

Long Range Schedule (Existing Program)

Fermilab Program Planning
20-Feb-17

LONG-RANGE PLAN: DRAFT Version 7a

		FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	
LBNF/PIP II	LBNF/PIP II SANFORD						DUNE	DUNE	DUNE	DUNE	DUNE	DUNE	
NuMI	MI	MINOS+	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN			
		MINERvA	MINERvA	MINERvA	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN			
		NOvA	NOvA	NOvA	NOvA	NOvA	NOvA						
BNB	B	μ BooNE	μ BooNE	μ BooNE	μ BooNE	μ BooNE	μ BooNE					OPEN	
		ICARUS	ICARUS	ICARUS	ICARUS	ICARUS	ICARUS	ICARUS					OPEN
		SBND	SBND	SBND	SBND	SBND	SBND	SBND					OPEN
Muon Campus		g-2	g-2	g-2	g-2								
		Mu2e	Mu2e	Mu2e	Mu2e	Mu2e	Mu2e	Mu2e	Mu2e	Mu2e	Mu2e	Mu2e	
SY 120	MT	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	
	MC	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	FTBF	
	NM4	SeaQuest	SeaQuest	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	

■ Summer shutdown
 ■ Construction / commissioning
 ■ Run
 ■ Extended running possible

- NOTES:
1. Mu2e estimates 4 year running starts mid-FY22 after 18 months commissioning
 2. DUNE without beam operates in FY25-FY26

Extended Shutdown for LBNF/PIP-II
+ time to bring accelerator
complex back to stable running

Future Ideas (agenda from 1st meeting)

- Extensions
 - g-2 (negative muon run) – C. Polly
 - Mu2e-II (with PIP-II and different target) – D. Glenzinski
- New Programs Presented
 - REDTOP (eta factory) – C. Gatto
 - Proton EDM – B. Casey
- Focused efforts
 - Transfigured Electron Double Slit Experiment (TEDSE) – R. Dixon
 - DM Search using Lepton Beams - G. Krnjaic
- Will solicit additional topics at our next discussion
 - Thurs April 20th, 12:30 – 2:30 @ Curia II
 - Focus on Goals to define what is needed (Accelerator, Detector, Computing, etc···)

Future Resources

- Detector R&D Interests (Mu2e-II)
 - development of a ultra low mass, high rate tracker ($\sim 0.1\%$ resolution on 100MeV/c tracks, peak rates 1MHz/cm²)
 - Ultra-thin straw trackers (~ 8 micron thick)
 - Aging, sag under tension, leak rate, etc...
 - Solid-state photo sensors for BaF2 calo with ~ 20 krad dose expected
 - SiPM for cosmic ray veto expected to be limited by neutron dose, aim for $>10^{11}$ n /cm² (1MeV-eq neutrons)
- Non-detector R&D Interests (General)
 - Development of >100 kW production target
 - High Throughput Triggerless DAQ