

Report of the Third Meeting of the Fermilab Testbeam Committee

December 21, 2015

1 Discussion

This is a report of the third Fermilab Testbeam Committee meeting held on November 9, 2015, at Fermilab. The Fermilab Testbeam Facility (FTBF) is a valuable resource for the HEP community. This was the first meeting of the committee with the new facility manager, Mandy Rominsky. Overall, the goal of the committee is to give advice to the Fermilab Directorate on how to optimize the impact of the facility and its use. The charge for the meeting is presented in the Appendix.

2 Summary of the meeting

This was the first meeting of the FTBF committee since the hiring of Mandy Rominsky as the facility manager. The committee is pleased with Dr. Rominsky's appointment to the role and was impressed by her rapid work in taking over this facility, her enthusiasm and her immersion into the process helping to define the future of the FTBF. We welcome Mandy heartily.

The meeting started with a reading of the charge. It was followed by a discussion of the progress towards the recommendations of the previous meeting. The next two reports discussed the state of the facility and the scientific summary, summarizing the very nice annual report. The annual report, which was also made available to the committee, was the basis of much of the material presented in this session. The report remains a very valuable way of understanding the importance of the FTBF, getting an overview of the work done in this facility, and understanding its impact on the particle physics community. Much additional valuable information has been added to the report since last time.

Next, an invited speaker presented the safety and approval procedure from the perspective of ES&H. This presentation was much appreciated and helped the committee understand how the safety procedures at the lab work. A useful discussion ensued between the Safety representative and the committee about the boundaries of responsibility between FTBF staff and the safety crew and ways that this could be optimized in the future. The ORC representative agreed to consider the possibility to allow sign-off by the FTBF staff for approval of routine procedures.

The committee also appreciates the movement of the lab towards electronic sign-off of approvals and streamlining of the process of getting approvals.

The final two presentations of the meeting concerned the FY16 plans for the FTBF. The usage of the facility is expected to remain mostly flat compared to FY15 and it appears that the facility will be able to accommodate all requests. MCENTER has been added into regular usage and will be used as a separate beam-line similar to the MTEST facility.

Dr. Rominsky also presented plans for the future of the FTBF facility. Among the suggestions were modernization of the DAQ infrastructure, wider availability of simulation of the facility, updates to the physical plant in the form of dedicated offices for the FTBF staff, updated and streamlined documentation and increased outreach in the form of incorporating students from North Central College into the FTBF program.

3 Recommendations

Below please find a list of recommendations generated by the annual report and the meeting.

- Prioritize future planning and spending towards better beam characterization. This is something that can uniquely be provided by under direction of the FTBF staff, and would be invaluable for the users. The characterization should include energy spread/resolution as a function of energy and beam particle composition, again as a function of beam energy.

This will help understand at what level the possibility of pursuing an optimization of MTEST and MCENTER for different beam energies should be pursued.

- Create a detailed plan on what is to be measured in the beam studies
 - Refer to the progress with respect to these goals in future rounds of this meeting
 - Understand the beam usage by particle and energy, to better understand what users want.
- For facility upgrades,
 - Develop a solid plan for modernizing infrastructure, esp beam-line instrumentation. This plan should be explicitly prioritized, and future presentations should refer to progress with respect to the plan and/or changes of plan goals.
 - Provide a detailed timeline for getting the Si telescope online.
 - Provide a list of work for the 2016. What are the priorities? This will allow the staff and the committee to measure year-to-year progress and understand the context of the work done each year.

In the next meeting, describe the progress with respect to these goals.

- The committee was encouraged by the presentation of the safety staff. As it was described, the role of the FTBF staff should be to make the ES&H visit as smooth as possible.

Work with ORC to establish that if FTBF staff shows it can satisfy the requirements w/o explicit oversight that the responsibility is given to FTBF for routine safety procedures.

- Improve access to information relevant for the users.
- Decisions should involve more input from the users. Ask users what they want. For example, for the DAQ, what *single* platform should be supported?
- Develop a reference analysis that takes raw data, puts them into objects and analyzes these data. Provide this for the users.
- Be specific about your plans for the next year, so that they can be turned into proposed M&S budget numbers that can be included in the FNAL budgeting process.
- As proposed, we encourage you to write a paper, to be submitted to a refereed journal, to describe the FTBF facility.
- Working with students. The committee encourages the FTBF to continue its outreach to students. However, their use should be kept to non-critical-path items.

Requests for more information

- FY2016: 24 weeks. how close are we to being over-full? what is fraction of usage?
- Annual report: usage per beam particle and beam energy.

4 Summary

The Fermilab Testbeam Committee thanks the staff for putting together the annual report and the useful presentation, and commends them to continue to operate the FTBF successfully in light of tight budget and manpower constraints. Much progress has been made since the last meeting towards getting understanding of the facility and working towards its future. We welcome Dr. Rominsky to the team and are impressed by her dynamic approach to leading the facility.

We look forward to our next meeting.

A Agenda of the meeting

Time	Length	Title	Speaker
8:45 AM	15m	Executive Session	
9:00 AM	20m	Progress on recommendations from previous meeting	M. Rominsky
9:30 AM	15m	Annual Report 2015: Facility Summary	E. Skup
9:55 AM	15m	Annual Report 2015: Scientific summary	M. Rominsky
10:35 AM	15m	Safety & approval procedures	E. McHugh
11:00 AM	20m	FY16 FTBF program	M. Rominsky
11:30 AM	20m	Opportunities for Future Development	M. Rominsky
13:30 PM	1h	Executive Session	

B Committee Membership

- Carsten Hast, SLAC

- Ron Lipton, FNAL
- Jen Raaf, FNAL
- Mayly Sanchez, Iowa State/ANL
- Guy Savard, ANL
- Mandy Rominsky, FNAL (*ex-officio*)
- Henric Wilkens, CERN
- Peter Wittich, Cornell (chair)

This was a phone meeting; most of the committee attended remotely.

C Charge for the meeting

The testbeam facilities at Fermilab are a valuable resource for the HEP community. The committee is asked to give advice to the Fermilab Directorate on the operation and development of the Fermilab Testbeam Facility (FTBF), and on any programmatic choices needed to optimize its use and scientific impact.

In particular, at the present meeting the committee is asked to comment on:

1. The community usage and the scientific impact of the FY15 FTBF program, as documented in the annual FTBF report. Is there additional information that it would be useful to include in future annual reports?
2. The plan for the FY16 FTBF program, facilities and resources that would be available.
3. Progress made towards developing a model for present and future usage of the FTBF. Is the model adequate for developing a longer-term vision for the facility? Are appropriate metrics being tracked to inform the model?
4. Operational Readiness Clearance and other safety approval procedures for work at FTBF.
5. The progress towards providing the additional information requested by the committee in their July 2015 report, and any updates to the “Preliminary Recommendations” described in that report.

The Directorate will welcome any other comments from the committee about utilization of the facility, the need for programmatic choices, and the need for facility enhancements.

The committee is asked to deliver a short written report to the Office of Program Planning by November 20, 2015.