Constraints and Constants

Pbar	1.0E+20	p/year	Booster Duty Factor	0.8	
NuMI	3.6E+20	p/year	MI Duty Factor	0.6	
BooNE	5.0E+20	p/year	MI acceleration time	22	clicks
CKM	2.2E+19	p/year	Slip stacking time	2	clicks per manipulation
	4.0E+12	p/spill	Booster preparation	2	prepulses
	1	sec spill	one year =	3.15E+07	seconds
			one click =	6.67E-02	seconds

Booster losses grow dramatically above 5e12 p/batch
Booster hardware is limited to 7.5 Hz rep rate
Biister Shielding Assessment is good for 1.8E17 p/hr
The MiniBoonE Horn is limited to 5 Hz rep rate

Program	Batches Extracted	Batches to MI	Slip stacking cycles	Cycle time (sec)	Batches to Program	Booster intensity 5.0E+12	Booster Rate (Hz) 7.5	Booster p/hr 1.8E+17	BooNE Rate 5
Pbar	1	1		1.5	1	8.1E+12 !	1.96	1.9E+16	0.0
Pbar +	2	2	1	1.7	2	4.6E+12	2.31	1.9E+16	0.0
BooNE	10			2.0	10	4.0E+12	6.00	7.1E+16	5.0
NuMI	6	6		1.9	6	5.9E+12 !	4.29	6.8E+16	0.0
NuMI +	9	9	1	2.2	9	4.7E+12	5.00	6.8E+16	0.0
NuMI ++	10	10	2	2.4	10	4.6E+12	5.00	6.8E+16	0.0
NuMI +++	11	11	3	2.6	11	4.5E+12	5.00	6.8E+16	0.0
CKM	6	6		2.9	6	5.6E+11	2.79	4.2E+15	0.0
BooNE and	8	1		1.5	7	4.3E+12	6.52	9.0E+16	4.6
Pbar				1.5	1	8.1E+12 !			
BooNE and	10	2	1	1.7	8	4.3E+12	6.92	9.0E+16	4.6
Pbar +				1.7	2	4.6E+12			
NuMI and	6	6		1.9	5	7.1E+12 !	4.29	8.8E+16	0.0
Pbar				1.9	1	9.9E+12 !			
NuMI and	7	7	1	2.1	5	7.9E+12 !	4.35	8.8E+16	0.0
Pbar +				2.1	2	5.5E+12 !			
NuMI + and	9	9	1	2.2	7	6.0E+12 !	5.00	8.8E+16	0.0
Pbar +				2.2	2	5.8E+12 !			
BooNE and	15	6		1.9	9	4.1E+12	9.11 !	1.6E+17	4.8
NuMI and				1.9	5	7.1E+12 !			
Pbar				1.9	1	9.9E+12 !			
BooNE and	19	9	1	2.2	10	4.4E+12	9.55 !	1.6E+17	4.5
NuMI + and				2.2	7	6.0E+12 !			
Pbar +				2.2	2	5.8E+12 !			