

Fermilab accelerator operations summary for FY16 – Q1

10/5/2015 – 1/4/2016

Executive Summary:

During the reporting period beam was delivered to the NuMI target for NOvA, MINOS+ and MINERvA data taking. Beam was also delivered to Switchyard 120 for SeaQuest data taking and to support a program of test beam experiments at the Fermilab Test Beam Facility (FTBF), and to the BNB target for MicroBooNE data taking.

During the quarter there were periods of scheduled and unscheduled downtime. During the full reporting period, 8.07×10^{19} protons were delivered on target for NuMI and 11.90×10^{19} protons were delivered on the BNB target.

More detailed information is available in presentations at the weekly All Experimenters' Meetings. See reports on the web at

http://www.fnal.gov/directorate/program_planning/all_experimenters_meetings/index.html

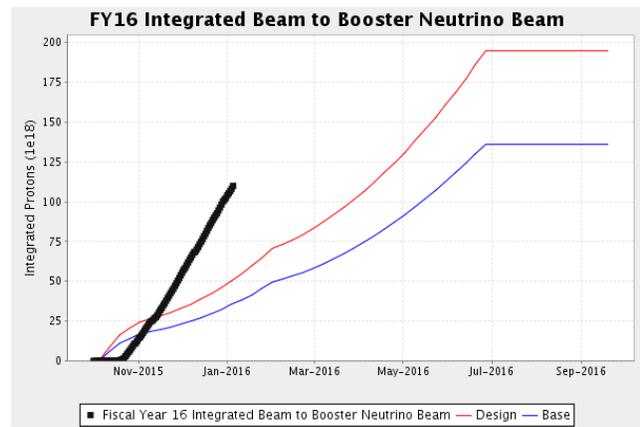
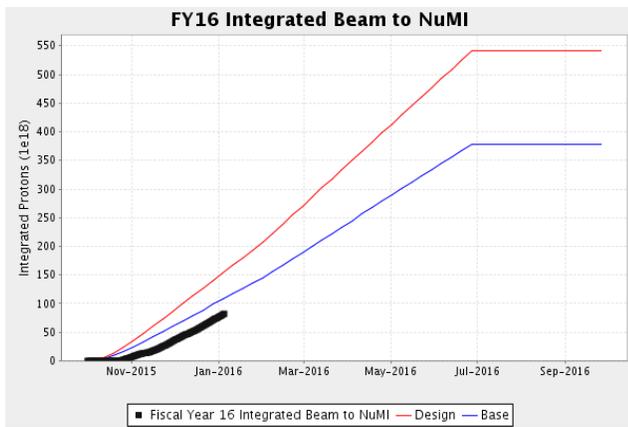
Status and Plans:

Milestones for increasing beam power to NuMI have been delayed by the Booster anode supply installation which extended the length of the shutdown, by aperture issues in the Recycler which have since been improved, and by problems with the DC Current Transformer (DCCT) used to measure beam intensity in the Recycler. Slipstacking of 4+6 bunches in the Recycler is being run by experts and is ready to put into full-time operations as soon as the DCCT is functioning properly. We plan to increase beam intensity in the upcoming quarter and expect to be able to meet the FY16 goal for beam delivery to NuMI.

Beam to BNB has benefitted from the slow ramp up of beam to NuMI. Beam was delivered to BNB at a rate of 5 Hz, which is the target station design limit, and we are well ahead of the curve for meeting the FY16 goal.

Performance

	Metric	Achieved
Average protons on NuMI target per week	-	6.73×10^{18}
Integrated POT for NuMI for period	1.15×10^{20}	8.07×10^{19}
FY16 integrated POT for NuMI to date	1.15×10^{20}	8.07×10^{19}
FY16 actual NuMI uptime to date (hours)	-	1532.63
Percent Uptime (Recorded/Scheduled FY16)	-	89.0%
Average protons on BNB target per week	-	9.16×10^{18}
Integrated POT for BNB for period	3.79×10^{19}	1.19×10^{20}
FY16 integrated POT for BNB to date	3.79×10^{19}	1.19×10^{20}
FY16 actual BNB uptime to date (hours)	-	1654.68
Percent Uptime (Recorded/Scheduled FY16)	-	90.0%



Notes

- 1) "Metric" corresponds to the projected expected Protons-on-Target. The "Design" and "Base" profiles are respectively 125% and 87.5% of the "Metric" profile. The numbers quoted correspond to the proposed FY16 metric.
- 2) "Achieved" corresponds to the performance during the reporting period.
- 3) Percent uptime (actual/scheduled) since October 5th, 2015.