (b) intent that the tool would be available for post-development deployment in ODP.

(4) The development plan must be submitted for approval to the Science or Logging Operator as appropriate. The Science or Logging Operator liaison to SciMP is responsible for reporting to SciMP the submission of development plans. SciMP will bear the responsibility of determining action on these submissions relative to the panel mandate and will provide advice regarding further tool development.

(5) If the Science or Logging Operator and SciMP when appropriate endorses the development plan, a liaison will be appointed by the appropriate operator to monitor the tool's progress through the development plan. The operator's tool liaison will be charged with providing status reports of the tool's progress to SciMP, via the panel liaison.

(6) An ODP development tool can be scheduled for testing during an upcoming leg. Development tools must be deployed in test mode. By their very definition they are not certified or mature tools, and therefore the scientific success of a leg should not be contingent upon the proper functioning of such a tool.

(7) Where it becomes apparent that the development plan is seriously behind schedule and that the tool is unlikely to have satisfied all the above criteria prior to its planned deployment, the shipboard test should be canceled and agreement reached on a revised schedule. In particular, if a development tool has failed to satisfy all the above criteria six months before the start of the test leg, the Science or Logging Operator (as appropriate) has the right to withdraw the tool from further consideration for that leg.

(8) It is incumbent upon the Principal Investigator to ensure that the Science Operator or Logging Contractor, as appropriate, is fully advised of the tool's status before the 6 six month deadline.

(9) A tool cannot be regarded as an ODP development tool, and therefore cannot be scheduled for testing in future legs, if the above procedures have not been followed. A development tool cannot be deployed on an ODP leg unless the ODP Science Operator or the Logging Contractor are fully satisfied that the terms of the development plan have been fully met.



### 3. Certified tool

For a tool to be considered an ODP certified tool, the following criteria must be met.

- (1) The tool must have satisfied all the requirements for an ODP development tool.
- (2) The tool must have been tested at sea during ODP legs and performed satisfactorily in the opinion of the Science Operator or Logging Contractor.
- (3) The Principal Investigator should formulate a request for certification in consultation with the Science Operator or Logging Contractor, as appropriate.

(4) The request for certification should:

o be prepared in coordination with the operator's SciMP liaison (or designate) to ensure adequate communication between the developer and the operator

- indicate the cost of routine shipboard operations including data processing
- outline the operational requirements for routine deployment and data processing
- detail the availability of spare components
- provide information on adequate maintenance facilities
- include an operating and maintenance manual
- satisfy safety considerations
- confirm the long-term usefulness of the data
- provide source code with documentation
- define performance specifications (pressure, temperature, vibration, shock

limits, etc.)

(5) The request for certification must be submitted for approval to the Science or Logging Operator.

(6) If the Science or Logging Operator and SciMP when appropriate endorses the request for certification, a certificate confirming the satisfactory conclusion of tests and compliance with all requirements will be issued to the Principal Investigator. A copy of this certificate should be forwarded to the SciMP chair.

(7) An ODP certified tool remains the charge of the third party. It can be scheduled for deployment during an upcoming leg and would be expected to contribute to the scientific success of the leg.

(8) Tools that do not possess a certificate cannot be programmed for scientific deployment on future legs.

### 4. Mature tool

For a tool to be considered an ODP mature tool, the following criteria must be met.

- (1) The tool must satisfy all the requirements for an ODP certified tool.

(2) A mature tool proposal should be submitted for approval to the Science or Logging Operator, as appropriate. SciMP will be apprised of the submission of mature tool proposals and will advise the Science or Logging Operator on the long-term scientific benefits of the proposal.

(3) If the Science or Logging Operator and SCIMP endorses the mature tool proposal, on direction from JOI, the Science or Logging Operator will proceed toward the acquisition of the tool for ODP.

(4) Required or desired changes to certified tools prior to granting mature tool status should be handled on a case-by-case basis, with advice from SciMP.

(5) When several certified tools that perform the same function are competing for mature tool status, the Science or Logging Operator, with advice from SciMP, will determine which of these tools is most appropriate for routine operation. The contractors are charged with providing regular status reports to SciMP for their consideration and with seeking advice from SciMP when appropriate.

(6) Tools that have not undergone this process cannot be adopted by ODP as mature tools and will therefore remain third-party tools.

#### 5. Protocol for development

Prospective proponents of third-party tools are requested to contact the ODP Logging (for wireline tools) or ODP Science Operator (for all other downhole tools) at the earliest possible stage of their projects. This is to ensure communication between the developer and the operator as to operational specifications pertinent to tool development, and to identify redundant effort. Proponents will also be informed of the protocol governing the development and deployment of ODP third-party tools.

## Appendix E: Staffing Guidelines

Cc: Mevel Catherine ((E-mail)) <mevel@ipgp.jussieu.fr>,  
IODP-MI Sapporo <science@iodp-mi-sapporo.org>,  
Dan Evans <devans@bgs.ac.uk>, hgiven@joiscience.org,  
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Hans Christian Larsen <hclarsen@iodp-mi-sapporo.org>,  
Tom Davies <davies@iodp.tamu.edu>,  
Mike Coffin <mcoffin@ori.u-tokyo.ac.jp>  
From: Jeroen Kenter <jeroen.kenter@falw.vu.nl>  
Subject: Re: Member/consortia sailing quotas  
Date: Thu, 17 Feb 2005 11:01:21 +0100  
To: Thomas Janecek <tjanecek@iodp.org>

Dear All,

I must let you know that ESSAC very much appreciates this message and its proposed approach to the science party quota. We are more than happy to contribute to a working set of guidelines in consultation with the other national offices.

Best greetings,

Jeroen

On Feb 16, 2005, at 3:12 PM, Thomas Janecek wrote:

Dear all:

In response to a recent series of email letters regarding the level of shipboard participation on expeditions, IODP-MI would like to reiterate that the MoUs are very clear on the subject of shipboard participants: Not using your quota is acceptable, but it does not give a member/consortia any rights to claim more participants in future expeditions.

We believe, however, that there is a general consensus that it would be desirable to be

able to exercise some flexibility with respect to staffing. If to be pursued, this would need to be handled in a program-wide fashion, not by a single national office and a specific IO.

IODP-MI will include this general issue in the upcoming IODP-MI/ IO meeting in Lisbon, March 12th. A model for the future might involve an annual national office meeting at an appropriate time to discuss the upcoming expedition schedule including special national/consortia preferences for different expeditions. If national offices can agree on a plan and it receives IODP-MI's approval, this can be given to the IOs as a guideline. If anything like that is going to be established, it most likely will require acceptance by the IODP Council. The next council meeting is in June, 2005. This will be too late for the remaining part of FY05 and the upcoming FY06.

Without further background than provided so far, we find it difficult to offer any counseling to the issue of the ECORD needs for nine shipboard participants in Expedition 307 to honor a second Belgian participant.

Any request to deviate from the MoU rules on shipboard participants should in the future be directed to IODP-MI through its two Vice Presidents.

Your cooperation in this matter is appreciated.

Best Regards,

Hans Christian Larsen      Tom Janecek

--



ESSAC

ECORRD Science Support & Advisory Committee

-DRAFT-

## GUIDELINES FOR STAFFING SCIENCE PARTIES IN IODP

This is a draft of set of guidelines for IODP member science party quotas, following the desire by ESSAC (and we assume the other National Offices) draft general guidelines for staffing.

- 1) Contemporaneous application deadlines and nomination submissions in Europe, USA and Japan.
- 2) Co-chiefs should not be counted in the science party quota (science party +2 co-chiefs); this doesn't affect the MoU but allows for more flexibility
- 3) Automatic banking of unused births is a basic guideline but flexibility must be assured on the long run (2-3 year periods?)
- 4) National Offices should tune and predict the staffing of the upcoming expeditions taking into consideration the interest among their science communities and availability of scientists to avoid shortfalls in staffing that can not be adjusted towards the end of these 2-3 year periods; this implies some flexibility to guide line #3
- 5) IODP-MI Sapporo Office will supervise National Offices negotiations and the long term balance of the consortia sailing quota.

## Appendix F: Annual Program Plan Guidance

Subject: Further guidance for FY 2006 budget  
Date: Thu, 10 Feb 2005 11:21:23 -0500  
Thread-Topic: Further guidance for FY 2006 budget  
Thread-Index: AcUPjl/1XqLnT9T/RAOwwuhQn9U3tQ==  
From: "Manik Talwani" <mtalwani@iodp.org>  
To: <ataira@jamstec.go.jp>,  
<devans@bgs.ac.uk>,  
<frack@joiscience.org>,  
<gwefer@marum.de>  
Cc: <jemmitte@iodp.org>,  
<hclarsen@iodp-mi-sapporo.org>,  
<tjanecek@iodp.org>,  
<yotsuka@iodp.org>

Dear colleagues

As a follow-up to my letter of February 1, regarding FY2006 budget guidance, I am supplying additional details concerning the FY2006 Annual Program Plan and Budget.

These additional details (Attachment A) are based on the following:

1. Template for IODP-MI budget based on work-breakdown structure excerpted from Jamie Allan's letter to Manik Talwani dated on August 18, 2004 (Attachment B)
2. Breakdown of Technical, Engineering, and Science Support into two categories as discussed in IODP-MI meeting with IOs, NSF, and MEXT (Attachment C)
3. SPPOC request for more uniform presentation of IO plans and budgets,

Best regards,

Manik Talwani

---

## ATTACHMENTS

### **Attachment A**

#### Details for FY 2006 Annual Program Plan and Budget

The Annual Program Plan and Budget (APP) should include a general description of:

1. Organizational structure
2. Expedition Operations
3. Planned SOC activities and costs in FY 2006 for the following Work Breakdown Elements
  - a. Management and Administration
  - b. Technical, Engineering and Science Support
    - b-1 Technical, Engineering and Science Support
    - b-2 Engineering Development (see Attachment C)
  - c. Core Curation
  - d. Data Management
  - e. Publications
  - f. Logging
  - g. Education and Outreach

Total Direct Costs

Indirect Costs

Total

4. Within each of the Work Breakdown Elements from 3-a to 3-g, an accounting of costs in the following categories will be given for each tiered entry.
  - (1) Salaries and Fringes
  - (2) Travel\*
  - (3) Supplies
  - (4) Shipping
  - (5) Communication
  - (6) Contractual Services
  - (7) Equipment
  - (8) Other Direct Cost

\* Travel should be appropriately allocated to SOC/POC either SOC 100%, POC 100% or 50/50.

These details are derived from the NSF Program guidance regarding fiscal reporting for both the IODP-MI FY05 Program Plan and Quarterly Reports (excerpted in Attachment B).

## **Attachment B**

Excerpt from Dr. Allan's Letter to Manik Talwani dated on August 18, 2004

“The following represents NSF Program guidance regarding fiscal reporting for both the IODP-MI FY05 Program Plan and the Quarterly Reports. This guidance should answer any remaining questions posed in your July 30, 2004 letter to Patrick Welsh.”

“Please provide, as part of the FY05 Program Plan, and to be used as the template for IODP-MI Quarterly Financial Reports, an IODP-MI budget based upon a work-breakdown structure as required in Contract OCE-0432224. “

“Work Breakdown Elements for the JOI Subcontract with IODP-MI, including JOI Subcontracts to Texas A&M University and to Lamont-Doherty Earth Observatory, Columbia University, should include the following elements:

Management and Administration  
Technical, Engineering and Science Support  
Core Curation  
Data Management  
Publications  
Logging  
Education and Outreach

as well as  
Total Direct Costs  
Indirect Costs  
Total

As IODP-MI enters into other subcontractual relationships, NSF will work with IODP-MI in defining suitable Work Breakdown Elements for each subcontract.

Within each of the Work Breakdown Elements, an accounting of costs in the following minimum categories will be given for each tiered entry.:

Salaries and Fringes  
Travel  
Supplies



Shipping  
Communication  
Contractual Services  
Equipment  
Other Direct Cost

## **Attachment C**

### Engineering Development

For a project to be defined as Engineering Development Project, it would have total development costs over \$500, 000, or annual development costs exceeding \$100,000 for any year of the project.

## **Appendix G: Current draft of Sample, Data, and Obligations Policy**

**DRAFT**  
**Integrated Ocean Drilling Program**  
**Sample, Data, and Obligations Policy**

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## **1. Policy Overview**

This document outlines the policy for distributing IODP samples and data to research scientists, curators, and educators. This document also defines the obligations that sample and data recipients incur.

The specific objectives of the IODP policy are to:

ensure availability of samples and data to science party members so they can fulfill the objectives of the drilling project and their responsibilities to IODP;

- encourage scientific analyses over a wide range of research disciplines by providing samples to the scientific community;
- preserve core material as an archive for future description and observations, nondestructive analyses, and sampling; and
- disseminate scientific results from drilling project-related research.

Everyone who sails as an invited participant on an IODP expedition, as a shorebased expedition participant, and anyone who obtains samples after a cruise incurs obligations to ODP as defined in this policy. These obligations are fulfilled by conducting research and publishing the results, and by providing ODP with associated data.

## **2. Policy User Categories**

This policy identifies several categories of user including (1) expedition participants, (2) post-moratorium researchers, and (3) Educators and Museum Staff. This section provides details for these users on how to submit sample requests and the specific reporting obligations that sample and data recipients incur.

### **2.1 Expedition Participants**

#### **2.1.a Submitting requests**

Scientific party members are asked to submit sample requests to the IODP Curator of the Implementing Organization overseeing the expedition three months prior to the start of the expedition (for contact information see Section 3.3). This will provide sufficient lead time for planning. Sample requests submitted during an expedition or during the moratorium will also be considered.

See Appendix A for information on how to obtain the IODP Sample Request Form.

Section 3.5 contains guidelines to assist the requester in estimating sample volumes.

The SAC (see section 3.2.b) will review the sample requests, and approval will be based on compatibility with the Sampling Strategy. Sample requests are approved if a majority of the SAC endorses the requests. In cases where a sample request is considered incompatible, the SAC may: (1) recommend modifications to the request, (2) modify the Sampling Strategy, or (3) reject the request if the other options are inappropriate. In the event of an evenly divided vote, the IODP Curator

at the Implementing Organization will make a decision. If he or she wishes, the sample requester may choose to appeal any decision to the CAB. If a conflict arises over the allocation of samples, shipboard scientific party members have priority over shore-based members.

### 2.1.b Obligations:

All science party members are obligated to conduct research and publish their results. Papers must be published in a peer-reviewed scientific journal or book that publishes in English. If a scientific party member is unable to produce research results because of appropriate sample or data were not retrieved during the cruise, or because data could not be obtained during post-cruise analyses, a letter of explanation must be submitted to IODP Management International, Inc. In the event that research is discontinued, samples may have to be returned from IODP Management International, Inc. Manuscripts for publication must be submitted within 20 months post-moratorium.

#### 2.1.b.i Disseminating content during moratorium

[better title needed..] disseminating content is not very clear]

Authors who wish to submit manuscripts (to the *Scientific Results* volume [If this is still the name], journals, or books) before the moratorium has expired must comply with the guidelines in this section

All scientific party members shall:

- Receive prior approval in writing by a majority of the scientific party. This approval will be coordinated by the IODP Staff Scientist associated with the expedition. The Staff Scientist will circulate the manuscript among the scientific party, tabulate the responses, and notify the author of the scientific party's decision.
- Comply with all written collaborative agreements identified in the leg-sampling plan.
- Use the authorship "Expedition #### Scientific Party" (where #### is the Expedition number). Any exceptions must be cleared through the IODP Publication Services Manager [NOTE TO HCL---please insert the correct title for Soeding's position] before the time of submission.
- Publish:
  - (a) a paper in a peer-reviewed scientific journal or book that is published in English, or
  - (b) a paper or a data report in the Scientific Results volume.
- Acknowledge IODP in all publications that result from the data collected from IODP samples using the following wording:

This research used samples and/or data provided by the Integrated Ocean Drilling Program (IODP). [HCL—insert appropriate sponsorship verbage here as decided by the Publications Task Force]. Funding for this research was provided by \_\_\_\_\_.
- Include the words "Integrated Ocean Drilling Program," "JOIDES Resolution," "Chikyu", "Expedition ##," and/or "Site ##" (where ## is the leg or site

number) as key words provided to the journal or book publisher of the manuscript. (This will allow the legacy of IODP to be tracked by bibliographic databases such as GeoRef.)

**NOTE to HCL: need to include manuscript submission procedures for Scientific Results --see old policy for example**

Those scientists not meeting the above obligations will be restricted from obtaining future samples and data and may not be allowed to participate in future drilling projects. Obligations incurred during the Ocean Drilling Program (ODP) will be carried forward into IODP.

All publications must include “IODP” in the title, abstract, or as a formal keyword and explicitly acknowledge IODP. All publications must be sent to IODP Management International, Inc., Sapporo Office, along with applicable data

#### 2.1.b.ii Disseminating content after moratorium

All scientific party members who incur obligations to IODP must comply with the following guidelines. Details of these obligations are presented below. (Also see Appendix B for a checklist of the obligations that must be fulfilled by scientists as defined in this policy.)

All scientific party members shall:

- Comply with all written collaborative agreements identified in the leg-sampling plan.
- Submit, at the second postcruise meeting, final titles to the ERB [Is there still an ERB?] for all papers that fulfill their IODP obligations and any supplementary publications that they plan to publish.
- Submit all manuscripts by 28 months postcruise.
- Publish:

(a) a paper in a peer-reviewed scientific journal or book that is published in English, or

(b) a paper or a data report in the *Scientific Results* volume.

- Acknowledge ODP in all publications that result from the data collected from IODP samples, using the following wording:

This research used samples and/or data provided by the Integrated Ocean Drilling Program (IODP). [HCL—insert appropriate sponsorship verbage here as decided by the Publications Task Force] Funding for this research was provided by \_\_\_\_\_.

- Include the words “Integrated Ocean Drilling Program,” “Chikyu,” “*JOIDES Resolution*,” “Expedition ###,” and/or “Site ###” (where ### is the expedition or site number) as key words provided to the journal or book publisher of the manuscript. (This will allow the legacy of IODP to be tracked by bibliographic databases such as GeoRef.)

Those scientists not meeting the above obligations will be restricted from obtaining future samples and data and may not be allowed to participate in future drilling projects. Obligations incurred during the Ocean Drilling Program (ODP) will be carried forward into IODP.

All publications must include “IODP” in the title, abstract, or as a formal keyword and explicitly acknowledge IODP. All publications must be sent to IODP Management International, Inc., Sapporo Office, along with applicable data.

] NOTE to HCL: need to include manuscript submission procedures for Scientific Results (if there is such a thing for IODP)---see old policy for example

## **2.2 Other Researchers**

### **2.2.a Submitting requests**

Only scientific party members can receive samples and data during the moratorium period. However, Scientists who wish to conduct research on IODP materials and publish the results but who are not necessarily associated with a specific drilling project may submit sample requests after the moratorium period is over. See Appendix A for IODP Sample Request Form.

### **2.2.b Obligation**

All scientists who receive samples or conduct nondestructive analyses after the moratorium period are obligated to publish a paper summarizing the results of their work in a peer-reviewed scientific journal or book that publishes in English or submit a progress report to IODP Management International, Inc., outlining the status of the samples and/or the data no later than 36 months after receiving them. In the event that research is discontinued, samples may have to be returned as per instructions from IODP Management International, Inc.

#### 2.2.b.i Disseminating content for post moratorium sample requests

All scientists who receive samples or conduct nondestructive analyses from IODP, ODP or DSDP cores after the 12-month moratorium are required to:

- Publish a paper in a peer-reviewed scientific journal or book that publishes in English, or submit a progress report to IODP Management International outlining the status of the samples and/or the data no later than 36 months after receiving them.

Acknowledge IODP, ODP, DSDP, and/or others as appropriate, in all publications that result from the data collected from IODP, ODP or DSDP samples using the following wording:

This research used samples and/or data provided by the Integrated Ocean Drilling Program (IODP). [HCL—insert appropriate sponsorship verbage here as decided

by the Publications Task Force] Funding for this research was provided by \_\_\_\_\_.

- Include the words “Integrated Ocean Drilling Program,” “Chikyu”, “*JOIDES Resolution*,” “Expedition ###,” and/or “Site ###” (where ### is the Expedition or site number) as key words provided to the journal or book publisher of the manuscript. (This will allow the legacy of ODP to be tracked by bibliographic databases such as GeoRef.)
- Submit one reprinted copy of all published works derived from the samples or data to the IODP Management International in either print format or PDF.] NOTE to HCL: need to include manuscript submission procedures for Scientific Results --see old policy for example

#### 2.2.b.ii Disseminating content for post moratorium data requests

Data produced from samples taken for routine shipboard analyses (e.g., index properties, interstitial [pore] water whole rounds, thin sections, smear slides, X-ray diffraction and X-ray fluorescence samples, paleontology core-catcher samples) are available after the moratorium has ended (after 12 months postcruise).

Individuals who request to use IODP, ODP or DSDP data after the moratorium period has expired do not incur the same obligations to publish their results as do shipboard party members during the moratorium; however, if they do publish papers based on these data, they are required to:

- Acknowledge IODP, ODP, DSDP, and/or others as appropriate in all publications that result from the data collected from IODP, ODP or DSDP samples, using the following wording.<sup>1</sup>

This research used samples and/or data provided by the Ocean Drilling Program (ODP). [HCL—insert appropriate sponsorship verbage here as decided by the Publications Task Force] Funding for this research was provided by \_\_\_\_\_.

- Include the words “Integrated Ocean Drilling Program,” “Chikyu”, “*JOIDES Resolution*,” “Expedition ###,” and/or “Site ###” (where ### is the Expedition or site number) as key words provided to the journal or book publisher of the manuscript. (This will allow the legacy of ODP to be tracked by bibliographic databases such as GeoRef.)
- Submit one reprinted copy of all published works derived from the data to the IODP Management International in either print format or PDF.] NOTE to HCL: need to include manuscript submission procedures for Scientific Results -see old policy for example

## **2.3 Educators and Museum Staff**

### **2.3.a Submitting requests**

Cores can be viewed, described, and sampled for teaching and educational purposes. Core materials that are abundant in the collection, and thus not in demand

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<sup>1</sup>Policy revision made June 2001. See Appendix H.1.e. for details.



for research purposes, are available to educators for sampling. Core material is also available for public display, such as in museums or at professional scientific meetings.

Sample requests must be made using the Sample Request Form (see Appendix A). The IODP Curator at the repository of interest will approve requests if they do not deplete the working and/or the temporary archive halves of the core (see Section 3 for definitions).

Requests should:

- include a description of the teaching use or public display, including the location and purpose.
- if teaching samples are requested, list the size and number of samples needed.
- if used for museum display, indicate the duration of the display and how the curatorial state of the cores will be maintained; and
- identify the person(s) responsible for overseeing the cores or samples

Requests will be reviewed by the IODP Curator at the repository of interest and possibly the CAB, and will be forwarded to IODP-MI for final approval as appropriate. A loan agreement will be required for long-term loans (two weeks or more). The Curator will provide details about the loan agreement upon request. All public displays of IODP/ ODP/DSDP material will include a notice that properly credits IODP and support by the appropriate funding agencies.

**NOTE to HCL: need to develop stock credit verbage**

### **2.3.b Obligations**

Educators who receive samples or conduct nondestructive analyses do not incur the same obligations as researchers to publish or provide data to ODP.

**NOTE to HCL: need to define obligations for this category**

## **3. Curatorial Procedures**

### **3.1 Procedures**

#### **3.1.a Sampling strategy**

For each drilling project, a SAC is constituted. During the drilling project, the IODP Curator's authority **there isn't a central Curator so this is a bit problematic** and responsibilities to the SAC may be ceded to the drilling project Curatorial Representative.

The SAC establishes a project-specific sampling strategy and makes decisions on project-specific sample requests received before the drilling project, during the drilling project, and during (but not after) the moratorium period. Approval of such sample requests requires endorsement by a majority of the SAC members. In the event of an evenly divided vote, a decision is made by the IODP Curator at the

repository associated with the expedition. Appeals of this decision can be made to the Curatorial Advisory Board (CAB; see Section 3)

Expedition-specific sampling, for both shipboard and shore-based requests, will follow the Sampling Strategy established by the SAC. The strategy will integrate and coordinate the programs for drilling, sampling, and downhole measurement to best meet scientific needs. By necessity, the strategy will evolve over the course of leg planning and operations, and during the postcruise moratorium. All sampling plans will be carefully considered in the strategy.

Whenever possible, sampling should be deferred to a coordinated shore-based sampling effort (commonly referred to as a “sampling party”) in order to sample more efficiently, and with the perspective gained from having completed the leg. This will ensure the best possible use of the core and distribution of samples. Shore-based sampling will be particularly appropriate for expeditions where many samples will be needed, such as those focusing on paleoceanographic objectives. Travel funds have been specifically allocated for this purpose by some IODP member countries.

The SAC will review the sample requests, and approval will be based on compatibility with the Sampling Strategy. Sample requests are approved if a majority of the SAC endorses the requests. In cases where a sample request is considered incompatible, the SAC may: (1) recommend modifications to the request, (2) modify the Sampling Strategy, or (3) reject the request if the other options are inappropriate. In the event of an evenly divided vote, the IODP Curator at the repository associated with expedition will make a decision. If he or she wishes, the sample requester may choose to appeal any decision to the CAB. If a conflict arises over the allocation of samples, shipboard scientific party members have priority over shore-based members.

#### 3.1.a.i Expedition-Specific Sampling Strategy Guidelines

Development of the leg-specific Sampling Strategy begins in the initial stages of expedition planning, when IODP drilling proposals are written and submitted to IODP-MI Sapporo office. At this stage, proponents will develop a draft Sampling Strategy that will fulfill the scientific objectives of the leg.

Once a proposal has been scheduled for drilling and the Co-Chiefs have been selected, the SAC will write a formal, leg-specific Sampling Strategy for publication in the IODP Scientific Prospectus series. The IODP-MI Vice President of Science Planning and Deliverables will review the Scientific Prospectus before it is published.

The Sampling Strategy will meet the specific objectives of the leg. The Sampling Strategy will define the minimum permanent archive and any supplements to it that the SAC deems necessary. The Sampling Strategy will also become the basis of the shipboard and moratorium “sampling plan.”

A successful Strategy will:

- (1) define the amount of core material available to the scientific party for sampling by deciding if (and when) more than a minimum permanent archive is needed;
- (2) anticipate and possibly define limits on the volume and frequency of shipboard sampling for routine analyses, pilot studies, and low-resolution studies;
- (3) estimate the sampling volume and frequency that is needed to meet the objectives of the expedition, as per scientific subdiscipline and request type;
- (4) anticipate the recovery of critical intervals and develop a protocol for sampling and/or preserving them;
- (5) propose where and when sampling will occur. SACs are strongly encouraged to defer large-volume and high-frequency sampling to postcruise “sampling parties” at ODP core repositories;
- (6) determine special sampling methods and needs (e.g., Pressure Core Sampler, microbiology, whole rounds);
- (7) consider any special core storage or shipping needs (e.g., plastic wrap, freezing sections); and
- (8) identify disciplines/personnel needed for shore-based sampling.

The Sampling Strategy should be formatted using the following categories. For examples, review recent copies of leg-specific sampling strategies from previous expeditions in the Scientific Prospectus series [\(SUPPLY NEW LINK/](#)

Needs

Critical Intervals

Sampling Timetable

Permanent Archive

Temporary Archive

General Sampling Procedures

### **3.1.b Sample request**

Beginning 12 months after a cruise has ended, samples will be provided to any scientist, curator, or educator who has the resources to complete a scientific investigation, or who can prepare materials for curatorial or educational purposes. Requests for samples should be submitted using the IODP Sample Request Form (see Appendix A) to the IODP Curator at the repository of interest. [\[what about when sample request span multiple repositories?\]](#)

The IODP Curator at the repository of interest and the CAB supervise post-moratorium sampling. The IODP Curator at the repository of interest will receive post-moratorium sample requests and will evaluate them for completeness and for adherence to the provisions in this policy. If questions arise, the Curator will consult with the requester.

When considering a sample request, the repository Curator will ascertain whether the requested material is available in the working half or the temporary archive half of the core (see Section 3.4 for definitions). If the material is unavailable, the repository Curator will consult with the requester to determine if the range of the requested interval(s) or the sample spacing within the interval(s) can be modified. If the request cannot be modified because of scientific requirements, a request to sample the permanent archive will be considered.

Approval of sample requests will be based on the availability of material and the length of time it will take the investigator to complete the proposed project. Typical studies will take two to three years, but a study of longer duration will be considered under certain circumstances. If a sample requester disagrees with the repository Curator's final decision on a sample request, the sample requester may choose to appeal any decision to the CAB.

To assist the sample requester, the repository Curator will provide, upon request, relevant information about previous sample requests and resultant studies on the core interval in question. The repository Curator will also provide advice and guidance to the requester when considering sample volumes and frequencies (see Section 3.5).

The sample requester should secure funds independently for sample-related research activities.

Requests to sample archive material should be sent to the repository Curator, who will forward them to the CAB after preliminary review. The CAB will evaluate the request based on its scientific merit and on the extent to which the working half is depleted. If necessary, the CAB may also consult with members of the original SAC who established the permanent archive being considered for sampling. The CAB will strive to maintain a representative continuous section of core material for archival purposes whenever possible.

### **3.1.c Approval.**

Not clear by what is meant or needed by this section

### **3.1.d Sample distribution**

Not clear by what is meant or needed by this section

## **3.2 Roles and Responsibilities**

The responsibility and authority for making decisions regarding the distribution of IODP, ODP, and DSDP samples, as per this policy, lies with the Sample Allocation Committee (SAC), the Curatorial Advisory Board (CAB), and the IODP Curator at each repository

### **3.1.a Curators**

The IODP Curator at each repository maintains a record of all distributed samples, both on board the ship and from the repositories. This record includes the names of the recipients, the nature of the proposed research, the volume of samples taken, and the status of the request. This information is available to investigators upon request through the IODP Curator at each repository

### **3.2.b Sample Allocation Committee**

For each drilling project, the SAC establishes a project-specific sampling strategy and makes decisions on project-specific sample requests received before the drilling project, during the drilling project, and during (but not after) the moratorium period. Approval of sample requests requires endorsement by a majority of the SAC. In the event of an evenly divided vote, the IODP Curator at the repository associated with the expedition will make a decision. The sample requester may choose to appeal the SAC's decision to the CAB.

### **3.2.c Curatorial Advisory Board**

The CAB is a standing body that consists of two IODP senior managers and three members of the scientific community (selected by the IODP Scientific Measurements Panel), who will serve overlapping four-year terms (see section 3.3). Every effort will be made to ensure that CAB membership represents a variety of scientific disciplines.

The CAB has two main functions:

- It acts as an appeals board vested with the authority to make final decisions regarding sample distribution if and when conflicts or differences of opinion arise among any combination of the sample requester, IODP Curator at the repository of interest, and the SAC.
- It reviews and approves requests to sample the permanent archive and requests for loans of core material for outreach and education.

[A person appealing to the CAB may contact any member of the Board directly

### **3.2.# Science Party**

The “scientific party” includes all scientists who sail on the leg, as well as any shore-based scientists who were granted permission from the SAC to receive samples or data from the leg within the moratorium.

Not sure “Science Party” is needed here as the roles and responsibilities are defined in Section 2

### **3.2.# Editorial Review Board**

The ERB comprise the Co-Chief Scientist(s) for the drilling project and the IODP Staff Scientist assigned to the expedition. An ERB is established for every drilling

project and remains active for 30 months post-moratorium. The primary purpose of the ERB is to coordinate the writing of the drilling project results and monitor all post-project research and associated publication of results. These individuals may select external scientists/specialists to serve with them on the board. The need for external ERB members will be determined based on the Co-Chiefs' and Staff Scientist's workloads and expertise.

The responsibility and authority for making decisions on issues relating to the publication of drilling project-related research to fulfill IODP obligations lies with an Editorial Review Board (ERB) and the IODP-MI senior manager responsible for publications.

The ERB members' responsibilities include the following.

The Co-Chief Scientist(s) will:

- coordinate the writing of the *Initial Reports* volume materials, attend the postcruise meeting, and review the *Initial Reports* volume galleys; and
- write or coordinate a Leg Synthesis paper to be published in the *Scientific Results* volume.

The IODP Staff Scientist will:

- coordinate the writing of the *Initial Reports* volume materials, attend the postcruise meeting, and review the *Initial Reports* volume galleys;
- ensure that all *Scientific Results* manuscripts are complete and of reviewable quality before they are sent out for review. Manuscripts that do not meet IODP's standards will be returned to the author and will not go through the review process unless they are revised to meet ODP standards before the submission deadline;
- document the status of the scientific party members' actions to fulfill their obligations requirements; and
- coordinate the handling of additional contributions to the *Scientific Results* volume after 42 months postcruise.

The entire ERB will:

- review all proposed publication titles related to the leg (*Scientific Results* volume, journal, or book), approve all papers that fulfill IODP obligations, and approve the final table of contents for the *Scientific Results* volume;
- review each journal or book manuscript submission, within three months of receipt, for proper citation of site summaries and site chapters and for proper use of data and conclusions from other members of the scientific party;
- coordinate the peer-review process for each *Scientific Results* manuscript as soon as the Staff Scientist approves each paper as being of "reviewable quality," collect *Scientific Results* manuscript reviews, and make the final decision on manuscript acceptance or rejection; and
- regularly update the leg-related citations list published on the IODP Web site (<http://www.iodp.org>)

### 3.3 Contacts

| Title   | Name   | Contact Information  |
|---|--|--|
| <b>Sample Allocation Committee (SAC)</b>  | For each drilling project, this committee comprises the Co-Chief Scientist(s), IODP Staff Scientist, and IODP Curator. | Contact information for the Co-Chief Scientist(s) and Staff Scientist of each drilling project can be found in the Scientific Prospectus or the list of Shipboard Participants in the <i>Preliminary Report</i> ( <a href="http://www.iodp.org">http://www.iodp.org</a> ). See below for IODP Curator contact information. |
| <b>IODP Curator: U.S. Repositories</b><br>(Texas A&M University Scripps Institution of Oceanography; Columbia University) | Dr. John Firth   | E-mail: <a href="mailto:firth@iodp.tamu.edu">firth@iodp.tamu.edu</a><br>Phone: 001 979 845 0507<br>Fax: 001 979 845 1303<br>Mailing address:<br>Integrated Ocean Drilling Program<br>1000 Discovery Drive<br>College Station TX 77845, USA   |
| <b>IODP Curator: European Repository</b><br>(Bremen University)   | Dr. Ursula Röhl  | E-mail: <a href="mailto:uroehl@marum.de">uroehl@marum.de</a><br>Phone: 49 421 218 2482<br>Fax: 49 421 218 3116<br>Mailing address:<br>ESO Curation Manager, Research Center for Ocean Margins (RCOM)<br>Geosciences Department<br>Bremen University<br>Postfach 33 04 40<br>28334 Bremen, Germany                          |
| <b>IODP Curator: Japanese Repository</b><br>(Kochi University)  | Dr. Kazuho Fujine  | E-mail: <a href="mailto:Fujinek@jamstec.go.jp">Fujinek@jamstec.go.jp</a><br>Phone: 81 46 867 9295<br>Fax: 81 46 867 9255<br>Mailing address:<br>Center for Deep Earth Exploration (CDEX)<br>Japan Agency for Marine-Earth Science and Technology (JAMSTEC)<br>2-15 Natsushima-cho<br>Yokosuka 237-0061, Japan              |
| <b>Curatorial Advisory Board (CAB)</b>  | Dr. Hans Christian Larsen,<br>Vice President of Science Planning<br>IODP Management International, Inc.                | E-mail: <a href="mailto:larsenhc@cris.hokudai.ac.jp">larsenhc@cris.hokudai.ac.jp</a><br>Phone: 81 11 738 1075/3506 (direct)<br>Fax: 81 11 738 3520<br>Mailing address:<br>IODP Management International, Inc.<br>Rm. 05-101, CRIS<br>Hokkaido University, N21, W10<br>Sapporo 001-0021, Japan                              |
|   | Dr. Thomas Janecek,<br>Vice President of Operations<br>IODP Management International, Inc.                             | E-mail: <a href="mailto:tjanecek@iodp.org">tjanecek@iodp.org</a><br>Phone: 001 202 659 4234<br>Fax: 001 202 467 6945<br>Mailing address:<br>IODP Management International, Inc.<br>1899 L Street NW, Suite 200<br>Washington DC 20036, USA   |

|                                      |   |   |
|--------------------------------------|---|---|
|                                      | Dr. Kenji Nanba   | E-mail: nanba@aujaghi.fs.a.u-tokyo.ac.jp<br>Phone: 81 3 5841 5310<br>Fax: 81 3 5841 5308<br>Mailing address:<br>Graduate School of Agricultural and Life Sciences<br>Tokyo University<br>1-1-1, Yayoi, Bunkyo-Ku<br>Tokyo 113-0032, Japan   |
|                                      | Dr. Clive Neal  | E-mail: neal.1@nd.edu<br>Phone: 001 574 631 8328<br>Fax: 001 574 631 9236<br>Mailing address:<br>Department of Civil Engineering & Geological Sciences<br>156 Fitzpatrick Hall<br>University of Notre Dame<br>Notre Dame IN 46556, USA  |
|                                      | Dr. Heinrich Villinger  | E-mail: vill@uni-bremen.de<br>Phone: 49 421 218 4509<br>Fax: 49 421 218 6173<br>Mailing address:<br>FB Geowissenschaften<br>Universität Bremen<br>Postfach 330 440<br>D-28334 Bremen, Germany   |
| <b>Editorial Review Board (ERB)</b>  | For each drilling project, this committee comprises the Co-Chief Scientist(s), IODP Staff Scientist, and one external scientist (optional). | Contact information for the Co-Chief Scientist(s) and Staff Scientist of each project can be found in the <i>Scientific Prospectus</i> or the list of Shipboard Participants in the <i>Preliminary Report</i> ( <a href="http://www.iodp.org">http://www.iodp.org</a> ).  |
| <b>Scientific Measurements Panel</b> | Co-chairs:<br>Dr. Makoto Okada<br>Dr. Mike Lovell   | <b>M. Okada:</b><br>E-mail: okada@mx.ibaraki.ac.jp<br>Phone: 81 29 228 8392<br>Fax: 81 29 228 8405<br>Mailing address:<br>Department of Environmental Sciences<br>Ibaraki University<br>Bunkyo 2-1-1, Mito<br>Ibaraki 310-8512, Japan<br><br><b>M. Lovell:</b><br>E-mail: mike.lovell@le.ac.uk<br>Phone: 44 116 252 3933<br>Fax: 44 116 252 3918<br>Mailing address:<br>Geology Department<br>University of Leicester<br>Leicester LE1 7RH, UK<br><br>A complete panel member list and e-mail links can be found at:<br><a href="http://www.isas-office.jp/panel/scimp.html">http://www.isas-office.jp/panel/scimp.html</a> |



### **3.4 Terms and Definitions**

#### **3.4.a Moratorium**

To accommodate the variability in duration of specific drilling projects, the period of one year after the release of the sample or data to the science party is designated as the “moratorium period.” The purpose of the moratorium period is to ensure that adequate time is allotted for science party members to conduct drilling project-related research before core samples and data are made available to the general scientific community. The release date, relative to the drilling project, may be delayed post-drilling or staggered during drilling as appropriate to the scientific objectives defined by IODP. Only members of the science party are permitted to receive core samples and associated data during the moratorium period. Other requests for samples are considered after the moratorium period expires.

During the moratorium period, samples are available exclusively to the drilling project’s “science party,” which has been formally approved by IODP, whose requests have been approved by the Sample Allocation Committee. Archived project data produced from sample analyses, downhole measurements in boreholes, and site surveys performed by IODP are available during the moratorium period to the entire science party.

After the moratorium period ends, samples are given or loaned to persons whose requests have been approved by the IODP Curator at the appropriate repository. After the moratorium period expires, project data are also publicly available.

#### **3.4.b Science Party**

The science party is defined as those scientists selected by IODP to produce initial, openly shared data associated with a particular drilling project within the moratorium period.

#### **3.4.c Other Researchers**

Scientists who wish to conduct research on IODP materials and publish the results but who are not necessarily associated with a specific drilling project.

#### **3.4.d Educators and Museum Staff**

Curators of museums and collections and educators.

#### **3.4.e Unique and Nonunique Intervals**

A cored interval is designated “unique” if it has been recovered only once at a drill site. The most common occurrence of a unique interval is one that results when only one hole is drilled at a site. If the cored interval is recovered from two or more holes, then the interval is considered “nonunique.” A critical exception to this definition occurs when drilling into igneous basement rocks, metamorphic rocks, or metalliferous deposits. Every hole drilled into these lithologies is considered unique because of their inherent lateral heterogeneity. Lithostratigraphic analysis of

advanced piston cores from multiple holes drilled at one site may reveal that short sedimentary intervals (generally less than two meters) are commonly missing between successive cores from any one drill hole, even where nominal recovery approaches 100%. These missing intervals can be ignored when considering whether or not an interval is unique.

### **3.4.f Composite Splice**

Paleoceanographic cruises typically recover sediment cores from multiple holes cored side-by-side at a given site using an advanced hydraulic piston corer (APC) and/or an extended core barrel (XCB). A composite stratigraphic depth section is constructed by establishing correlations between adjacent drill holes, using the variations in properties (“wiggles”) measured on cores by nondestructive sensors. A composite depth table describes the resulting (delta) depth-offsets between holes. These offsets represent the difference between the meters below seafloor (mbsf; i.e., cored depth) and the meters composite depth (mcd; i.e., composite depth) values that are derived from these correlations. Another table describes the unique intervals in specific holes at a given site, which have been used to construct the “ideal” section, also known as the “composite splice.” The purpose of a composite splice is to describe the most complete sedimentary section at a given site, without gaps in core recovery (i.e., missing sediment), which then can be used for developing high-resolution sampling strategies and analyzing time series. Scientists often prefer to sample using the composite splice as a guide, rather than to sample down a single hole at a given site, because of these gaps in recovery between cores in a single hole.

### **3.4.g Archive and Working Halves**

Cores are split into halves for shipboard analysis to uniquely identify split-core halves for measurements and sampling. The halves are referred to as “working half” and “archive half.” The entire working half is available for sampling. The concept and definition of an archive half (see below) is designed to enhance scientific flexibility and to enable greater access to important material. In certain circumstances the archive is available for sampling (see below).

Before 1997, the archive was preserved (unsampled) and conserved in the repository, available only for nondestructive examination and analysis. Samples for destructive analyses were taken exclusively from the working half. Since 1997, the entire core has been available for sampling. The procedure of splitting cores into working and archive halves will continue, for practical and database purposes, but the concept and definition of an archive half has now been expanded and modified. This will enhance scientific flexibility by enabling greater access to important and often coveted material.

### **3.4.h Permanent Archive**

A “minimum permanent archive” is established for each IODP drill site. Archive core earmarked “permanent” is material that is initially preserved unsampled and is conserved in the core repositories for subsequent nondestructive examination and analysis. In “unique intervals,” this minimum permanent archive consists of at least

one half of each core, excluding whole-round samples (e.g., for interstitial pore water analysis). If so desired, the SAC may choose to designate more, but not less, than this amount as the permanent archive. In “nonunique intervals,” the permanent archive will consist of at least one half of one set of cores that span the entire drilled sequence, again, excluding whole-round samples. The permanent archive is intended for science needs that may arise five years or more after drilling is completed.

In practice, if holes are cored continuously, the minimum permanent archive may consist of one half of each core taken from the deepest hole drilled at a site. As such, the archive halves of cores from additional holes drilled to equal or shallower depths, which contain replicate copies of stratigraphic intervals constituting the minimum permanent archive, need not be designated as permanent archive, but can be, if so desired by the SAC. If not deemed permanent archive, they are “temporary archive.” If a composite splice section is constructed and the sampling demand exceeds the working half, an alternative scenario may be required to make sure that all samples can be taken from the spliced section. In this case, the permanent archive can be defined from cores that are not part of the splice (e.g., from cores from different holes). Sampling of the permanent archive is feasible five years postcruise if the working and/or the temporary archive halves of the core have been depleted.

#### **3.4.i Temporary Archive**

Cores taken from nonunique intervals that are not part of the “minimum permanent archive” will be considered “temporary archives,” unless stipulated otherwise by the SAC in the Sample Strategy. If required for special shore-based analysis, some cores may be left unsplit on board and shipped to the laboratory as whole-core sections. If split (the common scenario), the temporary archive may be sampled just like the working halves when (a) either the working halves have been depleted by sampling, or (b) when pristine, undisturbed material is needed for special sampling needs, such as taking U-channels or slab samples.

#### **3.4.j Critical Intervals**

Critical intervals are lithologic spans of such scientific interest that there is extremely high sampling demand for them. These intervals may vary from thin, discrete horizons to thick units, extending over an entire core or more. Examples include, but are not limited to: décollements, sediment-basement contacts, igneous contacts, impact/tektite horizons, gas hydrates, marker ash horizons, scaly fabric, magnetic reversals, and particular biostratigraphic levels. The SAC is responsible for anticipating the recovery of critical intervals and for developing a strategy for sampling and/or conserving them. For postmortality sampling, the IODP Curator at the appropriate repository will work with investigators to ensure that previously defined critical intervals are sampled only when necessary.

#### **3.4.k Nondestructive Analyses**

Requests to perform nondestructive analyses on cores (e.g., descriptions, imaging, X-rays) should be submitted to the IODP Curator at the appropriate

repository after completing the IODP Sample Request Form. Investigators who carry out nondestructive analyses incur the same obligations as those scientists who request samples.

### 3.5 Typical Sample Volumes

The following volumes are guidelines, not limits.

|  |   |
|--|---|
| Thin-section billets                     | 10 cm <sup>3</sup> up to 50 cm <sup>3</sup> for large-grained plutonic rocks  |
| Alkenone (U <sub>k</sub> <sup>37</sup> ) | 5 cm <sup>3</sup>   |
| X-ray diffraction                        | 5 cm <sup>3</sup>   |
| X-ray fluorescence                       | 20 cm <sup>3</sup> (sediments), 20–50 cm <sup>3</sup><br>(igneous/sulfides—varies depending on grain size<br>and homogeneity of rock) |
| Carbonate                                | 2 cm <sup>3</sup>   |
| Paleomagnetism<br>channels               | 7-cm <sup>3</sup> cubes, 12-cm <sup>3</sup> minicores, 600-cm <sup>3</sup> U-   |
| Moisture and density                     | 10–20 cm <sup>3</sup>   |
| Grain size                               | 10–20 cm <sup>3</sup> , depending upon coarseness   |
| Planktonic foraminifers                  | 10 cm <sup>3</sup>  |
| Benthic foraminifers                     | 10–20 cm <sup>3</sup>   |
| Nannofossils                             | 2 cm <sup>3</sup>   |
| Diatoms                                  | 5–10 cm <sup>3</sup>  |
| Radiolarians                             | 10 cm <sup>3</sup>  |
| Palynology                               | 10–15 cm <sup>3</sup>   |
| Organic samples                          | 20 cm <sup>3</sup>  |
| Interstitial porewaters                  | whole rounds 5–20 cm long, based on water content   |
| Inorganic geochemistry                   | 10 cm <sup>3</sup>  |
| Organic geochemistry                     | 10 cm <sup>3</sup>  |
| Sedimentology                            | 10–20 cm <sup>3</sup>   |
| Slabs (for laminae studies)              | 25–50 cm <sup>3</sup> , depending on slab length  |
| Slabs (large grained plutonics)          | 50–100 cm <sup>3</sup> , often shared by scientists for<br>multiple analyses  |
| Stable isotopes (C, O)                   | 10–20 cm <sup>3</sup>   |

### 4. Document History

**N1. July 2004:** Interim Policy issued at [http://\\_\\_\\_\\_\\_](http://_____).

### 5. Appendices

#### A: ODP Sample Request Form

An electronic version of the ODP Sample Request Form is available on the IODP Web site at [NEED TO INSERT NEW URL](#). Individuals who cannot easily access this form on the Web should contact the IODP Curator for a printed copy (for contact information see Section 3).

## **B. Obligations Checklist**