

NuMI Beam Instrumentation Review #4  
Chair Joel Butler  
October 24, 2003

Responses by Bruce Baller  
May 7, 2004

1. Although concerned that technical issues on profile monitors still remain at this time, the committee unanimously recommends that the baseline plan be aggressively pursued with all available resources. The baseline approach appears feasible but needs the full attention of all personnel to overcome the current difficulties in order to meet the demanding schedule. The efforts of Fermilab personnel should primarily be aimed at helping the Texas group overcome the remaining technical issues and adequately demonstrate the foil SEM technology. All specifications necessary for the foil SEM design should be completed and approved by Oct 31, 2003. No further effort should be undertaken at this time on alternative new designs. A backup plan should be developed that depends on deployment of existing multi-wire designs as a temporary, short-term solution should technical uncertainties in the foil SEM design persist beyond January, 2004. A prototype foil SEM should be demonstrated to meet vacuum requirements by that time and additional evidence of the stability of the foil strips should be demonstrated. Even if technical difficulties should persist, the central focus for the foreseeable future should continue to be aimed at solving the foil SEM technical issues and deploying those devices as much and as early as practical.

We have accepted this approach and are maintaining the schedule.

2. The committee recommends that there be a close cooperation between the Fermilab vacuum experts and the UTA group to review designs to help eliminate subtle problems like virtual leaks.

Cary Kendziora (PPD) has made several trips to UTA to assist with design and construction issues. Cary will shepherd the profile monitors when they are at Fermilab.

3. If outgassing due to materials is still considered to be a problem, the committee encourages UTA to do a test with a vacuum can and a mockup of its contents, with the PEEK replaced with a ceramic material.

Done.

4. We strongly recommend that the objectives of tests be carefully written down, and that the tests be highly coordinated so that everyone accepts the results. It would be best if a UTA team member could accompany the test system and

participate in the tests. When the Instrumentation Coordinator is in place, he/she should superintend the testing.

Cary Kendziora observed the tests. The Instrumentation Coordinator (Debbie Harris), L3 Manage (Sam Childress) and Technical Components Manager (Bruce Baller) visited UTA to discuss the test results and monitor status.

5. We recommend that UTA and the appropriate support departments in the Beams Division develop an MOU that specifies the support plan for these devices and includes as deliverables from UTA, along with the devices, full documentation of the device design.

A UTA MOU was drafted to define the specifications, deliverables and schedule. Another MOU is planned to cover longer term support.

6. Finally, we note that the Instrumentation Coordinator is expected to eliminate the communications problems that have affected the development of this system. That recommendation is as applicable to this section as to the section on "conventional" instrumentation.

The Instrumentation Coordinator is serving in this capacity.

