Fermilab Accelerator Operations Summary for FY18 – Q1

10/2/2017 – 1/1/2018

Executive Summary:

During the reporting period beam was delivered to the NuMI target for NOvA, and MINERvA data taking. Beam was also delivered to Switchyard 120 to support a program of test beam experiments at the Fermilab Test Beam Facility (FTBF), to the BNB target for MicroBooNE data taking, and to the new muon g-2 beamline and storage ring to begin commissioning.

During the quarter there were periods of scheduled and unscheduled downtime. During the full reporting period, 8.13×10^{19} protons were delivered on target for NuMI and 8.95×10^{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:

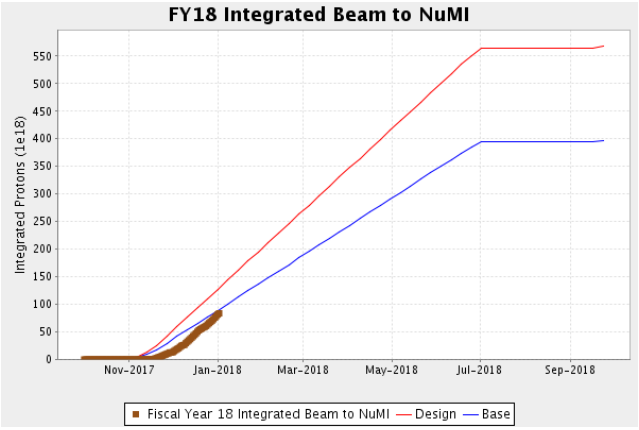
After the scheduled summer maintenance period, the accelerator startup began in mid-October We began delivering beam to the Booster Neutrino Beamline for MicroBooNE on October 27th. Beam delivery to other experimental areas was delayed partly due to a faulted magnet in the NuMI beamline. Beam was being delivered for NuMI target scans, using Main Injector only, and for the SY120 program the week of November 6th. G-2 commissioning began the following week. Recycler began slip-stacking and delivering higher beam power the week of November 27th. 700kW equivalent beam power was reach early in December. Plans to maintain stable operation to experiments.

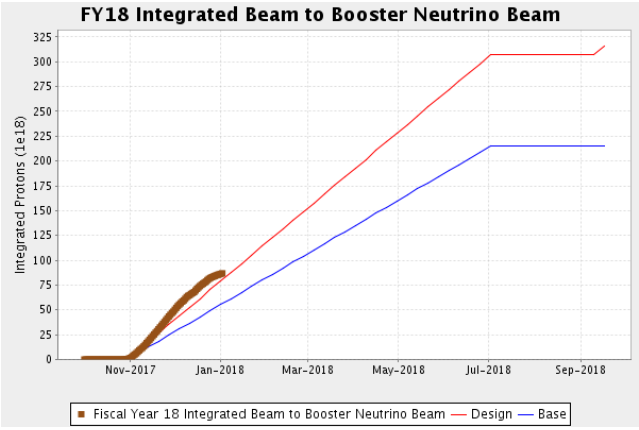
The notable events for the quarter:

- The newly installed Marx Modulators in stations LRF2 & LRF3 are being used for beam operation.
- MI52 Septa was replaced.
- Reached 700 kW NuMI target power.
- Delivered beam to all experimental areas after the summer shutdown.

Performance

	Metric	Achieved
Average protons on NuMI target per week	-	6.26×10^{18}
Integrated POT for NuMI for period	9.60×10^{19}	8.13×10^{19}
FY18 integrated POT for NuMI to date	**9.60×10^{19}**	**8.13×10^{19}**
FY18 actual NuMI uptime to date (hours)	-	967.0
Percent Uptime (Recorded/Scheduled FY18)	-	88.0%
Average protons on BNB target per week	-	6.89×10^{18}
Integrated POT for BNB for period	7.01×10^{19}	8.95×10^{19}
FY18 integrated POT for BNB to date	**7.01×10^{19}**	**8.95×10^{19}**
FY18 actual BNB uptime to date (hours)	-	1426.0
Percent Uptime (Recorded/Scheduled FY18)	-	92.0%





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 FY18 metric.
2) “Achieved” corresponds to the performance during the reporting period.
3) Percent uptime (actual/scheduled) since October 2017.