

Final Draft of Minutes of the 27th TEDCOM Meeting held at College Station, Texas on 28th and 29th November 2000

Summary of TEDCOM Recommendations to SCICOM

TEDCOM RECOMMENDATION # 002-1

TEDCOM recommend to SCICOM that they maintain a closer than usual dialogue with the ship operation and the essential baseline costs for same due to the adverse effect which rising fuel costs and hardware replacement costs may have on the planned science programme.

In this current year fuel costs have risen from \$200 to \$336/MT and are still rising. Replacement hardware and consumables are being minimised and/or purchased only when absolutely necessary to run down stocks and conserve funding. Flexibility in programme planning and prompt action will be required to meet unexpected expenditure for immediate replacements when the need arises.

TEDCOM RECOMMENDATION # 002-2

TEDCOM recommend to SCICOM that they clearly and formally request from ODP-TAMU and LDEO the information required for Legacy documentation together with the timescale for same.

The topic has been discussed at this meeting and pathways outlined following direction given to TEDCOM after the OPCOM meeting at Halifax. This should have been an opportunity to finalise the documentation strategy but ODP-TAMU said that they had been given no direction in this matter. It is up to SCICOM to ensure that this does not happen in future by using formal channels to ensure that requests are made and direction is given.

TEDCOM RECOMMENDATION # 002-3

TEDCOM recommend to SCICOM that ODL and ODP-TAMU work together with immediate effect towards minimising or removing the Vibrations experienced on Leg 192 so as to reduce their effect on drilling equipment and rig structure.

The committee heard about vibration on Leg 192 caused when drilling Basalt (Basalt Rumble). Since the meeting TEDCOM Chair has been informed that ODP drilling operations have recommended deploying shock subs to try to counteract this on leg 197 and in the meantime will try to document the nature (frequency and intensity) of such vibrations.

TEDCOM Chair was conscious of the contractual and legal problems this item generated and the recommendation above has been modified from the initial draft following information supplied by ODP-TAMU not available at the meeting. However the chair still stresses that monitoring may not be enough until action is taken in leg 197. SCICOM must insist that every effort is made to resolve the vibration issue forthwith should it continue to be a problem when using the AHC.

TEDCOM RECOMMENDATION # 002-4

TEDCOM recommend to SCICOM that they explore with EXCOM and IPSC a means whereby promising technical developments, which will not be brought to completion within the current Ocean Drilling Programme, are nurtured for the future IODP.

Annex 4 of this report shows the development schedule of equipment projecting well beyond 2003. Clearly this can not be accommodated within the present programme and may be further curtailed if

the ground running and thus need to explore ways of conserving the developments from this programme for tools in the next.

Those present:

Members:

Joe Castleberry (USA)	Marvin Gearhart (USA)	Hugh Elkins (USA)
Frank Schuh (USA)	Earl Shanks (USA)	Howard Shatto (USA)
Alister Skinner (UK, Chair)	Walter Svendsen (USA)	Shinichi Takagawa (Japan)
Brian Taylor (Aus/Can/Pacrim)		

Apologies from:

Sergio Persoglia (ESF) Keith Morton (USA)

Guests/Liaisons:

Jeff Fox (USA, Director, ODP-TAMU)	Mike Friedrichs(USA, ODP-TAMU)
David Goldberg (USA, LDEO)	William Hay (Germany, SCICOM Chair)
Yuichiro Ichikawa (Japan, JDC)	Tom Janecek (USA, SCIMP)
Doug Kennedy (USA, ODL)	Kazushi Kuroki (Japan, JAMSTEC)
Greg Myers (USA, LDEO)	Tom Pettigrew (USA, ODP-TAMU)
Gene Pollard (USA, ODP-TAMU)	Frank Rack (USA, JOI)
Brent Shoemaker (USA, ODL)	Eddie L. Wright (USA, ODP-TAMU)

Opening Remarks:

Alister Skinner opened the meeting by thanking Jeff Fox for hosting the meeting and everyone present for coming. He advised the committee that two new members have been appointed to TEDCOM since the last meeting and welcomed Joe Castleberry of Fugro as one of them. Keith Morton of Chevron, the other new member was unable to attend. A self introduction of all present followed and e-mail details of those attending are contained in **Annex 1**.

Jeff Fox detailed the housekeeping arrangements for the meeting and then highlighted some of the issues facing the programme at the present time. The biggest constraint on the programme is effectively a reducing budget from the flat funding as cost cutting efforts do not match inflation and oil price increases (Fuel average has increased from \$200 to \$336/MT and is still rising). He stressed that it was not only ODP-TAMU who were having those problems it was also true of other contractors/subcontractors. However he was pleased that, despite the squeeze, ODP-TAMU had not reduced their service and have even expanded in some areas.

In response to a question by Gearhart, Fox stated that these circumstances related to ODP only. IODP is a separate programme under active discussion but it is not yet implemented.

In discussion it was felt that TEDCOM needs to ensure that the implications of flat funding and increasing costs for basic services needs are emphasised to OPCOM and SCICOM. In general terms they are certainly aware but some further leg decisions may have to be made if, for example, fuel costs continue to escalate.

Frank Rack updated the committee on the new structure at JOI, pertinent to ODP. Dr Steve Bohlen took over as the new president/executive director of JOI on the opening day of this meeting. Some internal changes within the management structure of JOI will also take place and also, in January, the JOIDES office will rotate from Geomar in Germany to the University of Miami in Florida. Frank also outlined the activities underway to document the legacy of ODP and the preparations which are in hand for IODP. A town meeting is to be held during AGU in December to update people on this and IPSC and IODP also have web sites which can be accessed. **Annex 2** has further details.

Agenda Items

A prepared draft agenda was accepted for the meeting format and is attached in **Annex 1**. The numbering which follows ties in with the agenda topics.

1. Welcome to New Members

Already done under the opening remarks.

2. Apologies for Absence

Apologies were received from Members as shown above. The ESF alternate, Sverrier Thorallson was also unable to attend.

3. Approval of 26th TEDCOM Final Draft Minutes

The Final Draft Minutes plus Annexes mailed after the 26th TEDCOM meeting at GFZ Potsdam included changes tabled after the first issue and were approved. Skinner said that he would mail a complete set of annexes with the finally agreed draft minutes of this meeting as for the previous two meetings.

4. Report of SCICOM/OPCOM Meeting in Halifax, Canada

Bill Hay opened the topic. The main impact on ODP-TAMU from the above meeting was the re-scheduling of legs to cut down long traverses and allow better operational windows in some geographical areas.

Bill then summarised the science being undertaken on legs 194-205 with the proviso that 200-205 are tentative at this stage. **Annex 3** has details of these legs and the associated technology required. Leg 195 will have a site on which a seismometer will be emplaced and linked to a deepsea communications cable which is being prepared for this by JAMSTEC. Leg 197 is investigating hotspots and there are still negotiations with Russia over the location of one of the sites. Leg 198 is in an area where chert layers have stopped drilling in the past. It is important to try again as the area has the potential to have answers to the climate record. Leg 200 will have another seismometer emplacement linked to an abandoned (but still useable) telephone cable. Leg 201 explores the deep biosphere of Peru in an area where there is a high organic supply. It was also mentioned that the deep biosphere research is coming under increasing scrutiny from National Governments unwilling to allow cart blanche activities in territorial waters. Leg 204 will be a Gas Hydrate leg at Hydrate Ridge and Leg 205 will emplace another seismic recorder but this time as it is not near any communications cable a buoy and satellite combination will be used for data transmission.

A Detailed Planning Group (DPG) has also been formed to investigate drilling in the central Arctic Ocean at Lomonosov Ridge. This is discussed later under AOB.

Alister Skinner said that all of the previous meeting TEDCOM recommendations had been taken on

regarding legacy documentation for the technology of ODP. These are agenda items for later in the meeting and will be discussed there.

Marvin Gearhart also informed the committee that Brian Jonasson of ODP-TAMU had given an excellent presentation on the work of ODP at TAMU to their local chapter of the Drilling Association in Fort Worth.

5. Report on ODP Activities at TAMU and Shipboard

Annex 4 contains staffing and administrative data pertinent to this section and **Annex 5** has technical detail.

Brian Jonasson commenced this section with details of budget control management. Reductions in staffing by not filling vacant positions allowed some cash flow and recruiting graduate researchers to specific tasks allowed continuation of some important activities where there were insufficient internal staff resources. Two areas highlighted where this was relevant were in the MATLAB Simulation and PCS development. Upcoming legs were as ambitious as ever and in addition there have been a number of costly hardware losses on recent legs which will require hardware replacement purchases. Minimum stocks of equipment and consumable will be maintained from now until the programme end to assist with meeting scientific programme requirements under a flat-funded regime. The FY 02 will focus on ION, Biosphere and Hydrate orientated legs.

Various graphs and project plans contained in **Annex 4** show how the distribution of staffing and costs has been made to accommodate flat funding and operational requirements. This annex also has more specific detail on each project and will be referred to again under a separate topic later in the minutes. The Short Range Project Plan contains project plans up to the end of the present programme in 2003 and links them in to the scientific requirements. The Long Range Plan items are presently beyond this ODP programme.

There was some discussion on the legacy targets but this is pulled together under a separate agenda item later. Discussion also indicated that ODP-TAMU need to make more efforts to be aware of information available from other bodies pertinent to their research and development. In particular Gearhart felt that the drilling sensor sub being developed by TAMU may have many similarities to that in one already being worked on at Sandia.

Passive Heave Compensator issues on wear and siting of service loops to the Active Heave were also discussed and are under examination or have been modified. There is further discussion on this later. Similarly WOB and string weight clean signals which allow coring with reliable bit weight indication are under development and discussed later.

Gene Pollard summarised the leg 190-193 achievements to date and provided information on the planning and equipment required on the legs up to 205. **Annex 3** has more Leg details.

Legs 190-193 provided good results but leg 193 was experiencing difficult hole conditions resulting in hardware losses. However this may offer an opportunity for further tests of the HRRS and ADCB systems.

Leg 191 hammer tests were time curtailed by a typhoon, a medivac and drillfloor equipment problems but good results on the operation of the hammer and the various types of bit were achieved. There is a report of the HRRS activities and the ADCB in Annex 5.

Leg 193 is experiencing borehole stability and spudding-in problems including caving and non-cleaning of heavily mineralised cuttings. Two stuck pipes have had to be blown off. There may be opportunity

to try the hammer system to achieve a stable entry into the formation and if the hole can be cleaned up an opportunity to try the Advanced Diamond Core Barrel (ADCDB).

The HYACE tool system will be field tested on Leg 194 along with further tests of the ADCDB.

Tom Pettigrew introduced the scenario for Leg 196 (Nankai) where Advanced CORKS (ACORKS) will be emplaced together with a seismometer. This programme of work is extremely ambitious and will contain a number of firsts for the ODP programme. A huge number of technical requirements have to be brought together in timely fashion to allow the spacing and assembly in the moonpool of a multi-string gravel screen and packer system which will then be guided into a drilled and LWD assessed open (i.e. non-cased) borehole. Having completed this, which in itself contains a number of technological achievements, the leg will continue with the drilling deeper (into basement) in the same borehole and through the ACORK string, with the aim of emplacement and cementing of a seismometer at the base of the borehole.

The geology of the area suggests that the borehole will be in unstable formation and the environmental regime indicates that there will be ocean currents at the site. Given this and the added complications of assembling of third party components on site the committee wish Tom good luck and appreciate the huge preparatory effort which has gone into the planning of the tools and the logistics of the operation. Annex 5 has more details and diagrams pertaining to the operation.

Derryl Schroeder introduced the DMT Service Centre and its aims and priorities. Main development projects are the completion of a Data Acquisition System (DAS) for the APC — T as the Adara equipment and electronic spares are no longer available. The APC is a good tool to start with as it is the most widely used. All results can then be transferred to the DAS systems required by other tools in incremental fashion.

Developments with the DVTP tool with added Pore Pressure component DVTP-P (in conjunction with the Canadian Pacific Geosciences Centre) is progressing as is the APC methane tool with MBARI and the in-house downhole sensor sub which will be linked to LDEO technology in its second phase.

The DVTP-P and APC methane will be required for upcoming gas hydrate legs as will the PCS which is being re-investigated by a graduate researcher. It is hoped that the APC methane tool will be able to be used routinely in the future to accumulate data on the methane mass budget.

There was then a lot of discussion on the Passive and Active Heave Compensators, the practicalities and data being recorded while using it and further issues to be addressed. Rates and frequencies of sampling were discussed, was too much being monitored?, were the right parameters being monitored?. Basically the AHC system is working well but appears to be causing wear in the passive compensator and unstable Martin Decker gauge readings due to the 20msec response time of the AHC. There is also derrick vibration issues when drilling in some formations. Some issues may relate to the age of the passive compensator, others relate to tuning and understanding of the system now employed. Discussion on the subject was curtailed as it was hoped to have Mike Friedrichs join us for the following day and we would revert to the subject then.

Buddy Bolfrass and Gene Pollard addressed issues relating to legacy documentation. The EXCOM/SCICOM requirements and preparations for this issue to be addressed at this meeting had obviously not been clearly stated to ODP-TAMU and much discussion ensued on what was required and what was within the art of the possible given staffing and other issues. Skinner brought discussion

members and guests time to reflect on what was required and have informal discussion before then. It was clear however, from this discussion, that the re-drafting and re-dimensioning of engineering drawings was not an option which should be considered as it was not relevant to the requirement and could introduce errors.

6. Report on Activities at BRG (LDEO)

Dave Goldberg mentioned the experiments reported on at the previous TEDCOM and distributed a published article highlighting the results of the leg 188 experiment where the MWD tools were configured to allow downhole drillstring monitoring under Passive Heave Compensation conditions. **Annex 6** contains this and other details of items summarised by Greg Myers (below). He stated that the next possible opportunity for a repeat of the experiment, but this time using Active Heave parameters, would be on leg 196 when the LWD/MWD tools would be mobilised for the work associated with the emplacement of the ACORK tools.

Greg Myers highlighted some of the achievements the logging group had made and opened by showing the comparisons which they were able to make between uphole and downhole measurement parameters when trying to achieve bit weight indication. Some of this is contained in the paper mentioned above. There could be a correlation which is useable and thus it is important to make more measurements when opportunity allows. It is now possible to make accurate measurements on deck and thus, if a correlation exists between the deck and downhole indicators, at least an interim, real-time set of downhole drilling parameters may be achievable. The prime requirement for use with the AHC is a reliable weight on bit indicator however it is achieved.

There was much discussion on this topic and a general feeling that all parameters are not yet known, far less fully understood. A model which will allow desktop input of variable data will certainly help when it is developed. The topic will be discussed again tomorrow.

Greg then informed the committee of the developments with the Multisensor Gamma ray Tool (MGT) which worked well on leg 191. The drillstring acceleration tool (DSA Tool) was also used on the same leg while using the APC and RCB systems. On the current leg 193 measurements are being made of Resistivity At Bit (RAB), (imaging while drilling), and temperature measurements while drilling with the Core Barrel Temperature Tool (CBTT). The DSA tool will be run with HYACE on leg 194 and the CBTT will also be used when coring the carbonates. Leg 196 will have LWD and use the RAB tool. It will also be an opportunity carry out active heave downhole data recording. Leg 197 will use the CBTT once more.

With regard to the previous TEDCOM recommendations it was pleasing to see a summary of the actions taken and implementations being made, including a record of the ongoing collaboration with ODP-TAMU.

7. Report on OD21 Activities

Shinichi Takagawa provided an update on the construction schedule for OD21 and presented a paper addressing the noise and vibration in the new vessel. The issue had been brought up by IPSC. Clearly a great deal of thought and care has gone into making the vessel, and particularly its accommodation and laboratory areas as quiet as possible. **Annex 7** contains all of the information. A short video presentation was made of the test tank trials of the dynamic positioning for the OD21 together with a riser sensor system (MRDPS) for Dynamic Positioning control when a deepwater riser is deployed.

8. IPSC — an Update

As IPSC were holding a meeting in Copenhagen, Denmark at the same time it was not possible to have a presentation from them. However Skinner will obtain any information and add this in to the final minutes of this meeting.

No further information was provided by the time of the issue of this final draft.

A short video presentation of the HYACE tests overseen by TEDCOM at Clausthal in Germany was presented and closed the meeting for the day.

The meeting was called to order the following morning and Mike Friedrichs of ODP-TAMU was able to join us for this session.

9. ODP-TAMU Development Scheduling to meet requirements of remaining Legs

Gene Pollard opened the morning session by addressing the request from TEDCOM (Recommendation 001-3) regarding investigation into geotechnical tools suitable for use in ODP. **Annex 8** is attached. He also mentioned that some non-coring tools could be adapted for use with the XCB (piezo-cone) with little cost and that some investigation of this had been carried out with Fugro. (see also Annex 5). With regard to sampling in non-cohesive materials he suggested that the most likely tools to have any degree of success would be the percussion type tools but that they would be likely to obtain only disturbed core. Alister Skinner suggested that the presentation dwelt on many of the negative points of those types of corers and completely missed the point that no core at all is being collected in some important formations, at present. He also suggested that measures can be taken to mitigate core disturbance. Brian Taylor highlighted the onboard problems for scientists when no core is being obtained and how a simple percussion sampler could assist. Joe Castleberry stated that there are even more tool variations than those outlined and some could be relevant. It was his feeling that the percussive or hydraulic action tools were probably the most promising for obtaining core during deepwater operations. Gene finished his presentation with a short video and explanation of the successful trials of the DOSECC GLAD 800 rig and container barge explained to TEDCOM at Potsdam. It had undertaken Lake Trials on Great Salt Lake and Bear Lake and would probably be shipped for work in Lake Titicaca in Bolivia during the coming year.

Mike Friedrichs carried on the discussions of yesterday regarding the Passive and Active Heave Compensators and the requirement for a Weight on Bit filter. All detail of this and yesterday's discussion is included in **Annex 9**. There is increased wear on the Passive Heave Cylinder rods and a severe bounce on the driller's weight indicator. This bounce is due to the inertia of the travelling block and the top drive, and to the 20msec response time of the AHC as it responds to the ship's heave and holds the drillpipe motion, relative to the seafloor, to less than 100mm. Basically the system is now so rigid under active heave conditions that every small fluctuation and correction is seen on the analogue dial of the Martin Decker rendering it unstable. It should be possible to filter this out by separately recording acceleration motion and transmitting the information via telemetry to a filter module which then displays Weight on Bit (WOB) and String Weight as two separate digital readouts independent of the Martin Decker.

As yesterday there was much discussion on the wear on the PHC rods and its possible cause. The wear is restricted to approximately 12 inches at the mid-stroke of the rod, with both rods having the chrome coating deterioration in the port-aft quadrant. The chrome failure has also contaminated the PHC hydraulic oil. Due to the 15 years of service of the PHC, the primary cause of the PHC

At present the drillers are able to use the system and keep a relatively constant weight on bit by entering a pre-set bias and operating to that - effectively giving a bit weight when the bias reverts to zero. Permanent corrections or filters/gains and adjustments are difficult to implement as ODP-TAMU do not presently have access to the software codes of the AHC and are trying to negotiate a non-disclosure act with maritime Hydraulics to be allowed this access. TEDCOM felt that access points or gain controls could be made available to ODP-TAMU without compromising software agreements but it would cost money to implement this. Mike Friedrichs was not too happy about allowing this degree of operator intervention but was able to confirm, in answer to a question by Wally Svendsen, that the AHC continues to perform in the range of 92-98% efficiency of compensation. The requirement to have drillers alert to coring rather than drilling parameters is now very obvious and all efforts must be made to enhance their displays and to reduce operator fatigue. This will be ongoing, with the primary focus on training, and ultimately may involve automatic drilling assistance.

Various comments were made about rig vibration which occurred on leg 192 and will probably continue while coring harder formations. Although this could not be quantified at the meeting with some engineers saying it was trivial and others potentially serious it must be considered as a problem which is potentially serious.

ODP stated after the meeting that it will be investigated during Leg 197 but this may not be soon enough. Jeff Fox stressed that there were contractual problems within this area relating to ownership and maintenance of the AHC and its relationship with the PHC and that they were not going to be discussed at this meeting.

The chairman accepted this and upon discussion with ODP TAMU after the meeting has revised the recommendation #002-3 and modified the section below from what appeared in the draft minutes. The chairman still wishes to re-iterate, so that there can be no doubt that TEDCOM have highlighted the issue the following comments.

The ODP programme needs to be aware that induced drilling vibration, if not addressed and properly dealt with immediately, could seriously impinge on the science by the vessel incurring downtime and possibly also cost penalties while repairs are undertaken. Currently the Joides Resolution is undertaking challenging coring operations in remote locations and Leg 197 is a long way forward.

Howard Shatto asked when the simulation studies now about to be started with a research graduate would be completed. The response was that TEDCOM would be unlikely to see anything constructive until one year from now.

Jeff Fox said that it was quite difficult to have substantive communication with Maritime Hydraulics which could allow things to be brought to a successful conclusion. Earl Shanks thought that Transocean may be able to use some leverage with Maritime Hydraulics regarding software access or expediting some of the requirements which ODP-TAMU have. Brent Shoemaker said that one of his engineers does have a dialogue ongoing with Maritime Hydraulics and that they were helpful.

Brian Jonasson then returned to the short range plan in response to Skinner's request that TEDCOM be informed on the prioritizations made by ODP-TAMU under their development schedule to meet the commitments for science from now until the end of the field programme in 2003. The Short Term Plan is effectively the workscope of the development engineering team up to end operations in 2003 — given all the caveats on budgets and other conditions which prevail within the active ODP programme.

There is also a Long Range Plan scheduled through 2005 but items beyond 2003 do not form a part of the current ODP Drilling Programme.

Alister Skinner asked whether the high priority given to the drilling sensor sub (**see Annex 4**) was to forestall use of MWD techniques to try to ascertain what was happening to the drilling string dynamics downhole. He was concerned that an item giving a quick return to the benefit of the AHC (the add-on to LWD on leg 196) may be dropped for something which could not be on stream before end 2001 at the earliest. This provoked a lot of discussion in justification of the scheduling. The engineers from ODP-TAMU and LDEO explained that there is no conflict because the Drilling sensor sub is a tool for the future and its development can run in parallel with data acquisition for active heave refinements or understanding without conflict of budget or manpower.

It was important to clarify this. If a simple, even empirical, relationship can be found between string reactions downhole and what can be measured on board ship then this will allow fast progress in coming to terms with the new dynamics of the AHC controlled drilling.

In view of the TEDCOM recommendation 001-3 Skinner also enquired why there was no development time allocated for an investigation of geotechnical tools for ODP use within the projected programme. He was informed that the projects listed were not exclusive and others were ongoing also.

10. Preparing the Technology Legacy of ODP

Following yesterday's presentations Alister Skinner revisited the EXCOM and Scicom Recommendations under their original agenda scheduling. He re-stated the EXCOM and SCICOM recommendations and what TEDCOM, ODP-TAMU and LDEO were charged to do to meet those. He submitted a one page overview of a possible solution for discussion on the two objectives required — a one page summary of current tools for EXCOM and a Technical Documentation Plan to meet the legacy requirements of the ODP phase-out plan. All information including the proposals and outlines made yesterday by Buddy Bolfrass and Gene Pollard are attached as **Annex 10**.

During the discussion on the one-page EXCOM requirement Eddie Wright produced ODP-TAMU equipment flyers which will meet the Excom requirements with little revision or staff effort. These will be used as a basis of meeting their request and ODP-TAMU will organise this directly for the forthcoming EXCOM meeting. Bill Hay outlined the timescale and said that EXCOM would be looking at getting their final document out by the Fall of 2001. Thus they would need the material for consideration at their Spring meeting in 2001. If we extend the one-page document to mean two sides of the same page then scientific highlights of the use of each tool over the full span of the ODP years can easily be incorporated into the existing format without undertaking any but obvious update requirements to existing content. An example of the PCS flyer is included in Annex 10 by way of illustration of what exists but which was not generally known.

Gene Pollard's outline covers the main technical document envisaged as a legacy document. Tools not in use or never fully developed should not be ignored but need not be documented to the same level. Salient points as to why they were not developed need to be stated because the technology available now could perhaps allow a revisit in the future. Also it could have simply been budget restrictions which curtailed development. Tools which have an earlier incarnation (e.g. the motor driven core barrel) could have an annex in the current tool manual relating to that earlier prototype(s).

Wally Svendsen reminded us to document tools under development and which would not be completed under this programme. It was also felt that some indication of the lack of foresight relating

to this and the expectation of a new programme to outperform the old one from day one be passed on to SCICOM by TEDCOM.

11. A.O.B.

Alister Skinner stated that he had a request from the PACRIM Consortium for information on the Australian Portable Remotely Operated Drill (PROD) and the Hammer Drill system (HRRS) under development with ODP. The HRRS information is included in Annex 5. No information is available on the PROD and a request has been relayed back to PACRIM to see if their Australian Colleagues can give the information directly and subsequently inform TEDCOM.

Bill Hay reported on the setting up of an Arctic Detailed Planning Group which has to look into all aspects of conducting scientific drilling at the Lomonosov Ridge area of the Central Arctic. The area is permanently covered with drifting ice and will require extensive and well organised logistics in addition to the drilling requirements. It will be a multi-ship operation involving icebreakers and an icebreaker or ice-strengthened drilling vessel. Bill requested any possible TEDCOM assistance which could be given to help this group. The chairman of the group can be contacted at (BILL PLEASE GIVE ME SOME DETAILS HERE). Alister Skinner will also pass on any relevant information from TEDCOM members if they wish to use this route.

When Bill had completed this item Alister Skinner took the opportunity of thanking him, on behalf of TEDCOM, for all of his efforts on our behalf whilst Chair of SCICOM and OPCOM and for his most agreeable merging of science presentation and technological requirements for our deliberations.

Wally Svendsen asked about the RPM parameters available on the Joides Resolution for diamond coring and it was ascertained that they were within suitable range for operation of the ADCB. He further undertook to contact the Diamond Drilling Association to investigate the range of sampling tools for non-cohesive and poorly consolidated formations which they had researched.

12. Date and venue for next meeting

Alister Skinner returned to the question of utilisation of geotechnical tools within ODP and wondered if a visit to a contractor developing and using those routinely would be profitable. Consequently a meeting has been proposed in Houston in late May or early June 2001, at Fugro. Joe Castleberry will investigate if this is possible and offer suitable dates for consideration. Alister Skinner will advise with the final draft minutes. Holding a meeting there will allow first hand dialogue with geotechnical engineers well versed in the techniques of coring and collecting high quality cores in non-cohesive and difficult to collect materials.

Subsequently a meeting date of 29-30th May 2001 has been agreed with Fugro Houston. Please make a note of this and more details will follow closer to the time.

There being no other business the 27th TEDCOM was then concluded.

Annex 1

**Contact List
Agenda for Meeting**

Annex 2

Changes at JOI

ODP information
IODP Planning

Annex 3

ODP Leg Information

**Science Requirements
Tool performance and planned operations**

Annex 4

ODP-TAMU Project Schedule Information

Drilling Service Department Tool Development Schedules

Annex 5

ODP-TAMU Technical Information

Hard Rock Re-entry System

Advanced Diamond Core barrel

Advanced Cork Installation Leg 196

Downhole Measurements — Service Centre & Tools

Annex 6

ODP-LDEO Information

Recent Results on ODP Heave Evaluation

Publication	Title	Author(s), year
SPINLA	3-axis drillstring acceleration (measured below top drive)	Myers et al, 1999
Sci. Results leg 179	SWD experiment results	Myers et al, 2000
Joides Journal	MWD experiment with PHC (Leg 188) & corebarrel acceleration tool (Leg 185)	Goldberg et al, 2000/1
Offshore Journal	Summary of above	Goldberg et al, 2000
AGU Poster	Core barrel acceleration experiment (legs 185 & 191 data)	Guerin et al, 2000
Sci. Results Leg 191	Detail of above	Guerin et al, 2001

It is hoped to conduct a further experiment with AHC and Downhole Measurements on Leg 196 and TEDCOM strongly supports this.

Annex 7

OD21 Information

Annex 8

Geotechnical Tools for ODP

Annex 9

AHC & PHC Information

Annex 10

Legacy Documentation

OPCOM & SCICOM Motions

Bolfrass suggested System Modernisation

Pollard Suggested Technical Scheme

Skinner discussion page

**Wright suggestion to meet EXCOM requirement
(use existing data leaflets e.g. PCS example)**