LAT Calorimeter Subsystem Peer Review, 2003

The Peer Review for the LAT Calorimeter was carried out on March 17 and 18 as planned; see http://hese.nrl.navy.mil/glast/CALPeerDesignRev for the agenda and presentations. Thirty people attended, including all Review Committee members, key experts and GLAST support staff from GSFC, and representatives of the GLAST Project Office and the LAT IPO. The Review Committee consisted of Jim Martin (Chair), Bernie Graf (Co-Chair), Tom McCarthy, Ron Ray, Jim Ryan, Rafe Schindler and Bill Wisniewski. The Calorimeter Team included all key staff from NRL, France (IN2P3 and CEA), and Sweden (Kalmar).

Overall, the level of detail was at or near CDR level, and the presentations were well-planned and clear. Thirty (30) RFAs were submitted by or through Review Committee members, and were accepted for follow-up by the Calorimeter Team. The following represents a summary of the Review Committee Caucus, regarding the five questions posed in the Charge to the Committee.

Is the design maturity, qualification and verification planning near CDR level? Yes.

Has the Subsystem identified open design issues and established appropriate resolution plans to ensure closure? Generally Yes on Technical. The Review Committee stated that the completion of the testing of the EM is needed in order to fully close the open design issues, and acknowledged that the Calorimeter Team have planned a comprehensive set of tests. However, substantial concern was expressed about the flight fabrication process, for example:

1. the crystal transportation plan is likely to cause schedule delays;
2. flight CDE production in France seems very complex and appears to be a good candidate for more in-house effort and/or a vendor with specific experience; and
3. the overall flight production schedule looks very aggressive.

Is the Subsystem near readiness for manufacturing? Yes.

Has the Subsystem identified open manufacturing issues and established appropriate resolution plans? This received a qualified Yes. Questions that were raised related to the complexity of the fabrication, IN2P3's lack of experience with flight composite structures, the likelihood that a number of problems will not emerge until after fabrication begins, and the possibility that the latest round of ASICs will not fully function. One Reviewer suggested placing Swales under contingency in case further problems develop in maintaining the flight CDE production schedule.

Are there other issues that should be addressed?
None that have not been submitted as an RFA.

We recommend this Peer Review be accepted as successful.

-- Jim Martin, Chair
-- Bernie Graf, Co-Chair