

**IODP Engineering Task Force
Meeting 2 – April 16 and 17, 2007
Agenda**

Members	Observers	Guests
Earl Davis – Pacific Geoscience Centre	Toshiyuki Oshima – MEXT	Masanori Kyo - CDEX
Brian Glass – NASA	Kelly Oskvig – IODP-MI	Sean Higgins - USIO
Peter Looijen – Fugro – ABSENT	Steve Sears – ABSENT	
Greg Myers – IODP-MI		
Tom Pettigrew – Stress Engineering		
Bernhard Prevedel – ICDP- ABSENT		
Alex Pyne – Antarctic Research Centre		
Tom Williams – Noble Drilling		

The primary goals of this meeting are to:

- A. Finalize the FY2008 engineering plan
- B. Review FY2007 deliverables and the status of existing projects
- C. Sort incoming proposals for FY2009 funding consideration
- D. Refine existing processes
- E. Capture and act on any new ideas

AGENDA

1. **8:00 Continental breakfast**
2. **8:30 Welcome and logistics**
3. **8:45 “What is IODP?” and “What is ETF?”overview.**
4. **9:00 Conflict of interest, intellectual property, and confidentiality procedures**
 - A. Review the IODP-MI policy
 - B. Identify conflicts and determine how they will be handled
 - C. All members sign the non-disclosure agreement
5. **9:30: Conduct review of FY2007 feasibility studies**
 - A. Review ESO downpipe camera feasibility study
 - B. Review USIO pulse telemetry module feasibility study
6. **10:00 Break**
7. **10:15 Continue feasibility study review**
8. **11:00 Conduct high level review of engineering development proposals received by April 15th**
 - A. Our goal is to provide a cursory review of proposals and decide how they should be routed.

B. Review of Proposal Process

1. *Questions issues by proponents*

- a) How do we ensure there is no conflict of interest by tf members?
- b) Can proposal have budgets from each contributing organization or just one combined budget?
- c) Should the submitted proposal be legally water tight, or are the proposals to be more loose at this point?

2. *proposal routing*

3. *proposal review*

4. *project award*

9. **12:00 Lunch provided**

10. **1:00 Review IODP engineering best practices, project management controls**

11. **2:00 Overview of Long Term Borehole Monitoring System project FY2007 work**

12. **3:00 Break**

13. **3:15 Final look at the FY2008 IODP engineering plan**

14. **4:00 Brain storming session**

- A. Thoughts on how to improve IODP engineering processes, new funding sources, etc. There is no limit on the subject as long as it pertains to meeting the goals of the Initial Science Plan.

15. **5:00 Adjourn**

16. **6:00 Dinner**

Day TWO

1. **8:00 Continental breakfast**

2. **8:30 Continue with any feasibility study or engineering proposal review**

3. **10:00 Break**

4. **10:15 Consider progress and paths forward with industry partnership and collaboration**

- A. For example DeepStar/RPSEA

5. **11:00 Review ETF membership**

- A. Current membership vs. future needs

6. **11:30 Review action items from meeting**

7. **12:00 Adjourn – lunch will be provided**



Engineering Task Force

April 16-17, 2007, Washington, DC, USA

Location

IODP Management International
815 Connecticut Avenue, Suite 210
Washington, DC 20006
Tel: 202-465-7500

Date and Time

Monday, April 16, 2007 Tuesday, April 17, 2007
09:00 -17:00 09:00 – 13:00

Breakfast and lunch will be provided on both days. Continental breakfast available from 8.30 am.

Meeting Chair

Greg Myers
Engineering & Operations Manager, IODP-MI
gmyers@iodp.org

Hotel Information

Watergate Hotel
2650 Virginia Ave NW
Washington, DC 20037
(202) 965-2300
www.watergatehotel.com

Rooms have been set-aside for the nights of Sunday, April 15 and Monday April 16 at the government per diem rate of \$188 plus tax (currently 14.5%). Reservations can be extended at the same rate. For more information on the hotel www.watergatehotel.com

To make a reservation (Important Deadline Information)

Please contact Thérèse Lowe at tlowe@iodp.org or 202-465-7503 on or before **Friday March 16, 2007** (Cut off date) and state your arrival and departure dates along with any other requests.

Airport Transportation

Shuttle Service (Super Shuttle) to and from all local airports can be reserved prior to departure.
Online reservation: <http://www.supershuttle.com/html/cities/dca.htm>
Telephone: (800) BLUE VAN / (202) 296-6662

Taxi Service to downtown DC:

Readily available curbside at airport with transportation officials to direct you.

From Ronald Reagan Washington National Airport (DCA):

Approx Fare \$12.00USD Duration: 20 minutes.

From Washington Dulles International Airport (IAD):

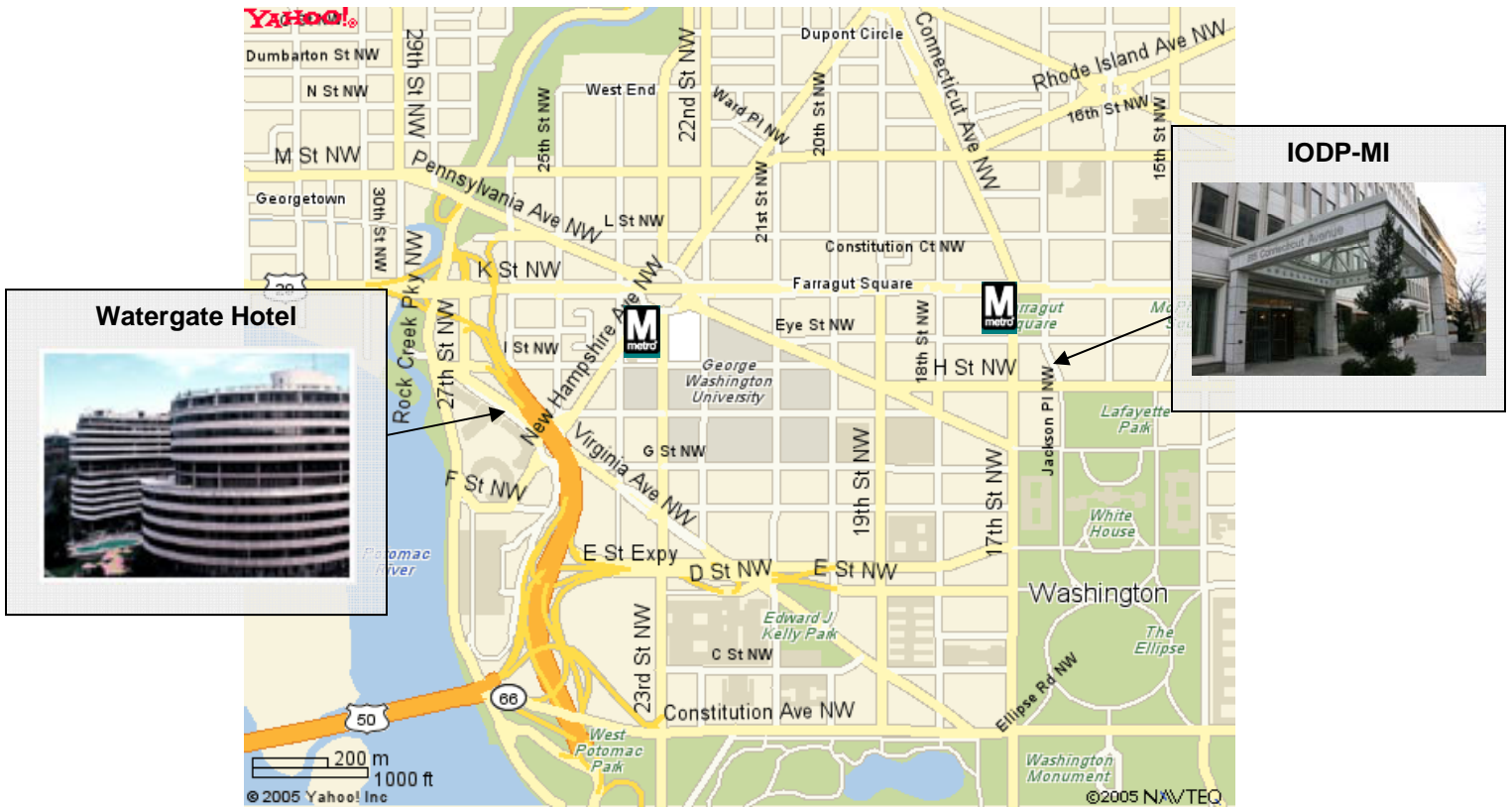
Approx Fare \$50.00USD Duration: One hour.

From Baltimore Washington International Airport (BWI):

Approx Fare \$60.00USD Duration: One hour

Metrorail

The Metro subway system (<http://www.wmata.com/>) stops at DCA.
For the Watergate Hotel take the BLUE line to Foggy Bottom-GWU Station, For IODP-MI Offices take the BLUE (or ORANGE) line to Farragut West Station Each journey costs approx US\$1.35.



Expenses (For Task Force members being reimbursed by IODP-MI)

IODP-MI will cover expenses incurred for travel, lodging and meals as set out in its Travel Policy. Expenses will be reimbursed on submission of completed Expense Report and all *original* receipts for expenses over \$25.

If you need assistance, please contact Thérèse Lowe at (202) 465 7503 or tlowe@iodp.org

Per diem rates for Washington, DC (April rate)

Total \$ 252 with the following breakdown:

- Lodging \$188
- Meals \$64 (Breakfast \$12; lunch \$18; dinner \$31 and incidentals \$3)

Travel Policy and Up to date Expense Report:

<http://www.iodp.org/travel-forms-and-policies/>

IODP-MI Engineering Task Force Meeting #2
Washington, DC
April 16-17, 2007

Task Force Roster

Members

Earl Davis	Pacific Geoscience Centre, British Columbia, Canada
Brian Glass	NASA, Ames Research Center, California, USA
Peter Looijen**	Fugro Research and Development, The Netherlands
Greg Myers*	IODP-Management International, Inc, Washington, DC, USA
Tom Pettigrew	Stress Engineering, Houston, Texas, USA
Bernhard Prevedel**	International Continental Drilling Program, Potsdam, Germany
Alex Pyne	Antarctic Research Centre, Wellington, New Zealand
Tom Williams	Noble Drilling, Houston, Texas, USA

Observers

James Allan	National Science Foundation, Washington, DC, USA
Toshiyuki Oshima	Ministry of Education, Culture, Sports, Science and Technology, Japan
Kelly Oskvig	IODP-Management International, Inc, Washington, DC, USA

Guests

Sean Higgins	JOI Alliance (USIO), Washington, DC, USA
Masonori Kyo	Center for Deep Earth Exploration , JAMSTEC, Japan

*chair

**absent

IODP-MI Engineering Task Force Meeting #2
Washington, DC
April 16-17, 2007

Summary of Action Items

ACTION ITEM 0704-01

Task force to come up with a methodology for keeping up to date and on track with public and private developments which have either already been developed or are being developed in parallel to the IODP Technology Roadmap.

ACTION ITEM 0704-02

IODP-MI to put together a response to ESO based on the comments addressing existing technology modification, water depth requirement, fiber optic cable, lighting, housing, pressure specification, and management plan. This should be done prior to the July EDP meeting.

Action Item 0704-03

IODP-MI to send letter to USIO recommending the pulse telemetry system development be deferred another year to give them time to get the DSS working first.

Action Items 0704-04 to 13 pertain to proprietary engineering proposal information

Action Item 0704-14

IODP-MI to bring up the issue of determining seafloor and subseafloor properties and in general, depth determination to EDP.

Action Item 0704-15

Tom Williams to talk to contractors about sharing their assessment on drilling parameters impacting core quality.

Action Item 0704-16

IODP-MI to create a roadmap for assessment of core quality

Action Items 0704-17 – 22 pertain to proprietary engineering proposal information

Action Item 0704-23

IODP-MI to revise Best Practices document to include guidelines on required documentation (manuals, drawings, online records), required testing and verification procedures, and a definitive way of deciding when to end a project.

Action Item 0704-24

CDEX to provide IODP-MI with wellhead configuration feasibility study by the end of the fiscal year.

Action Item 0704-25

IODP-MI to present a couple slides summarizing the task forces review of the proposals and the outcome at the next EDP meeting.

Action Item 0704-26

IODP-MI to look into getting an article into scientific drilling to try and get assistance from the community as far as core quality goes.

Action Item 0704-27

IODP-MI to gather comments on roadmap and present them to EDP at next meeting as a suggestion.

Action Item 0704-28

Task Force members to send email to Greg Myers indicating their preference on membership of the Engineering Task Force (would they like to stay on the panel)

1. BREAKFAST

2. WELCOME AND LOGISTICS

3. “WHAT IS IODP?” AND “WHAT IS ETF?” OVERVIEW

Greg M. presents slides of organization and of the engineering development process.

We are at the “sort engineering developments” stage of the FY2009 engineering development planning. The job of the task force is to sort the proposals and push them to EDP for the July meeting. EDP will then make recommendations – probably a ranking of some sort and give the proposals back to IODP-MI who then puts together an APP containing the proposals that will potentially be funded for final EDP approval. There is a bypass box for Class A projects, projects with a total budget less than \$100k, that the task force agrees is something the program needs now – meaning no EDP approval required. This is a method built in as a way of securing funding more quickly.

Technology Roadmap priorities slide is shown and Task Force members advised to map the proposals against these technologies.

Tom W. asks about the technology needs. Several of the needs could be met by activities that are currently underway – how is the best way to make sure someone is not writing a proposal on a technology that is being worked on already? Is there a way to utilize some of the members to provide feedback on what is going on in public and private sectors and pass this information through EDP?

Greg M. explains that when the idea is initially put through, IODP-MI advises the proponents on whether they are reinventing the wheel. The list is not only a list of things to be created, some exist, we just need to bring the technology into IODP.

Tom W. IODP could use a process to allow task force members a way to comment on activities, they are aware of, that are under development that address technologies on the roadmap.

Tom P. adds that the TAMU folks spend a lot of energy keeping up with industry, as do the Japanese. A lot of this is a parallel development, particularly drilling – just not with a 4-in bore. Greg M. suggests that the task force could present a method for us to keep up with industry and the likes.

ACTION ITEM 0704-01

Task force to come up with a methodology for keeping up to date and on track with public and private developments which have either already been developed or are being developed in parallel to the IODP Technology Roadmap.

4 COI, INTELLECTUAL PROPERTY, AND CONFIDENTIALITY PROCEDURES

IODP-MI needs to come up with a consistent clear strategy for dealing with these issues. We want to identify when someone is conflicted and ensure confidentiality with technologies being discussed.

Conflict of Interest

The policy provided is not specifically for task force, it is the SAS policy. In SAS, involved proponents have to leave the room while their proposal is being discussed and that is what will happen for this meeting.

Confidentiality

IODP-MI has no solid plan for how to deal with the proposals once they leave our office and go to EDP. Greg M. discussed the confidentiality outline.

Intellectual property issue

NSF has a statement - claim must be made in a certain amount of time in order to maintain ownership of a technology.

Jamie A. Explains that whenever commingled funds are used to fund a project, the resultant technology is available to all IODP so it would be very difficult to patent it – they can patent but it can be used by China, Japan, US, Europe, etc...

Greg M. comments that this should be one of the flags we raise in reviewing the proposals.

Jamie A. explains POCs and SOC as two avenues of funding. The SOC originates for member dues at NSF. NSF funds are mixed with the member dues that are provided to IODP-MI for allocation. Additionally there are national funds to support operations. On top of this there are grants. A proposal can go through IODP-MI for commingled funds, IO can use its own program plan (they don't have to go through IODP-MI), can use grants, go through USSSP,.....

Confidentiality statements were signed by each member, observer and guest, covering feasibility studies, proposals and project progress reports discussed during the meeting. Conflict of interest statements were signed by each member, observer and guest, for each of the ten proposals evaluated. Proponents were then asked to leave during discussions on the proposals they had a conflict with.

5 CONDUCT REVIEW OF 2007 FEASIBILITY STUDIES

A. Review of ESO downpipe camera feasibility study.

Greg voices concern that ESO did not outline their requirements for lights, housing specification, pressure specifications. The light is proposed to be LED array – not enough light to really image the seafloor well. ESO needs to provide light needs at given water depths. Even with a 3000m system, we need to have enough information to understand what exactly is involved. We were supposed to receive a newer version by today to go by but we didn't get it. This development is not creating something from scratch; a modification of existing technology might be a good approach but they need to state the case clearly.

Clear recommendations or plan to proponents.

Greg M. asks Brian G. What would NASA do for a feasibility study? Brian G.: NASA would:

- (1) set up an operations concept or initial set of goals – these are the ways to accomplish the goals and these are the tools and technologies that have to exist in 5 or 10 years,
- (2) determine what industry will come up with in that time frame and then come up with gaps in technology that need addressing.
- (3) put together a technology road map and prioritize this hoping someone else will pick it up.
- (4) determine off-ramps – decide what can get thrown overboard given budget/time constraints without hindering the outcome.
- (5) re-do the operations concept with the cuts.

To evaluate a feasibility study you need the technology roadmap and a list of priorities of science and technical goals. You can then prioritize proposals based on roadmap needs, feasibility, and management plan (organization plan, financial plan, management plan) and determine how strong each proposal in the three areas.

Camera – First it needs to meet needs; it is not necessarily feasible (fiber optic requirement), and there is no real organization, financial and management plan.

Greg adds that the concept in shallow water might make sense but there is no justification for deep water expansion, what would be the next logical step?

Earl D. adds that the camera should be made in the context of existing logging tools. Where are the gaps and where is the desire? This is totally missing here. The camera needs to be compatible to existing cable system.

Earl D. states a site that isn't well-enough characterized should never have passed the site-survey panel in the first place. Greg M. responds that the use of the camera during the Tahiti Expedition was specific to ensuring they didn't drill into any coral and it worked well for that.

Tom P. asks what is the problem being addressed on the roadmap and how much interest is there in the program? With limited budget what issues is it addressing and where do you want to put the dollars? IODP-MI should get back to ESO before submitting the feasibility study to EDP.

Greg M. clarifies that we can tell ESO we aren't going to issue funds for FY08 - We'll put together a response to ESO based on these responses.

ACTION ITEM 0604-02

IODP-MI to put together a response to ESO based on the comments addressing existing technology modification, water depth requirement, fiber optic cable, lighting, housing, pressure specification, and management plan. This should be done prior to the July EDP meeting.

..... BREAK.....

5 CONTINUE FEASIBILITY STUDY

B) USIO Feasibility Study

Dialogue prior to receiving the Request for Quotation documentation from Peter Blum:
Sean H. has been elected to provide results on the downhole sensor sub. We need to keep the door open for the USIO to submit something, but there is nothing to evaluate for FY08 – we can not assure funds without a plan. We will recommend no FY08 funds that were committed to the Pulse Telemetry Module.

Tom P.: Would they be able to get the information in time. Forget the pulser – need to just first get the data. With the pulser you would need at least two people to retrieve the data for a 24-hr shift – this is costly. The technology is a parabolic curve, the next step is an order of magnitude bigger. Cost and enormity go up – the USIO needs to look at the overall impact to the IOs and to the program as a whole.

Greg M.: The feasibility study should include overall impact of this technology, but we are not going to fund this period since we didn't get the information. There is merit in this technology – there is a future of real-time pulse data to serve as an active heave system – it is possible.

Review of documentation received during meeting (conducted in afternoon)

The USIO have the money to do this work already because they applied for the funding before an engineering development process was instated. We are looking at a legacy of engineering development that has ended. Now they have to have a plan that must be vetted through the system.

Tom P. states the need to get the DSS working before anything else can happen. A lot of work is being done. In a couple years they might need to consider other emerging technologies.

Sean H. asks if we could say to them “Don’t spend this money right now” – it could be beneficial to hold off a year. Greg M. explains that we have funds committed for 2007. If we asked the IO to not spend the money, is that doable? Jamie A. says there are a couple of options – one being you can take it out of the program plan. Greg M. agrees that there is an advantage to waiting a year to do this. Sean H. says that \$30,000 could go away and it would never get done. It is however certainly appropriate for us to weigh in on how we think things should move forward.

Greg M. says he is leaning towards deferring this project until next year and will draft up a letter to Peter Blum saying so.

Tom W. gave G.M a list of top guys in mud pulsing to pass on.

Action Item 0604-03

IODP-MI to send letter to USIO recommending the pulse telemetry system development be deferred another year to give them time to get the DSS working first.

6 CONDUCT HIGH LEVEL REVIEW OF ENGINEERING DEVELOPMENT PROPOSALS RECEIVED BY APRIL 15TH

The responsibility of the task force is to sort the proposals and decide if any of the Class A should surpass EDP and apply for immediate funding. The task force spent 7-8 minutes reading through each proposal and then spent about 20 minutes discussing. 10 Proposals were received and 4 were sent on to EDP for review. The detailed review of each proposal is confidential and thus removed from these notes.

Engineering Development Proposals								
Proposal submitted in 2007 by April 15th								
Proposal ID	Title	Lead Proponent(s)	Class	Duration	Status	ETF Review	To EDP	
EDP-2009-01-B	Wellhead Interconnection System (WHIC)	Ralph Stevens Tom Pettigrew Bob Pettitt	B	1 yr	Proposal originally submitted Jan06 - resubmitted in compliance with IODP guidelines Apr07	yes	yes	
EDP-2009-02-B	Sediment Cork (SCork)	Earl Davis Keir Becker Tom Pettigrew	B	2 yrs	Proposal submitted in Apr07 with all necessary information.	yes	yes	
EDP-2009-03-B	Decoupled Penetrometer Delivery System	Peter Flemings - Penn State	B	2 yrs	Proposal resubmitted Apr07 as a "Collaborative" proposal with Penn State and USIO	yes	yes	
EDP-2009-04-A	Portable Seafloor Drill	M. Williamson - Williamson and Associates	A	3 mo.	Proposal submitted Apr07	yes		
EDP-2009-05-B	Deepsea Wireline Automated Coring System (DWACS)	M. Williamson - Williamson and Associates	B	2 yrs	Proposal submitted Apr07	yes		
EDP-2009-06	Portable Remotely Operated Drill (PROD)	Alan Foley - Benthic Geotech	NA	Ready	Proposal submitted Apr07 - Proposal is a service offer	yes		
EDP-2009-07-A	Subsea Control of Drilling Feed (SCDF)	Andy Frazer - Fugro/Seacore	A	1 yr	Proposal submitted Apr07	yes		
EDP-2009-08-B	SeisCORK	Ralph Stevens Tom Pettigrew Bob Pettitt	B	1 yr	Proposal submitted Apr07	yes		
EDP-2009-09-A	Lockable Float Valve Redesign	Stefan Mrozewski- USIO	A	1 yr	Proposal submitted Apr07	yes		
EDP-2009-10-B	SCIMPI	Kate Moran	B	3 yr	Proposal submitted Apr07	yes	yes	

7 Best Practices

It was discussed how valuable having a standard for engineering design is. It is agreed by all that ISO standards are more of a hindrance than help – they require too much time to be spent in overhead.

Tom W. said they use ISO standards when building great big drilling rigs (big projects that are repetitive).

Brian G. states that using ISO was a hindrance in dealing with small research tasks - basic research under ISO is not practical.

Greg M. explains that we are trying to make a sort of hybrid model. DSS development might have gone more smoothly if there were clear specifications for how it would be tested, accepted, etc. CORKS – might be helpful to have a standard way to build them. Basically, it would be nice if we had a set of standards. We do have legacy documents which is useful but not elegant. IODP-MI is trying to be proactive in standardizing our deliverables.

Tom P. states that we need a happy medium. A logical step-by-step guideline.

Sean H. asks if these standards would be forced on the operation organizations? Greg M replied saying the IOs thought we should create an overall set of standards. We are just trying to facilitate engineering. IODP-MI has communicated with the IOs – no one had any suggestions or changes. Sean H. adds that a lot of the projects are going to be 3rd party collaborative type things and this will end up being more important.

Greg asks the task force for a utility of setting standards? Any advice for how to do this?

Earl D. says he tends to just look at the bottom line – successful deployment and documentation and everything else is a means to getting there. There are a lot of things that below the radar to following rules of orders. If you apply them, the efficiency costs would double the cost of the project. At the end of the day there needs to be good clear documentation. Hope to achieve a better track record of the tools deployment. Don't know if more oversight would improve statistics? Do you gain faster than your losing? We all have personal approaches to how we do things. So, this is a good starting point to maybe meeting a happy medium but careful not to get too regimented.

Jamie A. says it is good to consider some standards. Historically, there have been major issues because of bad or no testing or appropriate testing. This is the biggest issue in the past. Drillship time is so expensive you could lose days of drilling trying to get the tool to work. Without proper documentation of the size of things...fit, coupling issues...need for basic drawings available. Need a manual in order to deploy. If you don't have a manual you are still winging it – if it's fully tested, it would have a manual.

Greg M. states that there was a third party tool deployment document. Part of that sequence should include standardized testing.

Tom W. suggests the need to do drawings on commercial software. With proper documentation you could trace problems and fix them. Killing a project that needs to be killed – that was the biggest struggle. When is the proper time to kill a project? You need a manual, need drawings, need well-defined go, no-go decision. That should be the meat of the document

Greg M. recaps issues that the group agreed were important:

1. Documentation with drawings made in commercial package
2. Testing and verification protocol and procedures be adopted
3. Definitive go, no-go decision procedure

Brian G. asks if we have a documentation server, an ftp site or something? Having a single place for people to access past documents and guidelines would be a good idea. Greg M. replies that we do have a place for legacy documentation. Concerning legacy document, Sean H. explains that all the documentation is happening real-time as things are deployed now, different from the legacy site of before. We're moving forward to having living documents. Greg M. adds that the documentation should be done as the project is being done. We could agree on documents to offer on a server – Sean H. reiterates that this is now happening.

Tom P. says that a documentation of steps would be useful to all, at least to make the proponent think about the steps and thus think ahead. You could add a few things to this list such as: what is required to operate the tool? – personnel, ship time, equipment.....

Greg M. states that the standards for testing and verification should be a more critical checkbox. Tom W. says Stress engineering should have a good template for this. Tom P. replies that every test is so unique that they don't have set of standards. Someone does stamp it and they do have a library of documentation on a server.

Third party verification process may be another item to add - if you don't have a 3rd party verified you'll have problems. Earl D. says we aren't likely to deal with projects of that magnitude to need a 3rd party, but if we got there, we'd go to a third party.

Alex P. asks if a testing plan should be included in the feasibility plan? Greg M. replies, it should be in there and if not, it should be added.

Sean H. asks: would a lot of projects of actually happened if they had to follow procedures for manuals and documentation and whatnot? It takes a lot of money and time to do all the documentation. Greg M. replies: a robust set of standards would be overkill but some standards with respect to documentation and testing plans would be beneficial. Path forward?

Tom P. thinks IODP-MI should somewhat leave it up to the developer. You give them a list. When the proponent turns in the proposal, we want to see some set of those standards, then we can make the decision if more or less needs to be encompassed....do it on a case by case basis. The testing is mandatory but the testing will depend on what the tool is. Leave it up to the developer to come up with the appropriate amount of testing.

Greg M. asks if there is anything else to consider? Tom W. adds a technology transfer plan would also be useful – how to get the data, technology, results in the public hands.

We should agree on information to be included on a server for IOs to access:

Documentation for how the tool was built

Testing related documentation

Technology transfer plan

Who would review the testing plans? The ETF would by means of IODP-MI. If there are issues, they'll be passed onto the ETF.

Alex P. asks what happens if there is something that this group might miss? Operator doesn't get a chance to see the design so you end up with a tool that didn't fit or didn't work right...how to make sure you catch something like that? Greg M. responds, when the project was ok-ed, these details should have been taken care of. If a detail like this was missed we'd have to play it by ear. A big goof up - we may run. If it's smaller scale we'd scrounge it up. We have limited funds for fixing these problems.

Action Item 0704-23

IODP-MI to revise Best Practices document to include guidelines on required documentation (manuals, drawings, online records), required testing and verification procedures, and a definitive way of deciding when to end a project.

8 Overview of Long Term Borehole Monitoring System (LTBMS) Scope of work

Nori K. is the project manager.

Greg M. shows slideshow

CDEX did submit their first monthly progress report for March. We are in the draft eng. Requirements phase of the project and they seem to be on schedule. The Engineering requirements will be completed by end of year.

LTBMS will be deployed in 2011.

Sensors are being developed now outside CDEX. Very important that coordination be very tight so that sensors are compatible.

What has occurred Feb to Now? Nori K. explains that the Engineering Requirements for the telemetry system are almost finished – they just had Japanese technical committees last week – waiting for the review. The technical committee said the Eng. Requirements looks good enough to move to next step – comments include asking them to investigate more in defining specifications. Offshore, they started to work with SOC budget from Feb. – started to work with Schlumberger from March 1. Nori K. said there are no changes to plan or budget as a result to the review that just occurred.

Slide show continued...

Jamie A. points out that all instrumentation is 3rd party. SOCs are funding the data backbone for any kind of downhole instrumentation and the interface to the sensors.

Earl D. identifies that this is directed at 125C. Is there a later step to plan for a deeper hole, 6000m? Greg M. replies, that should be a natural migration of the technology. Nori K. says right now they are focused at 3500m but final goal is to deploy at 6000m riser hole. They don't yet have the exact engineering plan as to developing for this high temperature. The goal is to operate this telemetry system in 6000m in year 2016. In 2008 and 2009, there will be a test in land hole – at that time they could go to a higher temp. Greg M. suggests that they add a line in the requirements stating the ultimate goal is 6000m.

Earl D. asks about serviceability/retrievability issue. There was mention of coupling through the wellhead. This was supposed to have full blow-out capability – this should be in the plan. Greg M. states that CDEX included these requests in earlier documents. These details will be described in future documents – this one is specifically telemetry system requirements.

Earl D. asks when will we get a chance to take a look at the wellhead configuration and such? Nori K. replies that it takes 2 year to purchase the Christmas tree, so not needed right now, but do need to define the operational procedure. Until Sep., they will select the conceptual drawings – this is a kind of a feasibility study – this is occurring now.

Greg M. says the panel has strong views on wellheads, serviceability, etc. Nori K. says they are preparing this internally. Greg M. asks if we can take a look at that ...before the end of the fiscal year. Nori K. confirmed that we could.

Action Item 0704-24

CDEX to provide IODP-MI with wellhead configuration feasibility study by the end of the fiscal year.

Earl D. mentioned the reference to the network cable. – they are planning to connect. The upper limit of power availability is very tough. As far as the acoustic retrieval issue – if a cable hookup is possible, there is no need for it. It's best to keep is more simple. Jamestec wants to connect to the cable for realtime monitoring. Need to see the big picture.

Greg M. asks: Last time there was question as to whether the cable will be available...how certain is this? Are their any risks in relying on the cable? Nori K. replies they plan to develop standalone system (including hard disk and battery package and all). If they can connect to seafloor, they get it all for precise observation. They have prepared both interface.

Slides again – anticipated technical difficulties

Nori K. the difficulties presented are for the whole system. They are asking the industry for typical Christmas trees and also for simplified corrosion cap. The Sonacap is in between. They are investigating this to see if it can be applied to the seismic observatory. The 16 penetrators could be applied – but reliability of this is unknown. They start with using 2 cables (coax).

Nori K. explains the cementing concern - Strain meter is needed to be cemented, but if cement expands it could push the strainmeter – set time is also a concern. Tom W. says this is a valid concern but easily controlled. Schlumberger will be able to help with this.

Nori K. says the bottom sensors will be cemented so they can't be retrieved. The clamping system should be designed to be retrieved. They still have problems with the fiber optic and the temperature sensor – no longer planning to have distributed

temperature measurements. Greg M. says they need to figure out where the sensors are going to be located since they won't be distributed. Nori K. replies the placement will be determined by engaging scientist community. Requirements decided with discussions with committee.

X-Tree specified is an industry-type wellhead. They are doing the feasibility study to consider other wellhead configurations.

They haven't decided whether to select the perforation or screen. Maybe the perforation has more flexibility. If they install the screen, it may be clogged by the time they return to hole or it could be clogged with cement.

Earl D. and Tom P can provide some guidance as to sensor interface.

9 WHAT MIGHT WE WANT TO IMPROVE FOR THE NEXT GO-ROUND?

How do we ensure no conflict of interest between task force members?

Greg M.: We want to know the best way to deal with COI. We've circulated the agreements and excused people from the room – are there other things we can do? Is this enough to handle the issue properly? Tom W. asks if IODP-MI will let people see the proposals ahead of time in the future? Greg M. replies: We don't want to do it again this way. We want the reviewers to have the proposals in hand. Who is going to get the electronic version?

Brian G. would ideally set the deadline for proposal submission separated by at least a month from panel meeting; panel chair would then go over proposals, look and see if there are obviously a COI, then would try to match the rest of the them and send out a list of just the title and participants to all the members – they can then let you know if they have a COI with anything. Then you send out the proposals to the appropriate people. This way, individuals can flag for themselves their COI and say no, I don't want to see this proposal. All this requires more of a lead time. Need to make sure no one with direct conflict or competition is a reviewer of that proposal. Earl D. adds: that only takes a week of lead time. It would work very well.

Greg M. explains that this is what we wanted to do but because of personal calendars we couldn't push the meeting back. Next year, this is what we will do. We will keep the deadline Apr. 15. We'll set a date for the next task force now. Proposals to EDP need to be distributing to them 1 month ahead of time.

Earl D. states there are no perceptions of problems here that are in a gray area.

Jamie A. adds: This group is fundamentally different from SAS. You are advising IODP-MI directly. There is great latitude in dealing with this group. You don't want to

put yourself in a situation where people are reluctant to submit proposals in fear their ideas will be stolen. Have to be very careful about the perception of the security of ideas.

Greg M. explains that we are trying to maintain a high standard and ensure people submitting proposals are comfortable that we are doing this simply to further engineering. For next go around, we'll take the same method for COI, we'll distribute ahead of time.

Sean H. states that clearly defining the roles and responsibilities relative to the SAS structure and want to keep people in the room as much as possible are big issues with engineering task force. Greg M. agreed – we got the minimal comments we need even with excusing members from certain discussions. There is still enough experience to route the proposal correctly – at a minimum. EDP will be taking care of the detailed analysis.

Can proposals have budgets from each contributing organization or just one combined budget? Brian G. says it is more effective to have individual subcontractors to include their budgets rather than have a lump sum. Not down to \$100 but something. Tom P. agreed. A coversheet with contacts, big dollar and a second page with contractor A, contractor B, etc. budgets. Brian G. suggests we only make this mandatory if the value is greater than some threshold (dollar amount or percentage). Depends on what matters.

Greg M. says: At this stage there is a middle ground between bottom line number and all the detail. I don't think we need to set a threshold. Should the proposal be funded – at that point we would require a very detailed cost breakdown – just need an intermediate detail for the initial submission. Alex P. thinks this might be a problem for comparison purposes.

Brian G.: A 5 line budget doesn't let you know that they aren't just making things up. His own threshold might be around 10-15% of the total. Below that no details are really needed. It should be a unified budget detail.

Greg M. adds that we were requiring different levels of detail for Class A and Class B proposals and we want to leave class A simple. 10-15% threshold for Class B is reasonable. We can set up an example budget.

Tom W. notes that Kate Moran's proposal was well done.

Greg M. concludes that we will request a coverpage and a format for the budget.

Sean H. asks if the task force can identify which things are actually achievable on the technology roadmap and which ones are really 5-10 years down the line or whatnot. This may help in terms of the scope of the proposals. Basically identify which items on the list can be refocused or we can provide additional information based on what we know is going on with industry to help EDP prioritize. Which developments can we actually go

after – what types of things might actually be funded. Take advantage of the panelists expertise.

Greg M. replies stating the Class C mechanism is a step towards that. We are taking a step by step approach.

Should the proposal be legally watertight or more loosely put together at this point? Greg M. replies with no, these proposals don't need to go through legal departments at this point.

Jamie A. adds that we are determining pathways for the proposal, passing an idea to SAS, or forward to NSF. If we forward it on, we enter a contractual relationship. This is actually a RFQ and not a proposal, that would come when you're putting together the program plan. Carefully think of the language you use – there are not full proposals in any sense.

B.G. To cover IODP and prove commitment of the proponent to go through with it, a letter on letterhead stating intentions could solve this. IODP needs some level of coverage – you don't want random proposals.

Dealing with scientists, you need to be upfront with 3rd party people what the funding frame is and when this work is actually possible. Tom P. personally doesn't submit a proposal until the funding is secure. We should give them a time frame. This is more of a quote. Greg agreed that it would have helped if we had outlined our timeframe. Tom P. says: This would help in the budget as well – to know it won't be funded for 2 years or so. Alex P. adds In the process of review, some components of original quote might not be available.

Greg M. agrees that he's expecting this to occur. He's not expecting the costs to greatly exceed but before the work commences there would be a more detail and finality of the work plan and costs.

Greg M. concludes: for the most part this first submission season was successful and we have good ideas on how to improve.

Earl D. inquires about routing and review with respect to EDP. Are we going to give EDP the option for review of what we are doing by EDP? There should be a clear routing path that provides that transparency. This seems cumbersome but it needs to be there. And EDP should have the option to review something or re-review something.

Greg M.: How would you see that documented? How would we accomplish this? Earl D. suggests IODP-MI submit all responses to EDP chairmen as well as the proponents so at least they are aware of what is being presented and how we are evaluating. This would clear the air completely.

Greg M. says IODP-MI will add a slide or two to EDP presentation explaining what we did – a quick look – a chart of what happened. Good comment, we will do this.

Action Item 0704-25

IODP-MI to present a couple slides summarizing the task forces review of the proposals and the outcome at the next EDP meeting.

Brian G. wonder is the needs of the program being met? We see a lot of borehole infrastructure, some sampling, logging and coring, but drilling/vessel infrastructure was not addressed. Are there things that need to be done and no one is looking at it? If we aren't happy with the unsolicited we can solicit with loose language?

Back to the roadmap

Earl D. explains the roadmap as a list of technologies that we are asking for if we have the money to fund. There are other developments going on that are analogous in some way to what we are doing. It would be really nice to see what we can come up with.

Sean H. suggests the task force reprioritize and synthesize the list into themes. What can actually be done now? Tom P. says: Some are easy to do, some next to impossible, some need to updated. Short stroke APC that already exist.

Sean H. recommends we go down this list and say what the IOs should do already and what is impossible and what is urgent. Greg M. believes this would be overseeing our mandate.

Jamie A. responds: The whole point is addressing the needs of the program. Working with SAS, we want to see the needs, we know there are a lot of expertise in IOs, we know there have been a lot of 3rd party developments and we're trying to bring coordination and organization to this. Sean H. gives an example: seabed frames – this isn't a way to go right now. What are the options to that to accomplish the same thing. Which are no-brainers. We should use the task force to identify some of these technologies. Looseness of the task force allows us to get input.

Earl D. suggests we not reprioritize but maybe just annotate. Here's a big red star and that ought to be done by TAMU or whatnot. Greg M. agrees to try this and see. Earl D.: The table needs to be refined and flushed out.

G.M. We have a brainstorming session for exploring new avenues so this is something that could be done then. There is value in addressing the roadmap – it's evolving and changing and by no means perfect. We would have to be careful not assign "doers" of the list because we need to keep it open to all and not identify the IOs for specific tasks.

Tom P. asks where the roadmap came from? Greg answered: EDP meeting last June. 80 technologies were thrown out there, then picked out ones that are higher priorities than others. They know it needs to be refined.

Jamie A. adds: There are no major bucks available for eng dev in the next few years. The focus is on things with high bang for the buck – some may be more worthwhile for our funds, some technologies may be better funded by outside agencies such as DOE, industry consortiums, etc. It is easier for NSF funding to go to a tool that is highly ranked and big bang for the buck – impact to science – potential for making new observations.

..... BREAK.....

10 BRAINSTORMING SESSION

Any thoughts related to IODP?

Sampling, Logging and Coring

Tom W: Capture things that have already been done. There is a guy from Chevron, Tom Fate, has done a study on core quality. He looked at better methods of coring - Society of Core Analysts. Review of current literature on the subject and review of current practice.

Tom P. adds: there is a database of coring. Don't want to throw money at this problem until all these things are examined.

Earl D. suggests putting one or two articles in scientific drilling as a kickoff to disseminate this information to the community at large. Create a bibliography.

Action Item 0704-26

IODP-MI to look into getting an article into scientific drilling to try and get assistance from the community as far as core quality goes.

Concerning technology A-5 - there is something out there that exists. The references should be in the article mentioned above.

Earl D.: Recirculating the cuttings is a back-door solution to help in core recovery.

Tom P.: There is a need to understand what is going on at the bit with 3 coring systems. Until you understand this, you'll never really increase the core quality. This leads in instrumentation and whatnot.

There are things in the B column you can do but they have to be a controlled set. B-6 for example you can test that now before you go design a bumper sub with a 4inch bore. There is a shock sub on the SODV that has never seen the light of day. There are opportunities to test for a modest price – the application can help solve both coring quality and well intervention.

Greg M.: If we have advanced planning we should be able to get the ship time that we need to test these technologies and get them going.

Sean H. suggests packaging the experiments to achieve several goals.

B-25 Improve expandable casing system

IODP doesn't have a system now. This is something that we don't have the means.

Tom W.: There are 3 service companies that do this every day.

Earl D.: Until some of the deeper Nankai holes are drilling, we won't know if this is something that will be useful.

Nori K.: Expandable Casing existing has limited length 3500ft. Monobore is the discussion.

Tom W.: There was a monobore hole at 18,000 ft. forum at DAE.

Tom P.: This doesn't sound like an IODP need.

Sean H.: Rig Instrumentation System has already been done as part of the SODV. A RIS database is going to exist with the data.

Tom W. Need a good analytical program that helps you detect failures and why, in minor details, after the fact. These programs exist already just need to adapt it to coring. Need a good way to see why the core quality is what it is.

CSIRO (Genesis) has probably done as much work on this as anybody.

Tom.P. They want to be able to pinpoint exactly where the drilling bit was for each core and exactly what is going on.

Alex P. If you're going to do this and collect the data then you need manpower and people that are thinking how do we make the drill work better – the scientists won't care.

Earl D. Real time is not the right column for this data – it belongs in rig and BHA instrumentation.

Focus of the B-10 should be on the measurements first, not the telemetry.

BHA measurements are vital to be made at least in memory.

Alex P. What problem needs to be solved in terms of A-1.

Tom P. There is a short-core piston core designed and built. Kate Moran started a study on improving some of these tools.

Sean H. On Equatorial Pacific, both expeditions are requesting this sort of thing.

Tom P. This already exists and shouldn't be on there.

There is merit in a half length XCB and RCB. Half cores give you higher core recovery but take longer. This A-1 is just a matter of someone giving the go-ahead. For USIO, the tools are there.

Sean H. It didn't seem that simple when they were looking into it. QDtech was the group with tool.

Tom P. ODP had their own tools, a short stroke APC

Sean H. The cost of both time and tools prohibit use.

This is fairly important to co-chiefs in Equatorial Pacific, but it would cost more in ship time and whatnot.

Make sure EDP has a description backing each technology presented.

A-13a – Exists. Tom W. has used this – it was a leased tool.

Ask taskforce members to comment on the roadmap.

Action Item 0704-27

IODP-MI to gather comments on roadmap and present them to EDP at next meeting as a suggestion.

11 IODP/INDUSTRY OPPORTUNITIES

Greg M. presented slides on DeepStar/RPSEA

IODP-MI has become a contributor-level member of DeepStar
IODP missed the 2008 funding schedule, but there is potential in getting in the next cycle.

GOM-URSA we could save the costs related to pump and dump and AGR would be able to test out their equipment. – We could achieve operation Moho without a riser, potentially

IODP-MI would present the plan to a SASEC meeting to make sure they are happy with the scientific standpoint.

Tom W. Bring our technical challenges to the service industries and see what they're doing. Metocean group has developed ways to mitigate VIV. DeepStar was very interested in the instrumentation and going on of the CHIKYU riser.

12 MEMBERSHIP

Task Force member to let Greg know if you would like to continue to be a member
Ideally we'd have a pool of experts to choose from for a given meeting so that we don't have to include heavily conflicted members.

Action Item 0704-28

Task Force members to send email to Greg Myers indicating their preference on membership of the Engineering Task Force (would they like to stay on the panel)