

BaBar IFR Mechanical, Schedule Cost Review Outbriefing (1)

- **Excellent job on preparing and presenting review**
- **Overall, the Committee feels that the project is on track and there are no technical show-stoppers**
- **Risks for 2004 installation are resolved**
- **Some risks for 2005 installation remain, but there is adequate time to resolve them and to incorporate lessons from 2004**

BaBar IFR Mechanical, Schedule Cost Review Outbriefing (2)

- **Adequacy of engineering studies?**
 - Overall, the engineering studies are at an appropriate state of development, and are moving in the right direction
- **Status of the design of tooling, platforms, and LSTs?**
 - The design of the tooling and platforms appears to be in very good shape for this stage of the project. The mechanical design of the LSTs is mature and sound
- **Integration of gas, cables, HV systems?**
 - Good drawings of proposed routings exist, but integration of those routings with other detector systems appears risky.
- **Safety considerations?**
 - Safety attention so far has been good. More formal safety planning is required in the immediate future, to ensure that adequate resources and training will be available when the shutdown begins
 - Small work areas, multiple shifts, aggressive schedule, increase risk of accident
 - » Continuous presence of safety officers on all three shifts is required
 - » Safety staffing must consider overload

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- **Installation plan?**
 - Installation planning is extremely well-done, detailed, complete
 - Very success-oriented! No float! Risky!
 - 2004 schedule of 2.5 months, is extremely optimistic
 - Risks and choices (e.g., number of sextants vs. schedule duration, frequency/impact of tours) should be discussed with SLAC management, so that management is aware and can participate in tradeoffs
 - Good effort in identifying risk-mitigation approaches. Continue looking for such opportunities
 - » Prototyping/mockups of equipment and procedures
 - = Consider mockup of full z and full x together
- **WBS and costs?**
 - Very well-developed and detailed WBS and cost estimate
 - Costs seem appropriate
 - Top-level budget summary is not clear to us

BaBar IFR Mechanical, Schedule Cost Review Outbriefing (4)

- **Other Recommendations**

- Project leaders should place more emphasis on technical and programmatic coordination across the entire (LST + installation) project
 - » System managers should take full ownership of the project
 - » One schedule, including all activities, is needed
 - » Must be mindful of the need for coordination of LST systems with other detector systems
 - » Integration of testing and QC into the project
 - » Continue coordination with the rest of SLAC on downtime activities. Start assembling complete downtime task list soon
- Review cable tray loading with relevant SLAC experts (P. Anthony)

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- **Other Recommendations**

- RPC removal technique appears risky, and would benefit from more consideration, with an eye toward more determinism
- Design concept for the temporary EMC support is a good start. It is very important to work out the procedural details and then perform a stepwise mechanical analysis of each intermediate state to confirm that the load can be transferred in a deterministic and controlled manner without risking any of the detector hardware.
- Encourage photo-documentation during both installations
- Consider holding Production Readiness Review for LST manufacturing