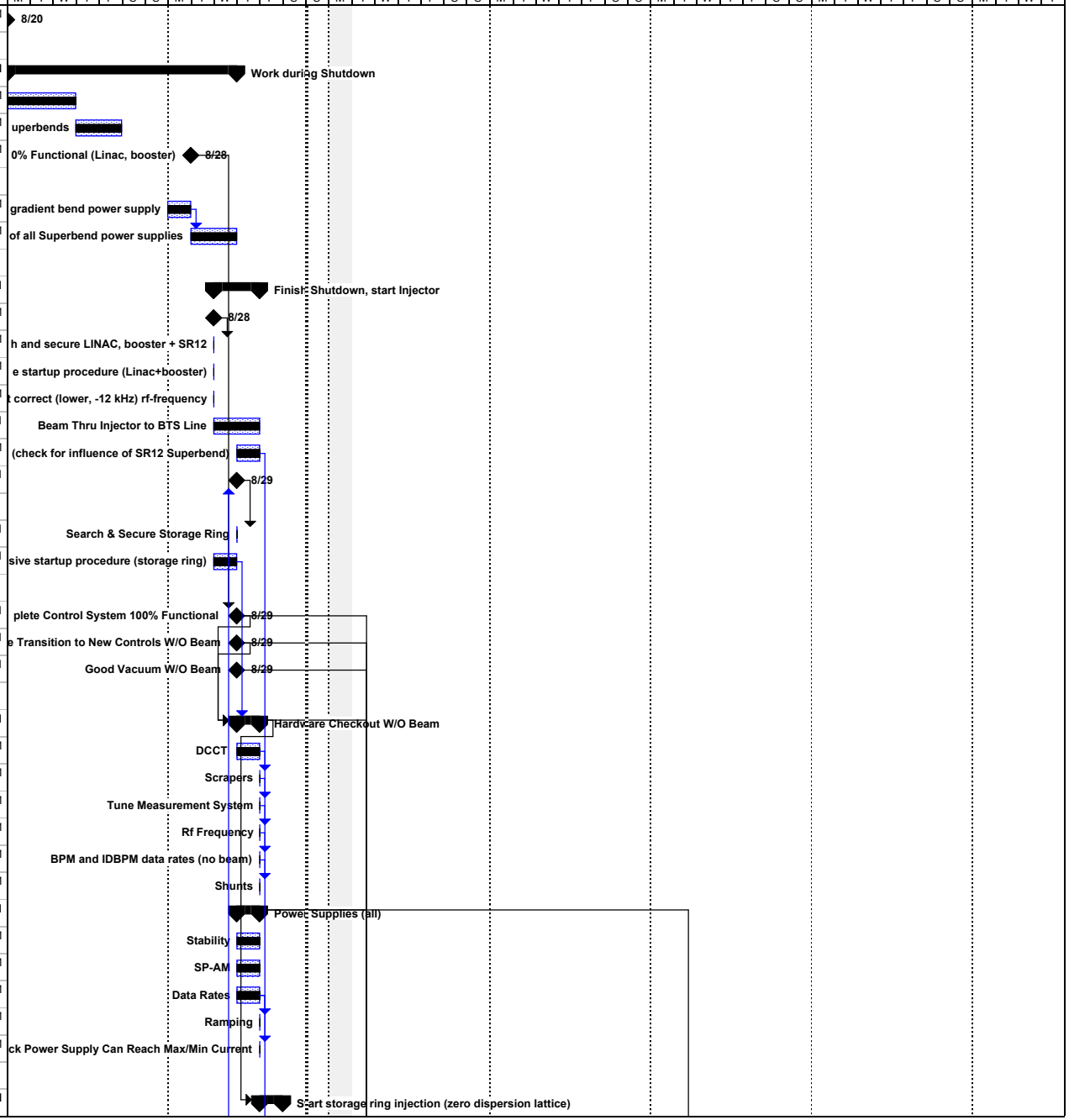
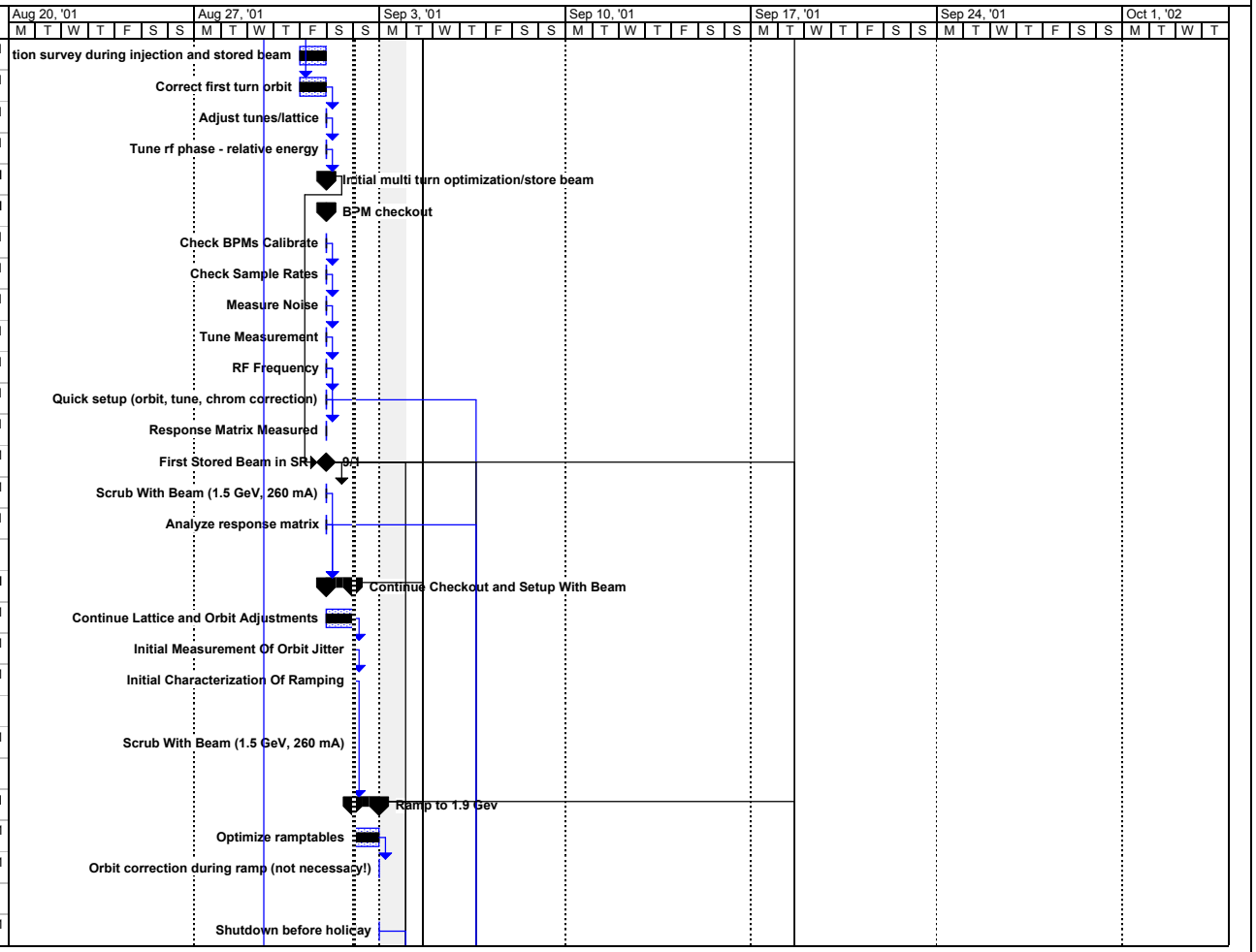
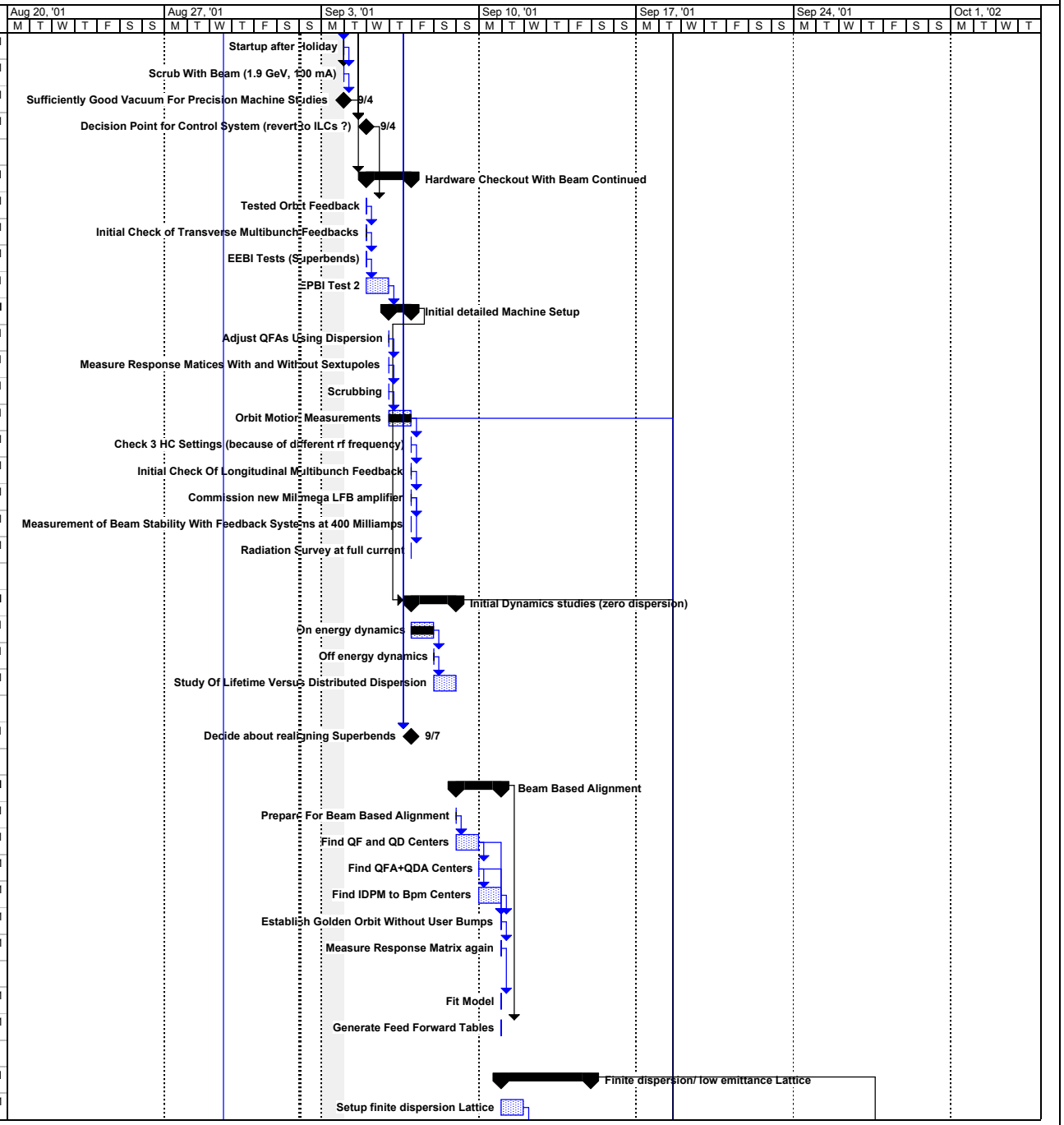
ID	Task Name	Duration	Start
1	Baseline Measurements (Power Supply, Orbit, Inj. …	0 days	Mon 8/20/01
2			
3	**Work during Shutdown**	**6.67 days**	**Mon 8/20/01**
4	Write Software (Matlab on Sun) for easy control	3 edays	Mon 8/20/01
5	Test high level displays for Superbends	1.66 edays	Thu 8/23/01
6	Control System 100% Functional (Linac, booster	0 days	Tue 8/28/01
7			
8	Check compensation of gradient bend power su	16 ehrs	Mon 8/27/01
9	Check compensation of all Superbend power su	2 edays	Tue 8/28/01
10			
11	**Finish Shutdown, start Injector**	**1.75 days**	**Tue 8/28/01**
12	Finish work in LINAC, booster + SR12	0 days	Tue 8/28/01
13	Search and secure LINAC, booster + SR12	8 hrs	Tue 8/28/01
14	Follow comprehensive startup procedure (Linac-	8 hrs	Tue 8/28/01
15	Set correct (lower, -12 kHz) rf-frequency	0.5 ehrs	Tue 8/28/01
16	Beam Thru Injector to BTS Line	1.66 edays	Wed 8/29/01
17	Beam Thru BTS Line (check for influence of SR'	16 hrs	Thu 8/30/01
18	Finish all shutdown work	0 days	Wed 8/29/01
19			
20	Search & Secure Storage Ring	8 hrs	Wed 8/29/01
21	Follow comprehensive startup procedure (storage rin	24 ehrs	Wed 8/29/01
22			
23	Complete Control System 100% Functional	0 days	Wed 8/29/01
24	Complete Transition to New Controls W/O Beam	0 days	Wed 8/29/01
25	Good Vacuum W/O Beam	0 days	Wed 8/29/01
26			
27	**Hardware Checkout W/O Beam**	**0.67 days**	**Thu 8/30/01**
28	DCCT	0.5 hrs	Thu 8/30/01
29	Scrapers	1 hr	Thu 8/30/01
30	Tune Measurement System	1 hr	Thu 8/30/01
31	Rf Frequency	0.5 hrs	Thu 8/30/01
32	BPM and IDBPM data rates (no beam)	0.5 hrs	Thu 8/30/01
33	Shunts	2 hrs	Thu 8/30/01
34	**Power Supplies (all)**	**0.67 days**	**Thu 8/30/01**
35	Stability	8 hrs	Thu 8/30/01
36	SP-AM	8 hrs	Thu 8/30/01
37	Data Rates	8 hrs	Thu 8/30/01
38	Ramping	8 hrs	Thu 8/30/01
39	Check Power Supply Can Reach Max/Min (	8 hrs	Thu 8/30/01
40			
41	**Start storage ring injection (zero dispersion lattic**	**0.67 days**	**Fri 8/31/01**



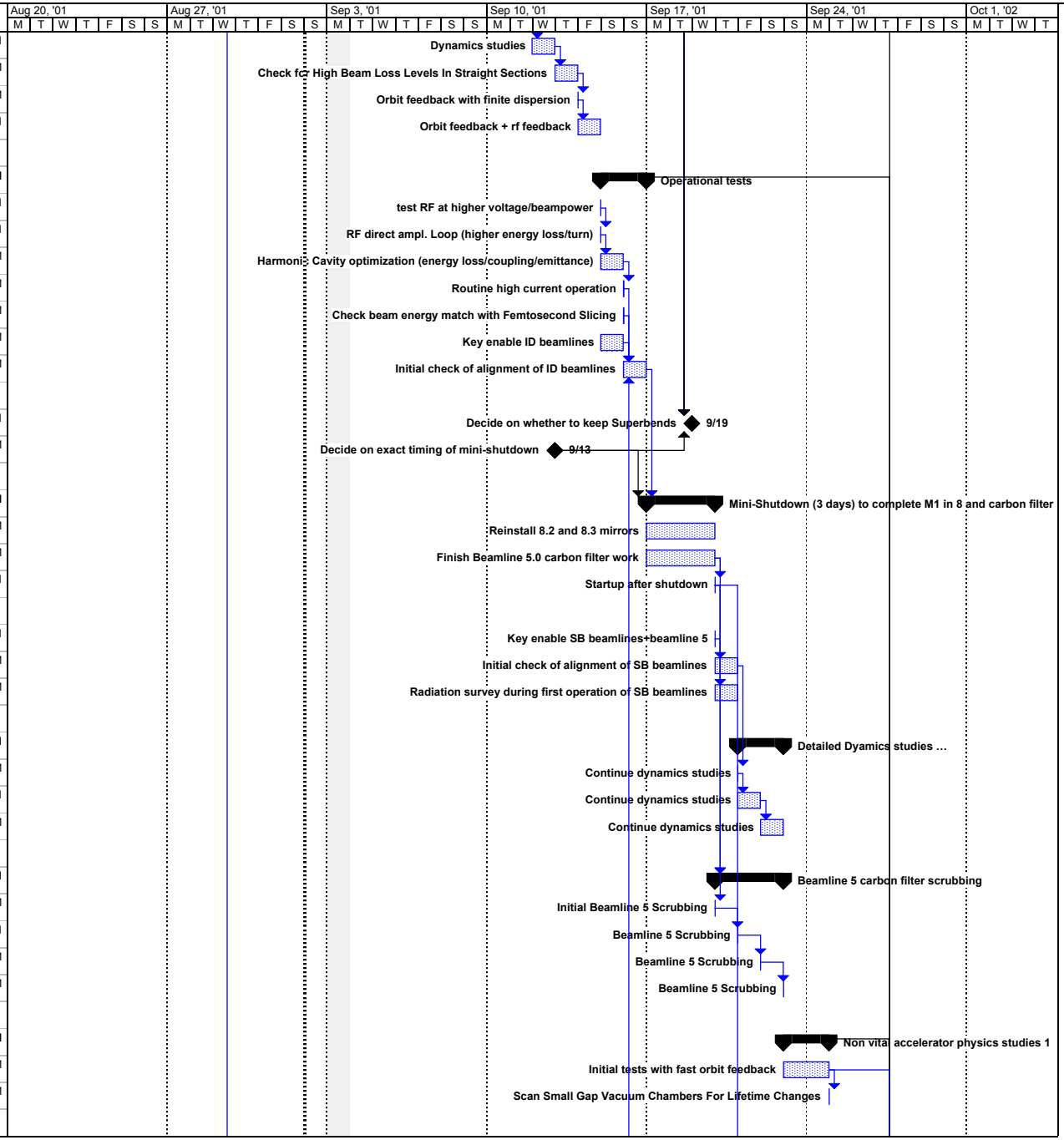
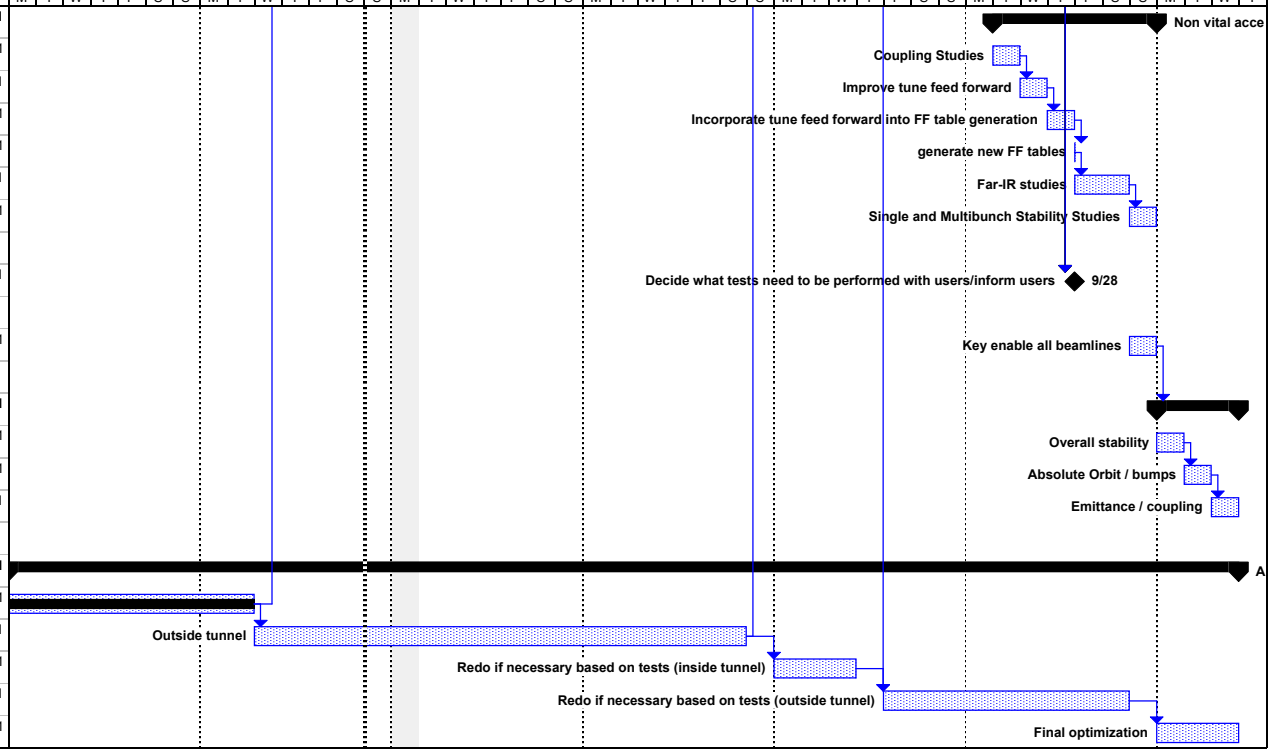
ID	Task Name	Duration	Start
42	Radiation survey during injection and stored bea	14 ehrs	Fri 8/31/01
43	Correct first turn orbit	4 hrs	Fri 8/31/01
44	Adjust tunes/lattice	2 hrs	Fri 8/31/01
45	Tune rf phase - relative energy	2 hrs	Fri 8/31/01
46	**Initial multi turn optimization/store beam**	**0.33 days**	**Fri 8/31/01**
47	**BPM checkout**	**0.06 days**	**Fri 8/31/01**
48	Check BPMs Calibrate	0.5 hrs	Fri 8/31/01
49	Check Sample Rates	0.5 hrs	Fri 8/31/01
50	Measure Noise	0.5 hrs	Fri 8/31/01
51	Tune Measurement	0.5 hrs	Fri 8/31/01
52	RF Frequency	0.5 hrs	Fri 8/31/01
53	Quick setup (orbit, tune, chrom correction)	4.5 hrs	Fri 8/31/01
54	Response Matrix Measured	1 hr	Fri 8/31/01
55	First Stored Beam in SR	0 days	Sat 9/1/01
56	Scrub With Beam (1.5 GeV, 260 mA)	8 ehrs	Sat 9/1/01
57	Analyze response matrix	8 ehrs	Fri 8/31/01
58			
59	**Continue Checkout and Setup With Beam**	**0.67 days**	**Sat 9/1/01**
60	Continue Lattice and Orbit Adjustments	8 hrs	Sat 9/1/01
61	Initial Measurement Of Orbit Jitter	4 hrs	Sat 9/1/01
62	Initial Characterization Of Ramping	4 hrs	Sat 9/1/01
63			
64	Scrub With Beam (1.5 GeV, 260 mA)	8 ehrs	Sat 9/1/01
65			
66	**Ramp to 1.9 Gev**	**0.67 days**	**Sun 9/2/01**
67	Optimize ramptables	8 hrs	Sun 9/2/01
68	Orbit correction during ramp (not necessary!)	8 hrs	Sun 9/2/01
69			
70	Shutdown before holiday	1 ehr	Sun 9/2/01



ID	Task Name	Duration	Start
71	Startup after Holiday	4 ehrs	Tue 9/4/01
72	Scrub With Beam (1.9 GeV, 100 mA)	4 ehrs	Tue 9/4/01
73	Sufficiently Good Vacuum For Precision Machine Stu	0 days	Tue 9/4/01
74	Decision Point for Control System (revert to ILCs ?)	0 days	Tue 9/4/01
75			
76	**Hardware Checkout With Beam Continued**	**1.92 days**	**Tue 9/4/01**
77	Tested Orbit Feedback	4 hrs	Tue 9/4/01
78	Initial Check of Transverse Multibunch Feedback	4 hrs	Tue 9/4/01
79	EEBI Tests (Superbends)	8 ehrs	Tue 9/4/01
80	EPBI Test 2	8 ehrs	Wed 9/5/01
81	**Initial detailed Machine Setup**	**1.25 days**	**Wed 9/5/01**
82	Adjust QFAs Using Dispersion	2 hrs	Wed 9/5/01
83	Measure Response Matices With and Witho	2 hrs	Wed 9/5/01
84	Scrubbing	8 ehrs	Wed 9/5/01
85	Orbit Motion Measurements	3 hrs	Wed 9/5/01
86	Check 3 HC Settings (because of different r	4 hrs	Thu 9/6/01
87	Initial Check Of Longitudinal Multibunch Fe	2 hrs	Thu 9/6/01
88	Commission new Millmega LFB amplifier	6 hrs	Thu 9/6/01
89	Measurement of Beam Stability With Feedb	8 ehrs	Thu 9/6/01
90	Radiation Survey at full current	8 ehrs	Thu 9/6/01
91			
92	**Initial Dynamics studies (zero dispersion)**	**1 day**	**Fri 9/7/01**
93	On energy dynamics	8 hrs	Fri 9/7/01
94	Off energy dynamics	8 hrs	Fri 9/7/01
95	Study Of Lifetime Versus Distributed Dispersion	8 hrs	Sat 9/8/01
96			
97	Decide about realigning Superbends	0 days	Fri 9/7/01
98			
99	**Beam Based Alignment**	**1.67 days**	**Sat 9/8/01**
100	Prepare For Beam Based Alignment	8 hrs	Sat 9/8/01
101	Find QF and QD Centers	16 ehrs	Sat 9/8/01
102	Find QFA+QDA Centers	16 ehrs	Sun 9/9/01
103	Find IDPM to Bpm Centers	8 ehrs	Mon 9/10/01
104	Establish Golden Orbit Without User Bumps	4 hrs	Mon 9/10/01
105	Measure Response Matrix again	4 ehrs	Mon 9/10/01
106			
107	Fit Model	8 ehrs	Mon 9/10/01
108	Generate Feed Forward Tables	8 ehrs	Mon 9/10/01
109			
110	**Finite dispersion/ low emittance Lattice**	**2.17 days**	**Tue 9/11/01**
111	Setup finite dispersion Lattice	1 eday	Tue 9/11/01



ID	Task Name	Duration	Start
112	Dynamics studies	1 eday	Wed 9/12/01
113	Check for High Beam Loss Levels In Straight Se	4 hrs	Thu 9/13/01
114	Orbit feedback with finite dispersion	12 ehrs	Thu 9/13/01
115	Orbit feedback + rf feedback	12 ehrs	Fri 9/14/01
116			
117	**Operational tests**	**1.75 days**	**Fri 9/14/01**
118	test RF at higher voltage/beampower	8 ehrs	Fri 9/14/01
119	RF direct ampl. Loop (higher energy loss/turn)	8 ehrs	Fri 9/14/01
120	Harmonic Cavity optimization (energy loss/coupl	8 ehrs	Sat 9/15/01
121	Routine high current operation	18 ehrs	Sat 9/15/01
122	Check beam energy match with Femtosecond S	18 ehrs	Sat 9/15/01
123	Key enable ID beamlines	1 eday	Sat 9/15/01
124	Initial check of alignment of ID beamlines	1 eday	Sun 9/16/01
125			
126	Decide on whether to keep Superbends	0 days	Wed 9/19/01
127	Decide on exact timing of mini-shutdown	0 days	Thu 9/13/01
128			
129	**Mini-Shutdown (3 days) to complete M1 in 8 and c**	**2 days**	**Mon 9/17/01**
130	Reinstall 8.2 and 8.3 mirrors	2.33 edays	Mon 9/17/01
131	Finish Beamline 5.0 carbon filter work	2.33 edays	Mon 9/17/01
132	Startup after shutdown	8 ehrs	Wed 9/19/01
133			
134	Key enable SB beamlines+beamline 5	8 ehrs	Wed 9/19/01
135	Initial check of alignment of SB beamlines	8 ehrs	Thu 9/20/01
136	Radiation survey during first operation of SB beamlin	8 ehrs	Thu 9/20/01
137			
138	**Detailed Dyamics studies …**	**1.67 days**	**Thu 9/20/01**
139	Continue dynamics studies	8 ehrs	Thu 9/20/01
140	Continue dynamics studies	16 ehrs	Fri 9/21/01
141	Continue dynamics studies	16 ehrs	Sat 9/22/01
142			
143	**Beamline 5 carbon filter scrubbing**	**2 days**	**Thu 9/20/01**
144	Initial Beamline 5 Scrubbing	8 ehrs	Thu 9/20/01
145	Beamline 5 Scrubbing	8 ehrs	Fri 9/21/01
146	Beamline 5 Scrubbing	8 ehrs	Sat 9/22/01
147	Beamline 5 Scrubbing	8 ehrs	Sun 9/23/01
148			
149	**Non vital accelerator physics studies 1**	**1.33 days**	**Sun 9/23/01**
150	Initial tests with fast orbit feedback	1.66 edays	Sun 9/23/01
151	Scan Small Gap Vacuum Chambers For Lifetime	8 ehrs	Tue 9/25/01
152			



ID	Task Name	Duration	Start
153	**Non vital accelerator physics studies 2**	**4 days**	**Tue 9/25/01**
154	Coupling Studies	1 eday	Tue 9/25/01
155	Improve tune feed forward	1 eday	Wed 9/26/01
156	Incorporate tune feed forward into FF table gene	0.5 edays	Thu 9/27/01
157	generate new FF tables	0.5 edays	Thu 9/27/01
158	Far-IR studies	1.67 edays	Fri 9/28/01
159	Single and Multibunch Stability Studies	1 eday	Sun 9/30/01
160			
161	Decide what tests need to be performed with users/in	0 days	Fri 9/28/01
162			
163	Key enable all beamlines	16 ehrs	Sun 9/30/01
164			
165	**Operations tests with beamline scientists**	**3 days**	**Mon 10/1/01**
166	Overall stability	1 eday	Mon 10/1/01
167	Absolute Orbit / bumps	1 eday	Tue 10/2/01
168	Emittance / coupling	1 eday	Wed 10/3/01
169			
170	**Align beamlines 4, 5, 7, 8, 12**	**30.29 days**	**Mon 8/20/01**
171	Frontends/inside tunnel	9 edays	Mon 8/20/01
172	Outside tunnel	17.67 edays	Wed 8/29/01
173	Redo if necessary based on tests (inside tunnel)	2.5 edays	Mon 9/17/01
174	Redo if necessary based on tests (outside tunne	9 edays	Fri 9/21/01
175	Final optimization	3 edays	Sun 9/30/01