

EPSP Meeting – June 27-28, 2005
British Geological Survey
Edinburgh, Scotland

Called to order: The fourth EPSP meeting was called to order by the chair at 08:55, on June 27, 2005.

Self introductions: Self introductions **were** made by all attendees.

EPSP Members Present: Bob Bruce, Akito Furutani, Masami Hato, Hans Juvkam-Wold, Susumu Kato, Barry Katz (Chair), Tadashi Maruyama. Jean Mascle, Nobuo Morita, Bramley Murton, Jerome Schubert, Craig Shipp, Dieter Strack, Manabu Tanahashi, Toshiki Watanabe, and Joel Watkins.

GUESTS: Jack Baldauf (USIO-TAMU), Keir Becker (SPC), Colin Brett (ESO), Peter Clift (Proponent 595 & 618), Mike Coffin (SPC), Earl Doyle (SSP), Nobuhisa Eguchi (IODP-MI), Tim Francis (ESO Safety Panel), Jun Fukutomi (CDEX), Martin Hovland (TAMU Safety Panel), Atsushi Ibusuki (CDEX), Thomas Janecek (IODP-MI), Kenji Kimura (MEXT), Hiroshi Kitazato (IFREE), Shigemi Matsuda (CDEX), Tatsuhiko Sakamoto (Proponent 477), Alister Skinner (ESO), Uko Suzuki (CDEX), Jun Tomomoto (CDEX), and Barry Zelt (IODP-MI).

Meeting logistics: **Colin Brett**, meeting host, welcomed all attendees, reviewed meeting logistics, and presented a safety briefing on how to evacuate the building and the location of the meeting location.

Approval of prior meeting minutes: No additional corrections to the minutes from the December 2004 regular meeting or the January 2005 special meeting were brought forward. The minutes to both previous were accepted as provided.

Review of SPC activities: **Mike Coffin** reviewed SPC and SPPOC actions since the last EPSP meeting that will impact the panel. These actions included the **acceptance of the revised terms of reference for EPSP, acceptance of the HSE policy drafted by EPSP with the IOs, the ranking and forwarding of proposals to the Operations Task Force (OTF; formerly OPCOM)**, the acceptance of an IODP/ODP/DSDP core storage plan, the replacement of the IODP-Industry Science Program Planning Group (IIS-PPG) and holding of a joint IODP-Industry workshop (May 19-20, 2005 – Houston), and notification of a symposium on 3-D seismic reflection imaging (September 8-10, 2005 – LDEO). The key changes to the terms of reference were the **addition of a vice chair and the initiation of a three-year renewable term at the discretion of the panel chair with the chair and vice chair being renewable by the SPC**. The following proposals or portions thereof are currently residing with OTF:

- 477-Full4 Okhotsk/Bering Plio-Pleistocene
- 482-Full3 Wilkes Land Margin
- 519-Full2 South Pacific Sea Level
- 545-Full3 Juan de Fuca Flank Hydrogeology

- 553-Full2 Cascadia Margin Hydrates
- 564-Full New Jersey Shallow Shelf
- 589-Full3 Gulf of Mexico Overpressures
- 595-Full3 Indus Fan and Murray Ridge
- 600-Full Canterbury Basin
- 603A-Full2 NanTroSEIZE Phase 1
- 603B-Full2 NanTroSEIZE Phase 2
- 603C-Full NanTroSEIZE Plate Interface
- 621-Full Monterey Bay Observatory
- 626-Full2 Pacific Equatorial Age Transect

Review of status of JOI Alliance (non-riser) activities: Jack Baldauf presented an overview of JOI Alliance activities since the last EPSP meeting including both a brief summary of drilling operations, changes in the drilling program, and the status of the replacement for the *JOIDES Resolution*. The results from Expeditions 304 and 305 (Oceanic Core Complex), 306 (North Atlantic Climate), 307 (Porcupine Basin), and 308 (Gulf of Mexico) were reviewed for the panel. Still remaining on the drilling program are the remainder of Expedition 308, 309/312 (Superfast Spreading Crust), and 311 (Cascadia Margin Gas Hydrates). Potentially of greatest interest to the panel were the results from the Gulf of Mexico. **To-date Gulf of Mexico drilling has proceeded largely as anticipated, achieving most of the scientific objectives. The exception was Site 1323 (URS-2C), which was terminated at 242 mbsf when it encountered a pressured sand. The hole was plugged, cemented, and abandoned. A mini-panel meeting will be held July 25, 2005 at TAMU to review the preliminary GOM drilling results and decide on drilling protocols for Cascadia.** There has been significant technical support from industry, particularly Shell, in the development of the drilling protocol. The Monterey Bay Observatory (Proposal 621) was removed from the schedule because of the time necessary to obtain all of the necessary permits. It is currently estimated that permitting for Monterey Bay could take between 1 and 2 years and requires that the drillship be identified. A full environmental impact statement is required. The time not used for Monterey Bay drilling was spread among the remaining expeditions. Demobilization of the *JOIDES Resolution* will occur January 31, 2006. The current SODV-timeline suggests that the *JOIDES Resolution's* replacement vessel will be available for program use beginning February 2008.

Review of mission specific platform activities: Colin Brett reviewed the status of Expedition 310 (Tahiti Sea Level). **All necessary drilling permits have been obtained.** Final clearance for the vessel is pending the selection of the vessel. The APL reviewed by EPSP in College Station (June 2004 meeting) was not included in the final program because the proponents were unable to obtain the necessary funds. **Problems have, however, developed in contracting a vessel.** A preferred contractor had been selected and prior to signing of the contract the partnership between the driller and the shipowner was dissolved. A search is currently underway to obtain a replacement vessel. The drilling window is rapidly closing and within a short period of time if a new vessel cannot be secured Expedition 310 will need to be put on hold. **In preparation for the next MSP operation a shallow gas hazard assessment was**

completed for 564 (New Jersey Margin). The full report was distributed to panel members. A “final” review of the New Jersey Margin plan is tentatively scheduled for the December 2005 EPSP meeting.

Review of SSP’s assessment of data readiness: Earl Doyle presented a brief summary presentation of the data classification scheme used to assess scientific readiness of the data package in the databank. It was noted that although there was some overlap in the needs of EPSP and SSP there are some important differences in the responsibilities and needs of the panels. SSP’s role is to determine whether sufficient data are available to accomplish the stated scientific objectives while EPSP’s role is to determine whether the site is positioned safely to drill to the requested depth. Consequently EPSP may request additional data not normally included in a site survey package (e.g., independent 3rd party shallow hazard assessment). It was noted that under ideal conditions SSP could flag key datasets lacking from the databank, however, very often key necessary datasets for safety assessment are not determined until the proposal has passed beyond SSP review and has been ranked and passed on to the Operational Task Force (OTF). **The latest site readiness rankings for all proposals were presented and Earl offered to act as a resource during the meeting.**

Introduction of the new Site Survey Databank: Barry Zelt, the new IODP-MI science coordinator responsible for **liaison with SSP and EPSP**, provided an overview of the new Site Survey databank. The databank will be relocated from Lamont to Scripps. The May-June period was a transitional period with the new databank to be ready to begin accepting data August 15, 2005. All data in the new databank will be available in digital form. The program is currently scanning higher priority datasets. **2-D seismic will be available for viewing January 1, 2006. 3-D seismic will be available for viewing April 1, 2006.** It was recommended that EPSP consider holding their next meeting at Scripps to visit the databank and become familiar with the new facilities.

Presentation on marine protected areas: Hiroshi Kitazato presented an overview of marine protected areas. Key items discussed were the legal jurisdictions of coastal and high seas areas, the nature of anthropogenic activities that may impact the marine ecosystem, and the **lack of long-term environmental impact studies** to determine the effects of such activities. Concerns were also expressed as to whether NGOs would lobby strongly to reduce scientific access to areas of key interest. Follow-up discussions raised a number of questions including:

- How pro-active should IODP become?
- Should pre- and post-cruise camera surveys be conducted on all IODP sites?
- Should a complete environmental impact statement be prepared for each individual drill site?
- Should a long-term biological monitoring program be in-place for all environmentally sensitive locations before drilling can proceed?

Concerns were raised that IODP could self-impose such strict restrictions that most drilling would be precluded. Such restrictions would be based largely on a lack of

knowledge since the program has not fully engaged the biological community. EPSP recommends the following actions:

- **Site safety packages should be modified** to include a section on whether any unusual environmental conditions exist (e.g., the presence of endemic species) which may require additional consideration beyond normal safety and pollution considerations
- **Proposal guidelines should be modified** to highlight any unusual environmental conditions.
- EPSP in association with the operators should develop a **listing of environmentally sensitive settings** where additional consideration and review may be anticipated.
- When environmental issues are flagged in the proposal and/or site survey the panel should consider bringing in **guest experts to assist in the assessment**. (A request has been made to USSAC to consider filling the 7th US position with a biologist. If filled, there would be two biologists on the panel. [The skill set of the current panel is appropriately balanced to address geologic/geophysical and drilling hazards.])
- In order to initiate meaningful **baseline studies EPSP recommends that environmental/biological monitoring programs be initiated in association with long-term observatory programs**. This will require a more proactive approach to seeking cooperative programs than is currently the case.

Preview of Proposal 595 Indus Fan and Murray Ridge: Peter Clift presented the scientific justification and proposed drilling plans for Proposal 595. The drilling program was designed to address the impact of the uplift of the Tibetan Plateau on climate (especially monsoon intensity) and its erosional response. The program will provide additional information on the timing of India's collision with Asia. The need for drilling was supported by the lack of a continuous onshore stratigraphic record. The proponents have positioned their drill sites based on a 3-D dataset provided by Shell. The proponents have attempted to position the sites outside of areas with identified structural closures and clearly defined channels. Among the key items requested or issues raised are:

- **seismic data should be reprocessed or displayed to highlight potential "bright spots"**
- **a 3rd party assessment of shallow hazards**, specifically shallow gas, will be required – Craig Shipp noted that Shell has identified some shallow hazard issues in the region
- **drilling results (lithology, geochemistry, hydrocarbon shows, etc.), pore pressures, and drilling programs from nearby wells**
- **estimated pore pressures for the planned sites** (an assessment of whether over-pressure should be anticipated and if not why not)

Preview of Proposal 618 East Asian Margin: Peter Clift presented the scientific justification and proposed drilling plans for Proposal 618. The scientific issues to be

examined include: the testing of the river capture hypothesis and the dating of the Tibetan Plateau uplift. The erosional response to monsoon strengthening and Tibetan uplift will be assessed. The proposed drilling is planned for two basins offshore Vietnam. Both of the basins are areas of current **hydrocarbon exploration interest**. Site preparation will require a careful assessment of the **hydrocarbon risks in both the shallow and deep portion of the wells**. Considering that shallow water sites are planned, there is a strong likelihood that an independent shallow hazard survey will be required. An assessment should be made as early as possible as to whether the available data will be adequate for the hazard assessment. Proposed **drilling will require riser operations**.

Review of Proposal 477: Tatsuhiko Sakamoto presented a scientific overview of the proposal. There were two primary scientific objectives: 1- an examination of high-resolution climate and oceanic circulation changes since the earliest Pliocene; and 2- an examination of the linkages between oceanic conditions within the Bering Sea and Sea of Okhotsk and climatic conditions in the North Pacific and on land. Following the presentation of the scientific rationale a brief overview of the proposed drilling program was presented. This was followed by a site-by-site review. The results of this review are presented below.

Site ID	Proposed Latitude	Proposed Longitude	Proposed Depth of Penetration (mbsf)	Panel Action
SHR-1A	57°19.0'N	170°12.0'E	200	Panel expressed concerns about navigation and the true position of the proposed site. It appeared based on the available seismic that the proposed depth of 200 meters would be safe. However, the panel required that prior to drilling a pair of cross-lines be shot and that a "real-time" assessment of the data be undertaken to confirm location.
SHR-3A	56°30.0'N	170°35.0'E	200	Panel expressed concerns about navigation and the true position of the proposed site. It appeared based on the available seismic that the proposed depth of 200

				<p>meters would be safe. However, the panel required that prior to drilling a pair of cross-lines be shot and that a “real-time” assessment of the data be undertaken to confirm location.</p>
BOW-12A	53°23.5'N	179°33.5'W	700	<p>The panel deferred a decision on the proposed site pending the annotation of the seismic data to reflect crossings and the inclusion of shot points for the NW-SE line on the bathymetric map. Concerns were expressed with the structure and stratigraphy of the deeper portion of the section at the proposed drillsite. It was recommended that the proponents consider relocating the site to the line crossing. A map representing the dataset (SeaBeam) used to construct the bathymetric map is requested.</p>
BOW-14A	54°02.2'N	179°01.4'E	700	<p>The panel deferred a decision on the proposed site. The panel requested that the site be relocated on a seismic line. It would be preferred that it be positioned on the crossing. A map representing the dataset (SeaBeam) used to construct the bathymetric map is requested.</p>
GAT-3A	59°02.1'N	179°10.4'W	700	<p>EPSP relocated proposed site to shot point 2770 on Cruise KH99-3, 1999, Line GAT3A E-W with approval to the requested</p>

				depth of 700 meters, pending receipt of new latitude/longitude from the proponents. As a consequence of the move the new site designation is GAT-3B. A map representing the dataset (SeaBeam) used to construct the bathymetric map is requested.
GAT-4A	57°35.4'N	175°40.5'W	700	The panel deferred a decision on the proposed site. The panel requested that the site be relocated to a seismic line and avoid a diffraction zone (possible mud volcano). It would be preferred that it be positioned on a crossing. A map representing the dataset (SeaBeam) used to construct the bathymetric map is requested.
UMK-3A	54°25.2'N	170°13.4'W	200	The panel deferred a decision on the proposed site. The panel requested that the site be relocated to a seismic line. It would be preferred that it be positioned on a crossing. The annotated BSR should be confirmed (can the data display be improved?) an assessment should be provided as to whether it represents gas hydrates or a silica phase transition.
UMK-4B	54°37.7'N	170°13.4'W	200	The site is tentatively approved to the proposed depth of 200 meters pending confirmation of the drilling location on

				Cruise L6-80 Line 2. The annotated BSR should be confirmed (can the data display be improved?) an assessment should be provided as to whether it represents gas hydrates or a silica phase transition.
KST-1A	55°52.0'N	165°05.0'E	200	The panel deferred a decision on the proposed site. The panel requested that the site be relocated to a seismic line and away from the structural high.

Meeting was recessed at 17:35.

Meeting was called back to order at 08:55 on June 28, 2005.

Tatsuhiko Sakamoto continued with his presentation of the site-by-site review for the Sea of Okhotsk portion of Proposal 477.

Site ID	Proposed Latitude	Proposed Longitude	Proposed Depth of Penetration (mbsf)	Panel Action
ASR-3A	48°58.0'N	150°25.0'E	700	Approved as proposed.
ASR-4A	48°43.0'N	151°11.0'E	200	Approved as proposed.
ASR-1A	49°07.0'N	150°25.0'E	200	EPSP relocated proposed site to shot point 66 on the Pegas-21 Line 012. Approved to a depth of 200 meters, pending receipt of new latitude/longitude from the proponents. As a consequence of the move the new site designation is ASR-1B.
ASR-2A	48°37.0'N	150°50.0'E	700	EPSP relocated proposed site to shot point 126 on the Pegas-21 Line 012. Approved to a depth of 200 meters, pending receipt of new

				latitude/longitude from the proponents. As a consequence of the move the new site designation is ASR-2B. In order to receive approval for penetration to the proposed depth of 700 meters EPSP has requested that a series of maps be prepared for panel review. The maps should be approximately 20 x 20 nautical miles centered on the intersection of Pegas-21 Line 021 and <i>Dimitri Medeleev</i> Lines IV and 4. The maps should include a bathymetric map and maps based on the reflectors at 200 and 500 milli-seconds and at TD assuming the projected position of the original site on Pegas-21 Line 021.
COP-2C	52°08.6'N	147°05.2'E	700	EPSP relocated proposed site to shot point 3960 on Cruise 28 Line 2. Approved to a depth of 700 meters pending receipt of new latitude/longitude from the proponents. As a consequence of the move the new site designation is COP-2D.
COP-2B	52°05.7'N	147°01.1'E	200	Approved as proposed. Poor confidence in navigation data was noted in view of numerous gas plumes in the water column visible in seismic data not too far from the approved location.
KAM-2A	51°50.0'N	153°28.0'E	200	Approved as proposed.

PGR-1A	47°05.7'N	145°56.0'E	200	EPSP could not approve the site as presented. The panel was unable to relocate the site without raising doubts concerning whether the scientific objectives could be obtained. The proponents are requested to relocate the site and resubmit to EPSP.
SAK-2A	51°21.0'N	145°55.0E	200	Approved as proposed.

Proponents are asked to provide new latitude/longitudes for all repositioned sites including GAT-3B (relocated GAT-3A), ASR-1B (relocated ASR-1A), ASR-2B (relocated ASR-2A), and COP-2D (relocated COP-2C). The panel requests a new location be presented for PGR-1A. In addition, the panel requests that all seismic data and maps for an individual location be presented at the same display scales. The panel has requested that the proponents provide information on the length of the streamer used to collect the data associated with COP-2C.

The dataset presented was, in general, not satisfactory for a meaningful safety assessment by the panel. It was noted, however, that significant new data will not become available in the foreseeable future (i.e., the necessary site survey programs have not been proposed or scheduled). As noted in the summary above **many of the sites could not be approved as proposed nor could they be relocated by EPSP with the available data.** It was suggested that seismic data could be acquired prior to drilling by the drillship for the necessary safety assessment and that a real-time evaluation would need to be made.

The panel acknowledged the significant efforts of Tatsuhiko Sakamoto to step-in late in the process to assemble the safety package in the limited time available during the databank transition period.

Overview of status of Chikyu Shakedown Cruise Status: Atushi Ibusuki presented the current status and timeline for the *Chikyu* shakedown cruise including the site selection. CDEX has identified a primary and alternate location offshore Shimokita with a “shallow” (1000 meters) (western area) and a deep (2000 meters) (eastern area) water region. These locations were **positioned outside the limits of initially identified shallow gas indicators and BSRs.** None of the proposed locations are thought to exhibit anomalous pressures. Back-up positions were located near ODP Sites 438 and 439. Current plans are for the **riser portion of the Chikyu shakedown process to begin late 3rd quarter 2006.** Jun Tomomoto presented the second part of the status report describing the **current well plans.** CDEX plans to report on the safety issues association with the deeper portions of the well at the next EPSP meeting.

Discussions on drilling operation plan submittal: The chair requested input from the panel on whether they thought there was value in receiving the operational plan prior to the initiation of drilling. The panel felt that there was significant value in receiving such a document when complex drilling programs are planned. The operator also felt that there was value in circulating the operational plan among the panel members and others (e.g., operators and leaseholders) that may be able to contribute to program development. Such plans clarified operational expectations and the decision tree that would be used to decide when drilling should be terminated for safety or environmental reasons.

Discussions on shipboard hydrocarbon monitoring: The chair noted that the current drilling program has evolved and that coring is not the sole focus of the program as it once was. There has been an increase in the number of requests for LWD prior to coring making the ODP hydrocarbon monitoring protocols somewhat untenable. Consequently EPSP along with the operators need to establish a new series of protocols and guidelines. A consensus was reached that common monitoring methods should be used across the platforms for the non-riser portions of all holes. It was stated that the MSPs required a speedy on-board assessment of safety issues because of their limited on-board capabilities. It was also stated that **an efficient monitoring program does not permit one to proceed but only provides a means of assessment.** It was agreed that at the next EPSP meeting there would be a review of the results of the LWD/MWD/PWD programs at Cascadia and the Gulf of Mexico and that this would be the initiation of the development of a revised set of guidelines. Such guidelines should provide a common understanding of the program's operating rules.

Vice Chair nomination and selection: Three nominations were brought forward to fill the newly established vice chair position:

1. Toshifumi Matsuoka
2. Martin Hovland
3. Dieter Strack

All three nominees have served on EPSP or PPSP. It was noted that two of the nominations were not current members of the panel. If either were selected by the panel they would first need to be nominated to the panel by their respective national/consortia programs and in the case of Matsuoka with all Japanese positions filled a current panel member would need to rotate off. **With no clear consensus among the panel members, the chair decided to hold an electronic election during the first two weeks of July.** Panel members, nominees, appropriate panel and committee chairs, and IODP-MI will be notified of the results at the close of the election process.

Following the meeting Dieter Strack declined the nomination and Bramley Murton volunteered to replace him on the ballot.

Other business: **Craig Shipp** suggested that after assessing the problems that have developed during site reviews for the past three meetings there is a need to assign “watchdogs” for all proposals. This is an expansion of the watchdog concept implemented at the panel’s Barcelona meeting in June 2002. The “watchdog” would be responsible for insuring an efficient review. It was noted that **Barry Zelt’s** responsibilities at IODP-MI would include the finalization of the safety packages in association with the proponents and that a “watchdog” may not be needed. At the close of the discussion there was a consensus among EPSP panel members that a “watchdog” was needed. **“Watchdogs” will work with both Barry Zelt and the proponents to insure the finalization of a satisfactory safety package. The chair will be responsible for assigning “watchdogs”.** The panel will attempt to adjust its timeline after the December meeting to provide proponents with about a year to complete the safety package as opposed to the current three months. Craig Shipp provided a draft series of guidelines for the “watchdog”. These are presented below.

The following strategy is suggested for picking drill sites:

- Always locate on existing seismic line if possible (if not, explain rationale for locating offline)
- Also locate on crossline if available and possible

The following type and basic information should be included on all maps:

- Always include a seafloor bathymetry map
- Indicate North either with arrow or grid lines
- Include scale bar other other indication of distance
- Label any contours present at a regular interval
- Label all trackline and shot points at a regular interval
- When appropriate and data are sufficient, map key horizons and intervals when anticlines are present in the near-surface section

The following basic information should be included on all seismic traverses:

- Provide as much data as possible about acquisition and processing of seismic data used
- At a minimum, show uninterpreted section with the drill-site annotation
- Clearly indicate the horizontal and vertical scales
- Mark sites with “stick” indicating anticipated depth of penetration based on best time-depth conversion
- Clearly marked intersection of crossline(s) if present
- If possible for each site, squeeze or stretch all tracklines to the same horizontal and vertical scales

No additional new business was brought forward.

Formal recognitions: EPSP recognized and thanked **Dan Quoidbach** for his long history of support for the current panel and the predecessor panels working the proponents to develop their safety packages, making everyone’s job easier and supporting scientific drilling. EPSP also recognized that this was the last scheduled meeting for **Nobuhisa Eguchi** and **Mike Coffin**. The panel wishes to thank both for

their support of the panel and their acceptance of its often atypical means of conducting business.

Discussion on upcoming regular panel meetings: A mini-panel meeting will be held July 25th at TAMU to review Gulf of Mexico drilling to provide guidance on the drilling of Cascadia. Starting time for the meeting is to be determined after determining whether a video-conference needs to be set-up. The panel confirmed that assuming the continuation of the current panel meeting calendar the next EPSP meeting will be **December 12 and 13, 2005 in Hawaii**. The meeting agenda will include:

1. A detailed review of Expeditions 309 (Gulf of Mexico) and 311 (Cascadia). A chief scientist from each expedition will be invited to attend. The discussions will focus on the operational experience associated with LWD/MWD prior to coring. These operation experiences will be related to the current CDEX operational guidelines.
2. CDEX will tentatively present a “deep” hazard analysis for the proposed shakedown locations.
3. A final review of the New Jersey margin (Proposal 564). The proponent and the author of the shallow hazards report should be invited.

A tentative date has been set for the June 2006 EPSP meeting. The working dates are **June 26-27, 2006 in Japan**. The specific location will be decided on after consultation by the Japanese panel members.

Following the meeting the panel members were polled and the June 2006 meeting date was changed to **June 22-23, 2006**.

Meeting was adjourned at 15:10.