IODP Scientific Technology Panel Review

Proposal	635-Full2
Short Title	Hydrate Ridge Observatory
Lead Proponent	Marta Torres
STP Watchdogs	Liz Screaton, Heiner Villinger, Kenji Nanba, Kevin Mandernack
STP Proponents	None
Review Date	13 July 2005

As noted in the proposal, the backbone of the proposed work is a new type of ocean observing tool named SCIMPI (or SimCORK). We encourage application of new tools to IODP expeditions; however, when a new third-party tool is the heart of an expedition or even crucial for its success, additional information is needed to ensure that this new tool is on track to be ready and tested prior to the expedition. We especially call the attention of the proponents to the IODP third-party tools policy, and we highly recommend a review of the proposal by the Engineering Development Panel (EDP).

It would greatly help evaluation of this proposal if more information is provided on the SCIMPI development, especially a detailed development plan that specifies technical details (interfacing sensors, power supply, data loggers etc), development milestones (laboratory and land tests), and previous experiences of long-term deployment of the used sensors. In addition, it is not clear from the proposal if SCIMPI will be hung from a borehole reentry cone to avoid sinking of SCIMPI into the just drilled hole. This also relates to the unanswered question of how the data will be retrieved before a seafloor cable network is available.

The borehole heating (for CORK water sampling) is also a new development. Is this also vital to the scientific objectives? How will it be developed and tested prior to the expedition? It is likely that CORK outflow rates from sediments are considerably lower than the example given of Site 1025 (ocean crust). Can the objectives be achieved with substantially smaller sample volumes?

The proposal gives primarily a microbiological description of possible usages of the borehole instruments and *in situ* microbial incubation and sampling (p. 17). Biotraps, HYACINTH, and GHSZ will be used in the microbiological work. It is necessary to ask for more detailed specifications of the instruments, similar to the figures shown for the CORK (Fig.7). Someone who is familiar with the borehole measurements should review the microbiological part of the proposal.