

3. Based on this input, the expert panel carefully evaluated the suggested reuse options and advised SLAC and the DOE OHEP about the viability of the proponents' plans for reuse and implementation.
4. SLAC then reviewed the proposed reuses with OHEP on multiple occasions, and reached agreement to proceed with the implementation described here.

The committee's review included many considerations, both project specific and more general, including

- Technical feasibility and failure modes?
- Does the reuse involve internal reworking of the boxes or bars?
- Scientific interest and relevance to HEP?
- Support effort required from SLAC, if any?
- DOE-HEP interest and the broader DOE interest?
- SLAC interest and possible involvement?
- Scenarios for reuse; should the boxes go to more than one experiment.

All proposals received described technically credible and scientifically significant reuse options. However, each was unique and cut across the decision making criteria in different ways. Each also had a number of technical challenges and project uncertainties that will require substantial effort to fully address as they go forward. In general, reuse scenarios that required reworking of boxes or bars were strongly deprecated.

Based on the above considerations, the committee made the following comments and recommendations for your GLUEX proposal:

“The primary goal of the GlueX experiment is to search for and study the spectrum of so-called hybrid mesons that are formed by exciting the gluonic field that couples the quarks. The addition of a Cherenkov-based PID system utilizing the BaBar DIRC components will dramatically increase the number of potential hybrid decay modes that GlueX can access and will reduce the experimental backgrounds from misidentified particles in each mode. This enhanced capability will be crucial in order for the GlueX experiment to realize its full discovery potential.

The proposal is the most developed proposal among all submitted in terms of a detailed simulation results and plans for how to use bar boxes. They benefitted greatly from a detailed knowledge of DIRC bar boxes and FDIRC (a detailed computer model was transferred to them), as well as the FDIRC camera MC software package and many discussions with FDIRC group. Therefore they have already implemented a detailed simulation of the FDIRC optics, and are presently attempting to modify it for their application. Specifically, they want to combine four bar boxes into one optical box with a long spherical mirrors in one common oil