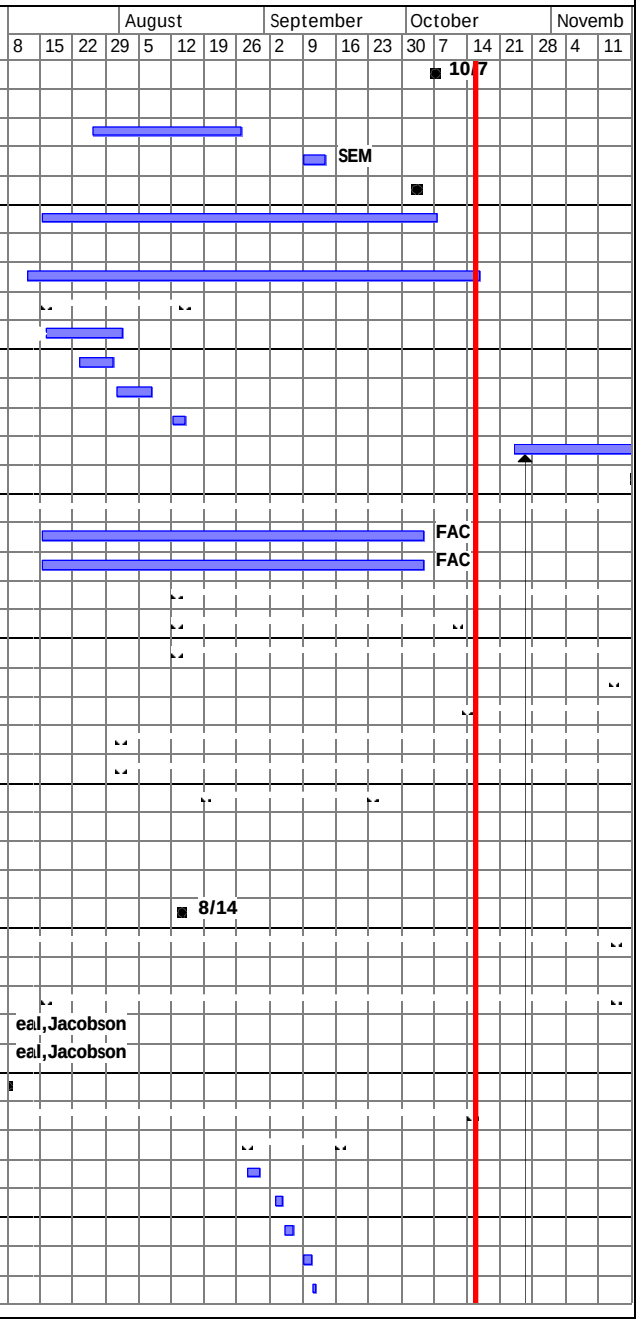
File name: 2002 Shutdown 7_30_02
Filter: Incomplete Tasks

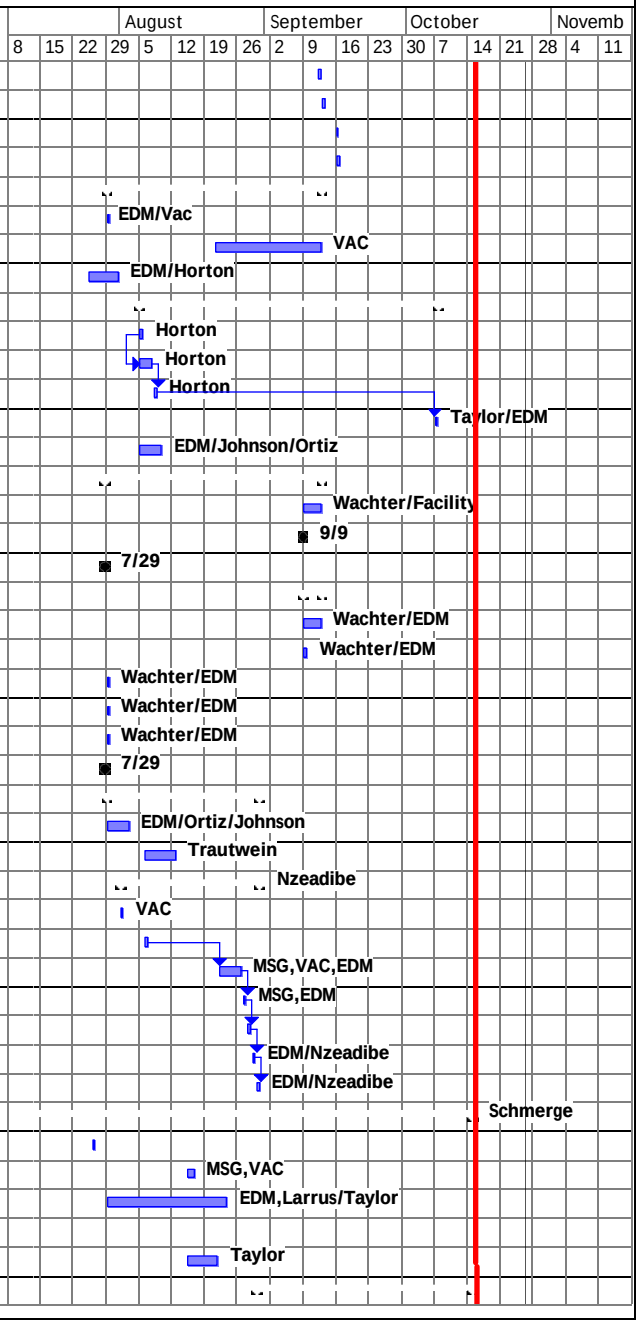
SPEAR SHUTDOWN - 2002

ID	Task Name	Duration	Start	Finish	Predec	Resource Names
3	SSRL User's Conference	3 d	10/7	10/9		
4	**UTILITY OUTAGES SUMMARY**	**61 d**	**7/15**	**10/7**		
5	LCW/CTW 7/27 - 8/25 Spear, 131, 140	22 d	7/26	8/26		
6	SUB 514 (RF HVPS)	5 d	9/9	9/13		SEM
7	SPEAR LCW TURN ON	0 d	10/3	10/3		
8	SPEAR RING LIGHTING OUT	61 d	7/15	10/7		
9	**ACCESS SCHEDULE SUMMARY**	**92.75 d**	**7/12**	**11/18**		
10	SPEAR	70 d	7/12	10/16		
12	**SSRL Ring Access**	**22 d**	**7/16**	**8/14**		
13	10S11 RF Cavity	13 d	7/16	8/1	309SS	
14	BL1	6 d	7/23	7/30		
15	BL2	6 d	7/31	8/7		
16	Synchrotron Light Monitor	3 d	8/12	8/14		
18	Injector/SPEAR Startup	18 d	10/23	11/18	535	
19	User Beam Delivery	0 d	11/18	11/18	18	
20	**SPEAR 3 Projects - Summary**	**283 d?**	**7/3**	**8/1**		
21	**East Pit Shielding**	**60 d**	**7/15**	**10/4**		**FAC**
22	**BL5 Alcove Upgrades - In Alcove**	**60 d**	**7/15**	**10/4**		**FAC**
23	**Pull Cables to External Cable trays**	**117 d**	**8/13**	**1/22**		**PCD**
24	**North Installation**	**44 d**	**8/13**	**10/11**		
26	**South & West Installation**	**94 d**	**8/13**	**12/20**		
30	**East Installation**	**50 d**	**11/14**	**1/22**		
34	**HVRF Installation**	**50 d**	**10/14**	**12/20**		
36	**HCW Installation**	**261 d**	**8/1**	**8/1**		**Shin**
37	**Pump pad installation**	**88 d**	**8/1**	**12/2**		
43	**Install Piping**	**26 d**	**8/19**	**9/23**		
48	Flow test system	7 d	12/9	12/17		
49	Test Klystron (2003)	0 d	1/2	1/2		
50	HCW On-Line (2003)	0 d	8/1	8/1		
51	**Install LCW branch/valves for Klystron Bld**	0 d	8/14	8/14		
52	**Vacuum Chamber Fabrication**	**97.75 d?**	**7/3**	**11/14**		
53	**QFC Chambers**	**1 d**	**7/3**	**7/3**		**Neal,Jacobson**
57	**145D Type 2 (BM1) Chambers**	**87.75 d?**	**7/16**	**11/14**		**Neal,Jacobson**
61	**Kicker fabrication, test**	**1.5 d**	**7/3**	**7/4**		**Neal,Jacobson**
62	**Septum fabrication, test**	**1.5 d**	**7/3**	**7/4**		**Neal,Jacobson**
70	**SPEAR SHUTDOWN PROJECTS**	0 d	7/8	7/8		
71	**INJECTOR:**	**111 d**	**5/14**	**10/15**		**Park**
72	**Mechanical Maintenance**	**14 d**	**8/28**	**9/16**		
73	LINAC TCW Mant	3 d	8/28	8/30		
74	GTF Gun Water clean/change	2 d	9/3	9/4		
75	LINAC Water Syst clean/change	2 d	9/5	9/6		
76	Replace LCW Filters	2 d	9/9	9/10		
77	Replace Air filters	1 d	9/11	9/11		



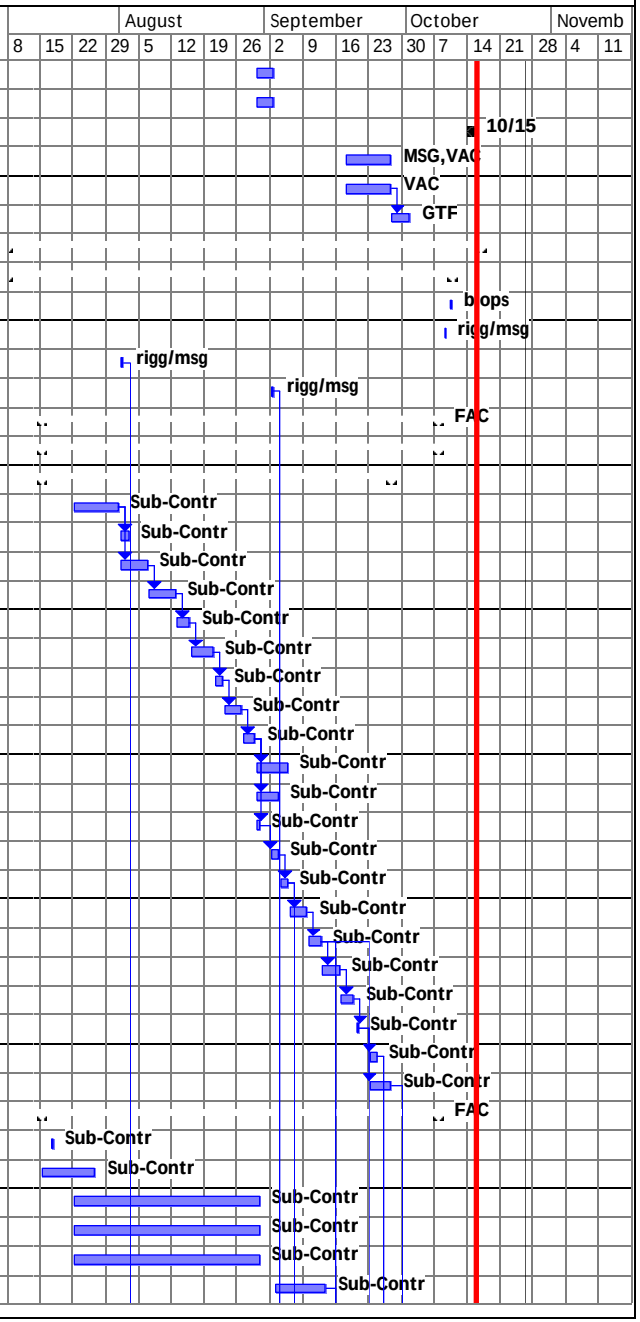
SPEAR SHUTDOWN - 2002

ID	Task Name	Duration	Start	Finish	Predec	Resource Names
78	Replace LCW Hoses inj. Ring	1 d	9/12	9/12		
79	Replace LCW bad hoses LINAC	1 d	9/13	9/13		
80	Loop Tuner shafts (inj.)	0.25 d	9/16	9/16		
81	Install E-Gun TCW lines	1 d	9/16	9/16		
82	**LINAC**	**33.75 d**	**7/29**	**9/12**		**Park**
83	RF - Inspect linac chopper HV input & load resistor	1 d	7/29	7/29		EDM/Vac
84	Replace, test Gun Cathode	16.75 d	8/21	9/12		VAC
85	**Complete install ACM**	**5 d**	**7/25**	**7/31**		**EDM/Horton**
86	**BOOSTER**	**46 d**	**8/5**	**10/7**		
87	remove old gate cables	1 d	8/5	8/5		Horton
88	replace E-stop switches	3 d	8/5	8/7	87SS	Horton
89	remount E-stop #13	1 d	8/8	8/8	88	Horton
90	Install new analog board in white circuit	1 d	10/7	10/7	89	Taylor/EDM
91	Copley - replace cable/connector on Bira Module	5 d	8/5	8/9		EDM/Johnson/Ortiz
92	**RF**	**34 d**	**7/29**	**9/12**		**Park**
93	Complete SCR soft-start	4 d	9/9	9/12		Wachter/Facility
94	Clean HV Box and replace air filter	0 d	9/9	9/9		Wachter/EDM
95	Lube cavity tuner shafts	0 d	7/29	7/29		MSG
96	**Inspect soft-start box**	**4 d**	**9/9**	**9/12**		**Wachter/EDM**
97	Reconnect Soft-start module	4 d	9/9	9/12		Wachter/EDM
98	Test after PPS	1 d	9/9	9/9		Wachter/EDM
99	Check filter capacitor (HV Box)	1 d	7/29	7/29		Wachter/EDM
100	Check pulse transformer (HV Box)	1 d	7/29	7/29		Wachter/EDM
101	Clean HV feedthrough (47kV PS)	1 d	7/29	7/29		Wachter/EDM
102	Clean rack air filters	0 d	7/29	7/29		Wachter/EDM
104	**BTS**	**25 d**	**7/29**	**8/30**		
105	**Install ACM**	**5 d**	**7/29**	**8/2**		**EDM/Ortiz/Johnson**
106	Install toroid	**5 d**	**8/6**	**8/12**		**Trautwein**
107	**Replace 6 correctors**	**22 d**	**8/1**	**8/30**		**Nzeadibe**
108	Vent BTS, prepare for magnet replacement	1 d	8/1	8/1		VAC
109	Pumpdown BTS	1 d	8/6	8/6		
110	Remove old correctors	3 d	8/22	8/26	109	MSG,VAC,EDM
111	Install new correctors and modify vac system	1 d	8/27	8/27	110	MSG,EDM
112	Align	1 d	8/28	8/28	111	
113	Electrical Connections	1 d	8/29	8/29	112	EDM/Nzeadibe
114	Test	1 d	8/30	8/30	113	EDM/Nzeadibe
115	**GTF**	**111 d**	**5/14**	**10/15**		**Schmerge**
116	GTF run ends	1 d	7/26	7/26		
117	Remove Gun and Solenoid	1.75 d	8/15	8/16		MSG,VAC
118	Dismantle Modulator 3 and install new modulator	20 d	7/29	8/23		EDM,Larrus/Taylor
120	Fab 5045 Support hardware	20 d	5/14	6/10		
121	Clean Modulator 1&2 check diode stack	5 d	8/15	8/21		Taylor
122	**Remove K3 and install new 5045 klystron**	**32 d**	**8/30**	**10/15**		**MSG**



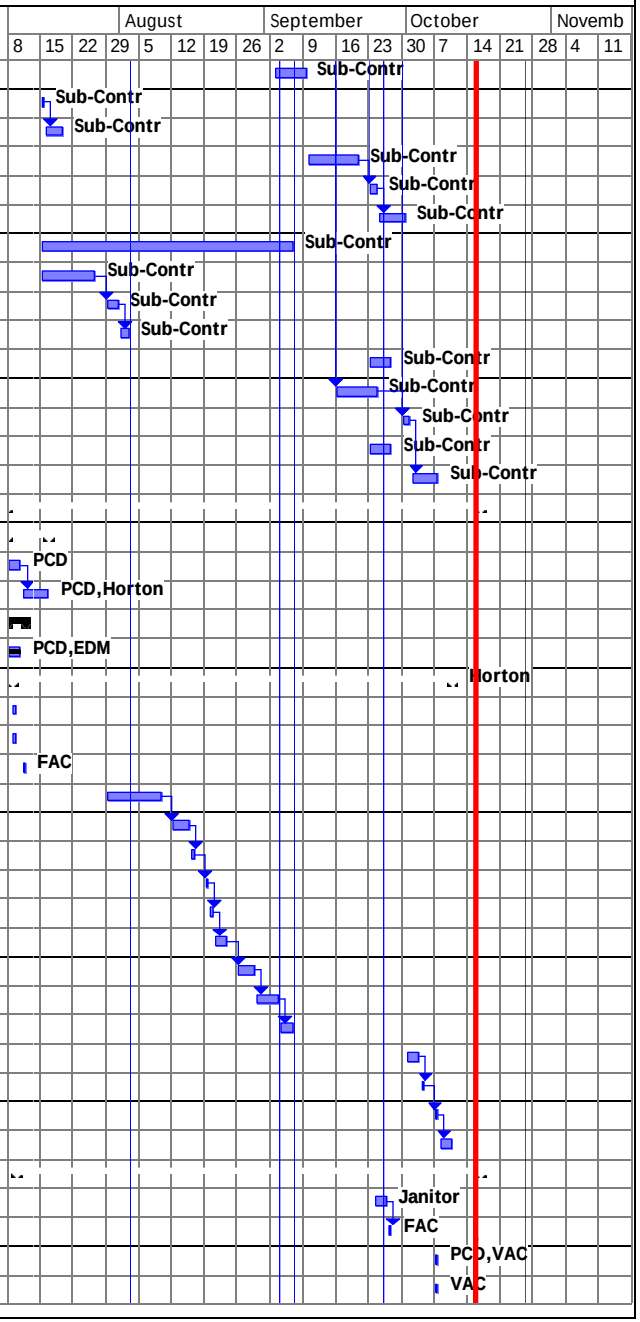
SPEAR SHUTDOWN - 2002

ID	Task Name	Duration	Start	Finish	Predec	Resource Names
123	remove K-3 XK5 klystron	1.75 d	8/30	9/2		
124	install 5045 klystron lead shielding	1.75 d	8/30	9/2		
125	survey klystron tube	0 d	10/15	10/15		
126	Reinstall GTF Gun and Solenoid Upgrade	7.75 d	9/18	9/27		MSG,VAC
127	Bake GTF Gun	7.75 d	9/18	9/27		VAC
128	Align solenoid	2 d	9/27	10/1	127	GTF
129	**SPEAR:**	**74 d**	**7/8**	**10/16**		
135	**Rolling Doors & Wall Blocks**	**70 d**	**7/8**	**10/10**		
142	Close all rolling doors	1 d	10/10	10/10		blops
143	Replace BL 1 wall block	0.5 d	10/9	10/9		rigg/msg
144	Remove BTS Shielding roof	1 d	8/1	8/1		rigg/msg
145	Replace BTS shielding roof	1 d	9/2	9/2		rigg/msg
146	**BL5 & East Pit Shielding**	**61 d**	**7/15**	**10/7**		**FAC**
147	**Construction**	**61 d**	**7/15**	**10/7**		
148	**Shielding Blocks**	**55 d**	**7/15**	**9/27**		
152	Remove Shielding % B221 & E. Pti & BL4, 5	8 d	7/22	7/31	151	Sub-Contr
153	Concrete Demo in E. Pit	2 d	8/1	8/2	152	Sub-Contr
154	Excavation & Grading	4 d	8/1	8/6	152	Sub-Contr
155	Foundation Rebars & Forming	4 d	8/7	8/12	154	Sub-Contr
156	Foundation Concrete Pour	3 d	8/13	8/15	155	Sub-Contr
157	Wall Formwork	3 d	8/16	8/20	156	Sub-Contr
158	Wall Rebars	2 d	8/21	8/22	157	Sub-Contr
159	Formwork Doubling up	2 d	8/23	8/26	158	Sub-Contr
160	Wall Concrete Pour	3 d	8/27	8/29	159	Sub-Contr
161	Wall Sac & Patch	5 d	8/30	9/5	160	Sub-Contr
162	E. pit Tunnel Top Slab & Removable Shielding Scaffolding	3 d	8/30	9/3	160	Sub-Contr
163	Remove Formwork	1 d	8/30	8/30	160	Sub-Contr
164	Formwork for E. Pit Tunnel Top Slab & Removable Shielding	2 d	9/2	9/3	163	Sub-Contr
165	Rebars	2 d	9/4	9/5	164	Sub-Contr
166	Concrete pour	2 d	9/6	9/9	165	Sub-Contr
167	Remove Formwork & Scaffolding	3 d	9/10	9/12	166	Sub-Contr
168	Rebars for Remaing Removable Shielding next to E. Pit	2 d	9/13	9/16	167	Sub-Contr
169	Concrete Pour	3 d	9/17	9/19	168	Sub-Contr
170	Remove Formwork	1 d	9/20	9/20	169	Sub-Contr
171	Reinstall B116 Roof	2 d	9/23	9/24	170	Sub-Contr
172	Seismic Anchoring	5 d	9/23	9/27	170	Sub-Contr
173	**Power/Ltg/FAVesda Installation**	**61 d**	**7/15**	**10/7**		**FAC**
175	Demolition - Existing power, lighting, fa, feeders	1 d	7/17	7/17	174	Sub-Contr
176	WEST Platform - New equipment plus ltg control	10 d	7/15	7/26		Sub-Contr
177	Install ring conduit, wire, devices for 120/208v	30 d	7/22	8/30		Sub-Contr
178	Install ring conduit, wire, fixtures for lighting, pps, emerg	30 d	7/22	8/30		Sub-Contr
179	Install ring pvc, test ports for vesda	30 d	7/22	8/30		Sub-Contr
180	EAST Platform/Straight - Replace 480v feeder from b118	9 d	9/3	9/13		Sub-Contr



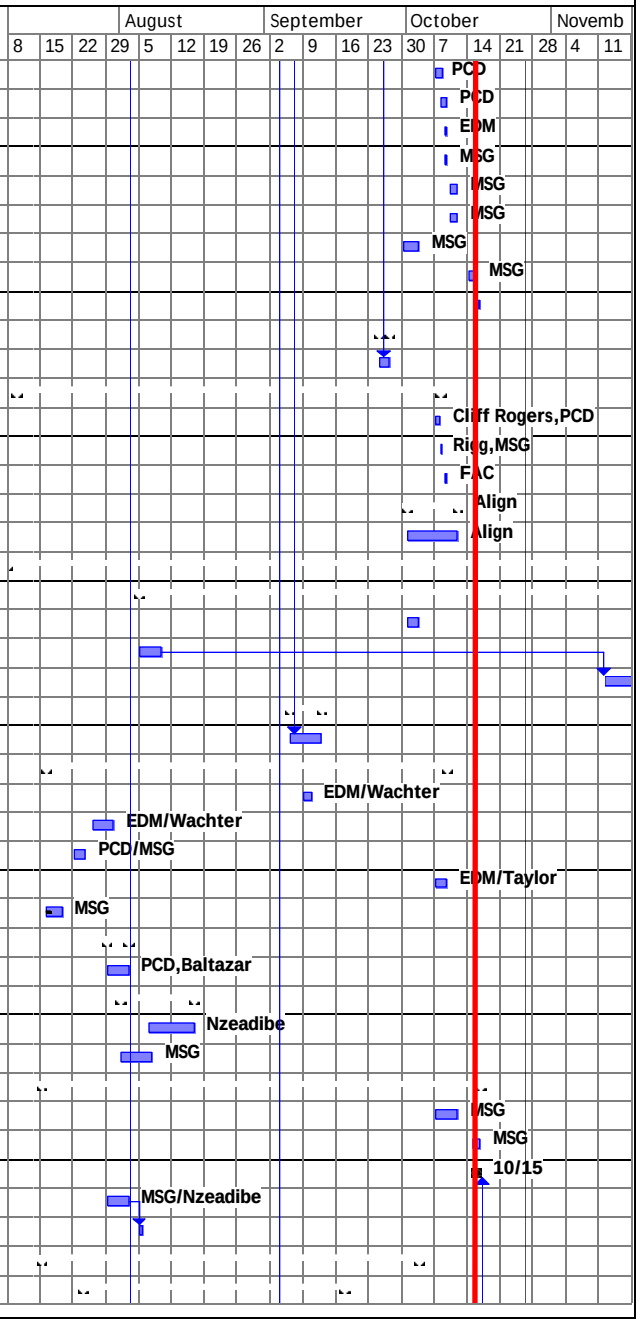
SPEAR SHUTDOWN - 2002

ID	Task Name	Duration	Start	Finish	Predec	Resource Names
181	EAST Platform - New equipment	5 d	9/3	9/9		Sub-Contr
182	Install vesda panel b117	1 d	7/15	7/15		Sub-Contr
183	Install pvc & steel from ring to b117	4 d	7/16	7/19	182	Sub-Contr
184	EAST Platform - Install platform conduit, wire	9 d	9/10	9/20		Sub-Contr
185	EAST Platform - Branch circuit tie-ins at equipment	2 d	9/23	9/24	167,18	Sub-Contr
186	Testing - power, ltg	4 d	9/25	9/30	185	Sub-Contr
187	Allow for EAST Pit/Straight work	40 d	7/15	9/6		Sub-Contr
188	Booster ring vesda pvc, ports, panel	10 d	7/15	7/26		Sub-Contr
189	WEST Platform/Straight - Install conduit, wire, devices, ves	3 d	7/29	7/31	188	Sub-Contr
190	WEST Platform - Branch circuit tie-ins at equipment	2 d	8/1	8/2	189	Sub-Contr
191	Testing - vesda	5 d	9/23	9/27		Sub-Contr
192	EAST Straight - Install conduit, wire, devices, vesda	7 d	9/16	9/24	167,18	Sub-Contr
193	BL4 - Branch circuit tie-ins at equipment	2 d	9/30	10/1	172,19	Sub-Contr
194	Testing - vesda	5 d	9/23	9/27		Sub-Contr
195	Testing - power, ltg	4 d	10/2	10/7	193	Sub-Contr
196	**East Pit Shielding - Accelerator**	**74 d**	**7/8**	**10/16**		
197	**East Pit/Bld 221**	**8 d**	**7/8**	**7/16**		
198	Temporarily clear cable run from tray	3 d	7/8	7/10		PCD
199	Pull and discard unused cable	5 d	7/11	7/16	198	PCD,Horton
214	**Prep for shield wall exten to pit floor, N & S**	**4 d**	**7/8**	**7/11**		
216	Bundle cables into conduit (south side 95% done)	3 d	7/8	7/10		PCD,EDM
218	**East Pit PPS-MPS**	**69 d**	**7/9**	**10/10**		**Horton**
220	remove gate	1 d	7/9	7/9		
221	remove intercom	1 d	7/9	7/9		
227	Remove search gate hardware	1 d	7/11	7/11		FAC
228	fabricate new search gate	10 d	7/29	8/9		
229	install entry gate	4 d	8/12	8/15	228	
230	install keybank	1 d	8/16	8/16	229	
231	install annunciator	1 d	8/19	8/19	230	
232	install intercom hardware	1 d	8/20	8/20	231	
233	install new trunk	3 d	8/21	8/23	232	
234	install new gate control cables	4 d	8/26	8/29	233	
235	rewire presets	3 d	8/30	9/3	234	
236	test wiring	3 d	9/4	9/6	235	
237	Reconnect trunk cables	3 d	10/1	10/3		
238	reconnect search gate	1 d	10/4	10/4	237	
239	reconnect stoppers	1 d	10/7	10/7	238	
240	Test system	3 d	10/8	10/10	239	
241	**Restore system after construction work**	**72 d**	**7/10**	**10/16**		
242	Sweep and Vacuum Construction Debris	3 d	9/24	9/26		Janitor
243	Remove Plywood Covers from beam line components	1 d	9/27	9/27	242	FAC
244	Re-connect HV cables	1 d	10/7	10/7		PCD,VAC
245	Replace center drift pipe	1 d	10/7	10/7		VAC



SPEAR SHUTDOWN - 2002

ID	Task Name	Duration	Start	Finish	Predec	Resource Names
246	Reinstall cables in tray - Southeast Pit	2 d	10/7	10/8		PCD
247	Install radiation safety fence in East Pit moat	2 d	10/8	10/9		PCD
248	Reinstall ST1,ST2 pneum.; Electrical panels/box	1 d	10/9	10/9		EDM
249	Reroute LCW hose	1 d	10/9	10/9		MSG
250	Reroute airline	2 d	10/10	10/11		MSG
251	Radiation shield - new pit wall cable penetrations	2 d	10/10	10/11		MSG
252	Install Pb shadow mask/4 walls	4 d	9/30	10/3		MSG
253	Install shielding and covers	2 d	10/14	10/15		MSG
254	Install sump tanks	1 d	10/16	10/16		
255	**East Pit/Bld 221**	**2.5 d**	**9/25**	**9/27**		
256	Replace cable tray and cables	2.5 d	9/25	9/27	171	
257	**Prep East Pit for SP3 Cntrls**	**65.5 d**	**7/10**	**10/8**		
259	Reroute/connect Dipole Buss	1.5 d	10/7	10/8		Cliff Rogers,PCD
260	Replace sump water Holding Tanks	0.5 d	10/8	10/8		Rigg,MSG
261	Replace sump water Holding Tank AC power	1 d	10/9	10/9		FAC
262	**Survey, Align, and Map**	**9 d**	**10/1**	**10/11**		**Align**
263	G6 - G10	9 d	10/1	10/11		Align
264	**SPEAR - OTHER PROJECTS**	**98 d?**	**7/8**	**11/19**		
266	**East Pit I&C Room**	**77 d**	**8/5**	**11/19**		**Martin**
267	Relocate buss as necessary for posts and beams	3 d	10/1	10/3		
268	Install structural steel support posts and beams	5 d	8/5	8/9		
269	Install Steel Floor	6 d	11/12	11/19	268	
270	**West Pit I&C Room**	**5 d**	**9/6**	**9/12**		**Martin**
271	Install steel floor & level with 7" thick concrete slabs	5 d	9/6	9/12	165	
272	**Electrical**	**62 d**	**7/16**	**10/9**		**EDM**
273	Kicker clean, replace tube & meter and test.	2 d	9/9	9/10		EDM/Wachter
274	SP 2 BPM system - inspect and possible cable repair.	3 d	7/26	7/30		EDM/Wachter
275	Meakers (Spikes) - inspect electrical/water	3 d	7/22	7/24		PCD/MSG
276	B118 Power Supplies - clean/replace air filters	3 d	10/7	10/9		EDM/Taylor
277	B118 Power Supplies - check/replace rubber hoses	4 d	7/16	7/19		MSG
278	**Cable removal**	**5 d**	**7/29**	**8/2**		**PCD**
279	B118/East Pit/B131, BL1 area	5 d	7/29	8/2		PCD,Baltazar
280	**Magnets and LCW**	**12 d**	**8/1**	**8/16**		
281	Install SP3 Klystron LCW branch/valves	8 d	8/7	8/16		Nzeadibe
282	Replace Bypass Valve and Controls	5 d	8/1	8/7		MSG
283	**Mechanical**	**68 d**	**7/15**	**10/16**		
284	Install shadow masks/4 blocks	5 d	10/7	10/11		MSG
285	Stack Pb in new Bend Mag Aclcove	2 d	10/15	10/16		MSG
286	Complete Pb stacking in BL5 alcove transverse wall	0 d	10/15	10/15	506	
289	Replace LCW return valve	5 d	7/29	8/2		MSG/Nzeadibe
290	Test controls dry	1 d	8/5	8/5	289	
291	**Insertion Devices**	**59 d**	**7/15**	**10/3**		
292	**BL11**	**40 d**	**7/24**	**9/17**		



SPEAR SHUTDOWN - 2002

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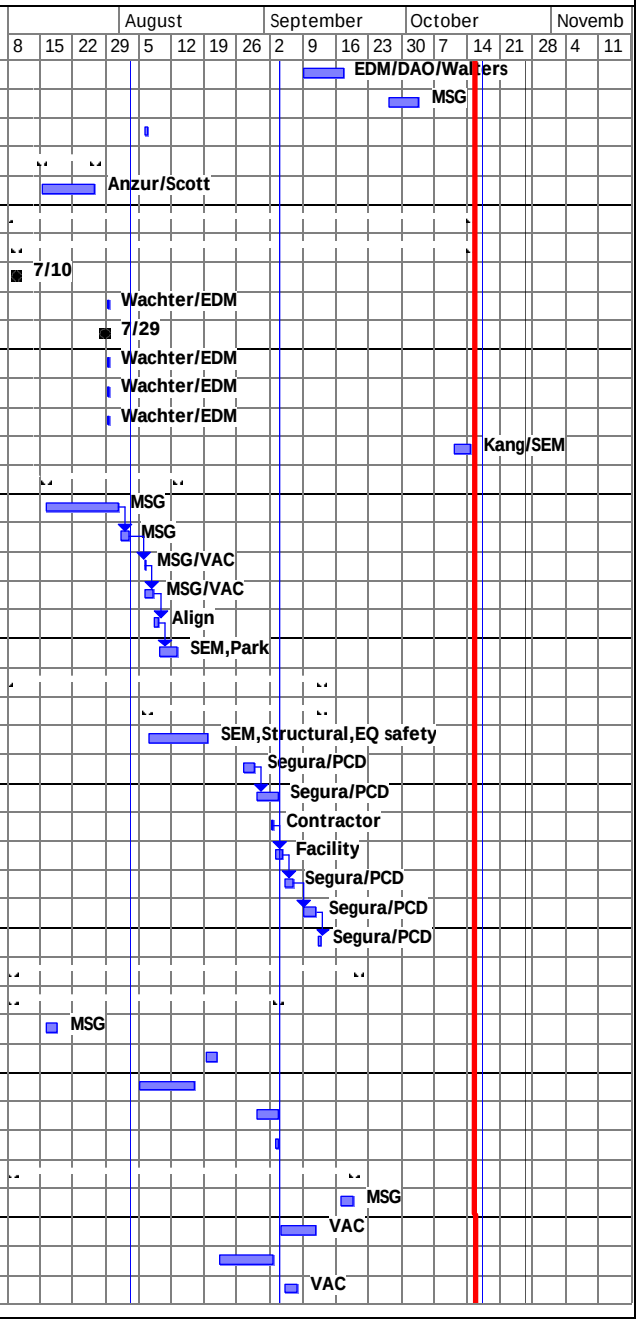
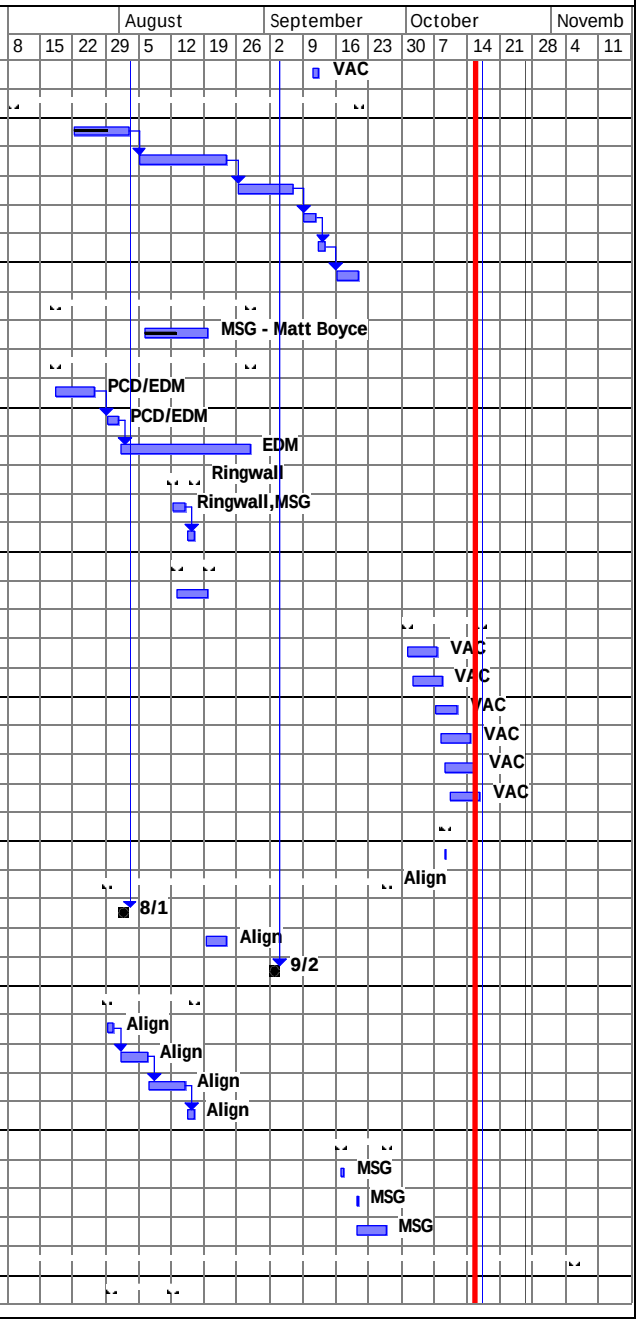
294	Install new controls - BL11	7 d	9/9	9/17		EDM/DAO/Walters
295	Insertion Device Checkouts	5 d	9/27	10/3		MSG
296	Torque n/s wiggler buss	1 d	8/6	8/6		
297	**SPEAR3 Modifications to BL6,9,10**	**10 d**	**7/15**	**7/26**		
298	Mechanical Review/Design	10 d	7/15	7/26		Anzur/Scott
299	**RF**	**72 d?**	**7/8**	**10/14**		
300	**SPEAR RF**	**70 d**	**7/10**	**10/14**		**Park**
301	Cover the 10S11 WG flange under the trestle	0 d	7/10	7/10		MSG
302	Clean 8S9 HV Box	1 d	7/29	7/29		Wachter/EDM
303	Lube 8S9 cavity tuner shafts	0 d	7/29	7/29		MSG
304	Check 8S9 filter capacitor (HV Box)	1 d	7/29	7/29		Wachter/EDM
305	Check 8S9 pulse transformer (HV Box)	1 d	7/29	7/29		Wachter/EDM
306	Clean 8S9 rack air filters	1 d	7/29	7/29		Wachter/EDM
308	Service 8S9 VVT & AC Switchgear	2 d	10/11	10/14		Kang/SEM
309	**10S11 RF Cavity Removal (add wheels on it)**	**20.44 d**	**7/16**	**8/13**		**Nzeadibe**
310	Fab Cavity remover	12 d	7/16	7/31		MSG
311	Dis-connect waveguide & LCW	2 d	8/1	8/2	310	MSG
312	Remove RF Cavity	0.44 d	8/6	8/6	311	MSG/VAC
313	Install Drift Section and inter-connect to G9	2 d	8/6	8/8	312	MSG/VAC
314	Align drift section	1 d	8/8	8/9	313	Align
315	Interconnect G11 bellows	2 d	8/9	8/13	314	SEM,Park
316	**Remove 10S11 RFHVPS**	**50 d?**	**7/8**	**9/12**		
336	**Move the Spear3 PS at IR8 & install it in Bldg 514**	**27.17 d**	**8/6**	**9/12**		**Contractor B/PCD**
337	Inspect 10S11 PS pad;determine adequate install Spear3 PS	8.92 d	8/6	8/19		SEM,Structural,EQ safety
338	Fill the tank with dry nitrogen while draining the oil into tw	3 d	8/27	8/29		Segura/PCD
339	When oil drained out, pull vacuum on the transformer tank	3 d	8/30	9/3	338	Segura/PCD
340	Move the PS to Bldg 514;position it	1 d	9/2	9/2		Contractor
341	Weld the supporting I-beams (part of PS) to embedded stee	2 d	9/3	9/4	340	Facility
342	Pump in the oil from the two tankers to the power supply	2 d	9/5	9/6	341	Segura/PCD
343	Pull vacuum on the PS tank for 3 days	3 d	9/9	9/11	342	Segura/PCD
344	Connect nitrogen gas line to the PS	1 d	9/12	9/12	343	Segura/PCD
345	**Beam Line Front Ends:**	**55 d**	**7/9**	**9/20**		
346	**BL1-0 Valve Upgrade**	**42 d**	**7/9**	**9/3**		
348	Install valve control panel	3 d	7/16	7/18		MSG
349	Remove components (valves, M0 chamber)	3 d	8/19	8/21		
350	Rec., qc, assy, bakeout new components	10 d	8/5	8/16		
351	Install replacement components, align	3 d	8/30	9/3		
352	Pumpdown BL1 (BeWin)	1 d	9/3	9/3		
355	**BL2-0 Valve upgrade project**	**54 d**	**7/9**	**9/19**		**Wiertel**
357	Install valve control panel	3 d	9/17	9/19		MSG
358	Remove components (valves, spool)	6 d	9/4	9/11		VAC
359	Rec., qc, assy, bakeout new components	8 d	8/22	9/2		
360	Install replacement components, align	2 d	9/5	9/7		VAC



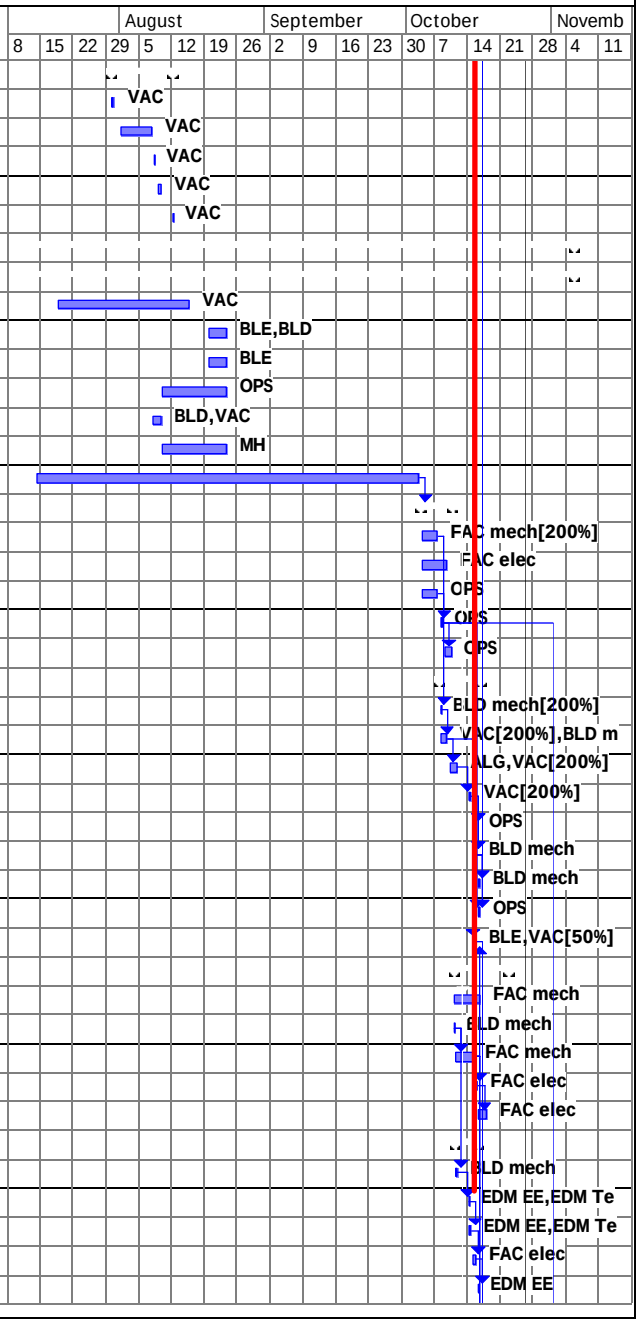
SPEAR SHUTDOWN - 2002

ID	Task Name	Duration	Start	Finish	Prede	Resource Names
361	Pumpdown BL2	1.5 d	9/11	9/12		VAC
362	**BL1 & 2 + Control Room**	**55 d**	**7/9**	**9/20**		**Horton**
367	pull old cables	10 d	7/22	8/2	366	
368	reterminate cables	15 d	8/5	8/23	367	
369	install new cables	10 d	8/26	9/6	368	
370	install photohelics	3 d	9/9	9/11	369	
371	plumb pneumatics	2 d	9/12	9/13	370	
372	test controls	5 d	9/16	9/20	371	
373	**SP 3**	**30 d**	**7/18**	**8/28**		
374	Renumber Wall and Roof Block	10 d	8/6	8/19		MSG - Matt Boyce
375	**Label Cables to keep - ID,controls,INC**	**30 d**	**7/18**	**8/28**		**EDM**
376	Produce & test labels	7 d	7/18	7/26		PCD/EDM
377	Review	3 d	7/29	7/31	376	PCD/EDM
378	Identify and label cables	20 d	8/1	8/28	377	EDM
379	**Synchrotron Light Monitor**	**5 d**	**8/12**	**8/16**		**Ringwall**
380	Core Drill BL1 Alcove Wall	3 d	8/12	8/14		Ringwall,MSG
381	Plug with concrete	2 d	8/15	8/16	380	
382	**Cable Plant**	**5 d**	**8/13**	**8/19**		
383	Cut Cable Penetration in north arc Shielding Block 13	5 d	8/13	8/19		
384	**Pumpdown Ring**	**12 d**	**10/1**	**10/16**		**VAC**
385	Quad 1	5 d	10/1	10/7		VAC
386	Quad 2	5 d	10/2	10/8		VAC
387	Quad 3	5 d	10/7	10/11		VAC
388	Quad 4	5 d	10/8	10/14		VAC
389	West Straight	5 d	10/9	10/15		VAC
390	East Straight	5 d	10/10	10/16		VAC
391	**Startup Checkouts**	**0.5 d**	**10/9**	**10/9**		
392	Check Klystron IP trip	0.5 d	10/9	10/9		
401	**Survey and Align**	**44 d**	**7/29**	**9/26**		**Align**
402	Remove BTS Shielding wall	0 d	8/1	8/1	144	rigg/msg
403	Survey magnets/monuments from Bldg 130 to BTS to Booster Ring	5 d	8/19	8/23		Align
404	Install BTS Shielding wall	0 d	9/2	9/2	145	rigg/msg
405	**Network SSRL to Ring**	**15 d**	**7/29**	**8/16**		**Align**
406	Survey Quadrant 1 (BL11)	2 d	7/29	7/30		Align
407	Survey Quadrant 2 (BL3,4,5,6)	4 d	8/1	8/6	406	Align
408	Survey Quadrant 3 (BL 9,8,10,7,2)	6 d	8/7	8/14	407	Align
409	Survey Quadrant 4 (BL 1)	2 d	8/15	8/16	408	Align
410	**LCW Turn On**	**8 d**	**9/17**	**9/26**		
411	Injector LCW turn on	1 d	9/17	9/17		MSG
412	SPEAR LCW Turn On	1 d	9/20	9/20		MSG
413	LCW flow checks	5 d	9/20	9/26		MSG
414	**OTHER BEAM LINE PROJECTS**	**208 d?**	**1/21**	**11/5**		
415	**Beam Line 3**	**9.5 d**	**7/30**	**8/12**		



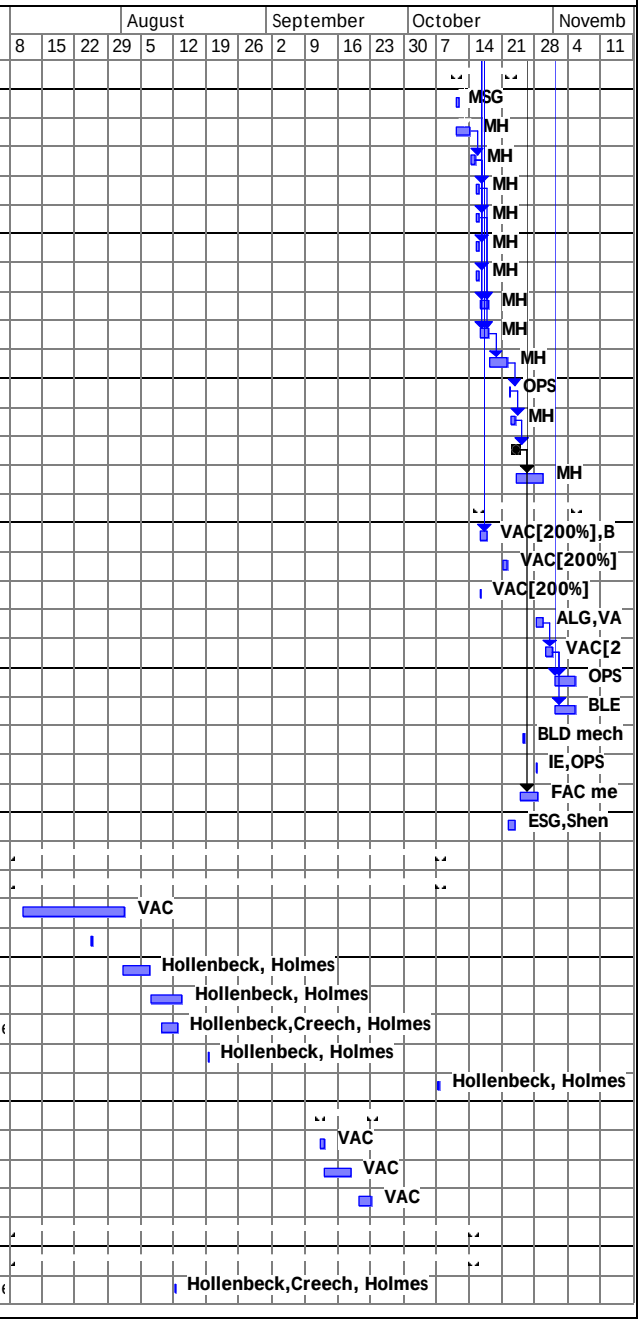
SPEAR SHUTDOWN - 2002

ID	Task Name	Duration	Start	Finish	Predec	Resource Names
416	**BL3-3 maintenance**	**9.5 d**	**7/30**	**8/12**		**VAC**
417	Receive, QC filters, holders	1 d	7/30	7/30		VAC
418	Bakeout filters, holders	5 d	8/1	8/7		VAC
419	Vent BL3-3	0.5 d	8/8	8/8		VAC
420	Replace 3-3 crystal (w In/Sb) and filters	1 d	8/9	8/9		VAC
421	Pumpdown BL3-3	0.5 d	8/12	8/12		VAC
422	**Beam Line 5**	**208 d**	**1/21**	**11/5**		
423	**BL5 Alcove Project**	**208 d**	**1/21**	**11/5**		
487	build up new 5-0 vacuum components onto support structure	20 d	7/18	8/15		VAC
488	motorize BPM aperture	4 d	8/19	8/23		BLE,BLD
489	build driver for BPM aperture motor	4 d	8/19	8/23		BLE
490	build up LCW flow switch panels, in/out alcove	10 d	8/9	8/23		OPS
491	Mount out-of-alcove components on support	2 d	8/7	8/9		BLD,VAC
492	build up new PPS/MPS panels	10 d	8/9	8/23		MH
493	**Conventional Construction**	**60 d**	**7/14**	**10/3**		
494	***End of conventional construction***	***5 d***	***10/4***	***10/10***	***493***	
495	remove protection BL & ring	2 d	10/4	10/7		FAC mech[200%]
496	install new AC feed panels	4 d	10/4	10/9		FAC elec
497	install LCW manifold & flow switches	2 d	10/4	10/7		OPS
498	plumb LCW to transverse wall	1 d	10/8	10/8	497	OPS
499	plumb pneumatics- out-of-alcove	2 d	10/9	10/10	498	OPS
500	**in-alcove vacuum hardware & shielding install**	**7 d**	**10/8**	**10/16**		
501	install supports	4 h	10/8	10/8	495	BLD mech[200%]
502	install in-alcove vacuum components	1.5 d	10/8	10/9	501	VAC[200%],BLD mech
503	align in-alcove components & test	2 d	10/10	10/11	502	ALG,VAC[200%]
504	pump down and leak check	1 d	10/14	10/14	503	VAC[200%]
505	plumb pneumatics in-alcove	1 d	10/15	10/15	504	OPS
506	stack Pb & poly in transverse wall	1 d	10/15	10/15	504	BLD mech
507	support and stack Pb in wing walls	1 d	10/16	10/16	506	BLD mech
508	plumb LCW to in-alcove hardware	1 d	10/16	10/16	498,50	OPS
509	pull cables to in-alcove hardware	4 h	10/15	10/15	502,51	BLE,VAC[50%]
510	**controls & cabling**	**7.75 d**	**10/11**	**10/22**		
511	re-mount cable tray to wall above shielding & lay cables in i	4 d	10/11	10/16	494	FAC mech
512	re-install BL5-0 rack	4 h	10/11	10/11	494	BLD mech
513	new trays to BL5 control rack & in to alcove	2 d	10/11	10/15	512	FAC mech
514	AC power to 5-0 rack	1 d	10/15	10/16	513	FAC elec
515	install AC for BSOIC's.	2 d	10/16	10/18	514	FAC elec
516	**Re-Install Rack/Chassis/Cables**	**3 d**	**10/11**	**10/16**		
517	Install ID control rack	4 h	10/11	10/11	512	BLD mech
518	Install chassis	4 h	10/14	10/14	517	EDM EE,EDM Tech
519	Re-connect cables	4 h	10/14	10/14	518	EDM EE,EDM Tech
520	AC power to ID rack	1 d	10/15	10/15	519	FAC elec
521	check outs ID controls	4 h	10/16	10/16	520	EDM EE



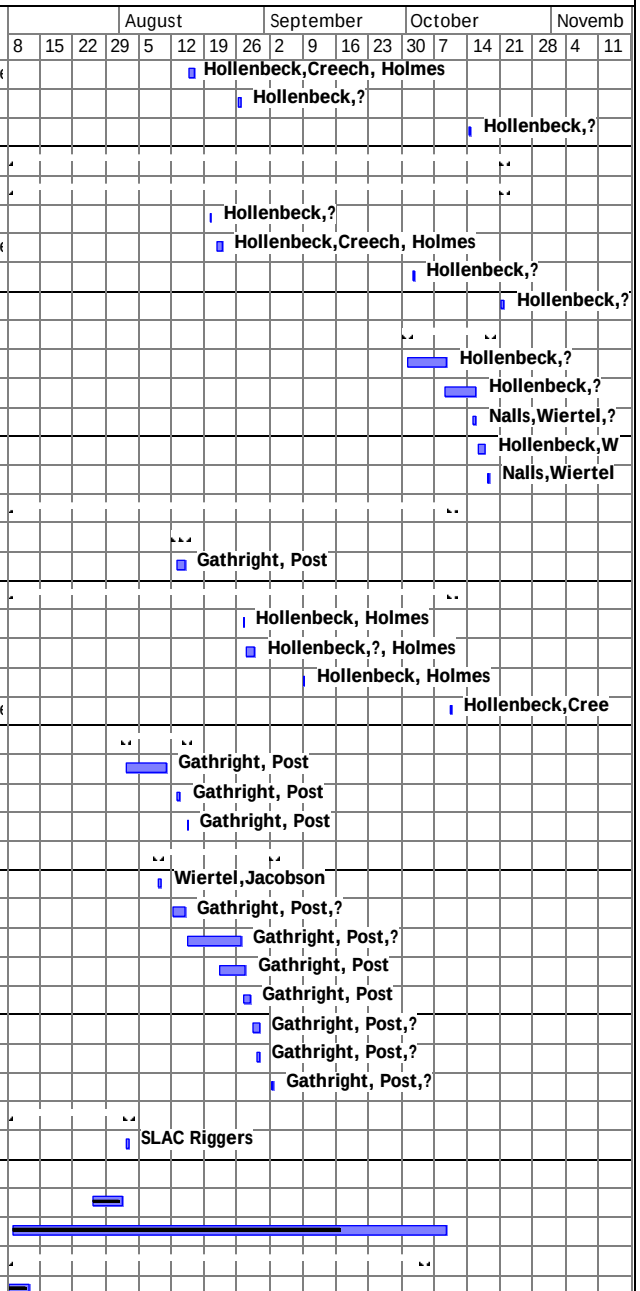
SPEAR SHUTDOWN - 2002

ID	Task Name	Duration	Start	Finish	Predec	Resource Names
522	**re-install PPS & MPS systems**	**7.75 d**	**10/11**	**10/22**		
523	install door latches	1 d	10/11	10/11	494	MSG
524	SPEAR PPS Trunks	1.5 d	10/11	10/14	494	MH
525	Presets&Doors	1 d	10/14	10/15	524	MH
526	PPS JB	1 d	10/15	10/16	525	MH
527	LCW JB	1 d	10/15	10/16	525	MH
528	PR1 JB	1 d	10/15	10/16	525	MH
529	pnuematic JB	1 d	10/15	10/16	525	MH
530	PPS Cables	2 d	10/16	10/18	513,52	MH
531	MPS Cables	2 d	10/16	10/18	513,52	MH
532	Test Systems	2 d	10/18	10/22	531	MH
533	close rolling block door	2 h	10/22	10/22	532	OPS
534	functional test SPEAR systems	1 d	10/22	10/23	533	MH
535	SPEAR startup	0 d	10/23	10/23	534	
536	PPS re-certification	4 d	10/23	10/29	535	MH
537	**install out-of-alcove vacuum components**	**15 d**	**10/16**	**11/5**		
538	install support frame with components	2 d	10/16	10/17	509	VAC[200%],BLD mech
539	re-install 5-4 M0 mirror and drift tube	1.5 d	10/21	10/22		VAC[200%]
540	connect components	4 h	10/16	10/16		VAC[200%]
541	align out-of-alcove vacuum components	2 d	10/28	10/29		ALG,VAC[200%]
542	pump down and leak check	2 d	10/30	10/31	541	VAC[200%]
543	plumb LCW to out-of-alcove components	3 d	11/1	11/5	498,54	OPS
544	re-cable out-of-alcove components	3 d	11/1	11/5	542	BLE
545	re-install collimator and bremsstrahlung stop	1 d	10/25	10/25		BLD mech
546	BLA BL5 and close out RWCF	0.5 d	10/28	10/28		IE,OPS
547	re-install ductwork	2 d	10/24	10/28	535FS-	FAC mech
548	re-instal Scienta system	2 d	10/22	10/23		ESG,Shen
550	**Beam Line 6**	**67 d?**	**7/8**	**10/7**		
551	**BL6-2 LN Mono maintenance**	**67 d?**	**7/8**	**10/7**		
552	Inspect/rebuild damaged components	17 d	7/10	8/1		VAC
554	Test Vacuum jacket (line 6-2)	1 d	7/25	7/25		
556	Install 6-2 Multilayer crystals	3.75 d	8/1	8/6		Hollenbeck, Holmes
557	Repair 6-2 LN Mono spindle leak	4.75 d	8/7	8/13		Hollenbeck, Holmes
558	Upgrade 6-2 X-tal change drive mechanism	1.25 d	8/9	8/12		Hollenbeck,Creech, Holme
559	Pumpdown BL6-2 (to 6-2 IV1)	0.5 d	8/19	8/19		Hollenbeck, Holmes
560	Chill 6-2 LN Mono after pumpdown	1 d?	10/7	10/7		Hollenbeck, Holmes
561	**BL6-1 component removals (SP3 prep) ??**	**7.5 d**	**9/12**	**9/23**		**VAC**
562	Vent 6-0	1.5 d	9/12	9/13		VAC
563	Remove 6-1components (prep for SP3?)	4 d	9/13	9/18		VAC
564	Pumpdown BL6-0	1.5 d	9/20	9/23		VAC
565	**Beam Line 9**	**72 d?**	**7/8**	**10/14**		
566	**BL9-3 LN Mono maintenance**	**72 d?**	**7/8**	**10/14**		
568	Vent 9-3 LN Mono	0.5 d	8/12	8/12		Hollenbeck,Creech, Holme



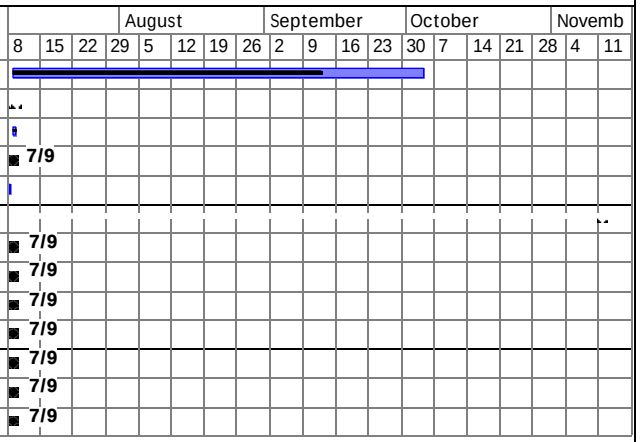
SPEAR SHUTDOWN - 2002

ID	Task Name	Duration	Start	Finish	Predec	Resource Names
569	Upgrade 9-3 X-tal change drive mechanism	1.25 d	8/15	8/16		Hollenbeck,Creech, Holme
570	Pumpdown 9-3 LN Mono	1 d?	8/26	8/26		Hollenbeck,?
571	Chill 9-3 LN Mono after pumpdown	1 d?	10/14	10/14		Hollenbeck,?
572	**Beam Line 10**	**77 d?**	**7/8**	**10/21**		
573	**BL10-2 LN Mono maintenance**	**77 d?**	**7/8**	**10/21**		
575	Vent BL10-2	0.5 d	8/20	8/20		Hollenbeck,?
576	Upgrade 10-2 X-tal change drive mechanism	1.25 d	8/21	8/22		Hollenbeck,Creech, Holme
577	Pumpdown BL10-2	1 d?	10/2	10/2		Hollenbeck,?
578	Chill 10-2 LN Mono after pumpdown	1 d?	10/21	10/21		Hollenbeck,?
579	**BL10-2 M0 mirror repl. (SP3 1.2m)**	**14 d?**	**10/1**	**10/18**		
580	Fabricate new M0 chamber, QC, initial bakeout	6.75 d?	10/1	10/9		Hollenbeck,?
581	Install new M0 into chamber, final bakeout	4.75 d	10/9	10/15		Hollenbeck,?
582	Vent BL10 (thru 10-2 IV1?)	1 d	10/15	10/15		Nalls,Wiertel,?
583	Install 10-2 M0 chamber onto BL, align	2 d	10/16	10/17		Hollenbeck,Wiertel
584	Pumpdown BL10	1 d	10/18	10/18		Nalls,Wiertel,?
585	**Beam Line 11**	**70 d?**	**7/8**	**10/10**		
586	**BL11-1 LN Mono maintenance**	**1.75 d**	**8/13**	**8/14**		
587	Remove / replace Mono crystal	1.75 d	8/13	8/14		Gathright, Post
588	**BL11-2 LN Mono maintenance**	**70 d?**	**7/8**	**10/10**		
590	Vent 11-2 LN Mono	0.5 d	8/27	8/27		Hollenbeck, Holmes
591	Upgrade 11-2 X-tal change drive mech	2 d	8/27	8/29		Hollenbeck,?, Holmes
592	Pumpdown 11-2 LN Mono	0.5 d	9/9	9/9		Hollenbeck, Holmes
593	Chill 11-2 LN Mono after pumpdown	1 d	10/10	10/10		Hollenbeck,Creech, Holme
594	**BL11-1 / 11-2 Graphite foils**	**9.5 d**	**8/2**	**8/15**		
595	Bake 11-1, 11-2 Graphite foil assemblies	6 d	8/2	8/10		Gathright, Post
596	Install assy's in 11-1 / 11-2 online chambers	1 d	8/13	8/13		Gathright, Post
597	Align foils during 11-3 completion	0.5 d	8/15	8/15		Gathright, Post
598	**BL11-3 completion (install optics)**	**17 d?**	**8/9**	**9/2**		
599	Vent BL11-0	1 d?	8/9	8/9		Wiertel,Jacobson
600	Modify 11-3 M0 chamber support frame	3 d	8/12	8/14		Gathright, Post,?
601	Install Mono, aperture/Gr. ass'y, align	7.75 d?	8/15	8/26		Gathright, Post,?
602	Install 11-3 M0 chamber/ align	3.75 d?	8/22	8/27		Gathright, Post
603	Install 11-3 hutch stoppers	2 d	8/27	8/28		Gathright, Post
604	Install drift spools, BeWin, etc.	2 d	8/29	8/30		Gathright, Post,?
605	Align remaining 11-3 components	1 d	8/30	8/30		Gathright, Post,?
606	Pumpdown BL11-0	1 d	9/2	9/2		Gathright, Post,?
608	**SEM Tracking**	**21 d**	**7/8**	**8/2**		
610	Remove BTS roof blocks (2=18,000 lbs each) (#024833)	1 d	8/2	8/2		SLAC Riggers
611	**RSWCF**	**212 d?**	**1/21**	**11/11**		
612	K-3 XK5 Klystron Replacement	5 d	7/26	8/1		
615	BL 1 wall block removal and replacement	68 d	7/9	10/9		
617	**10S11 Waveguide Removal**	**66 d?**	**7/8**	**10/4**		
619	remove 10S11 waveguide	5 d?	7/8	7/12		



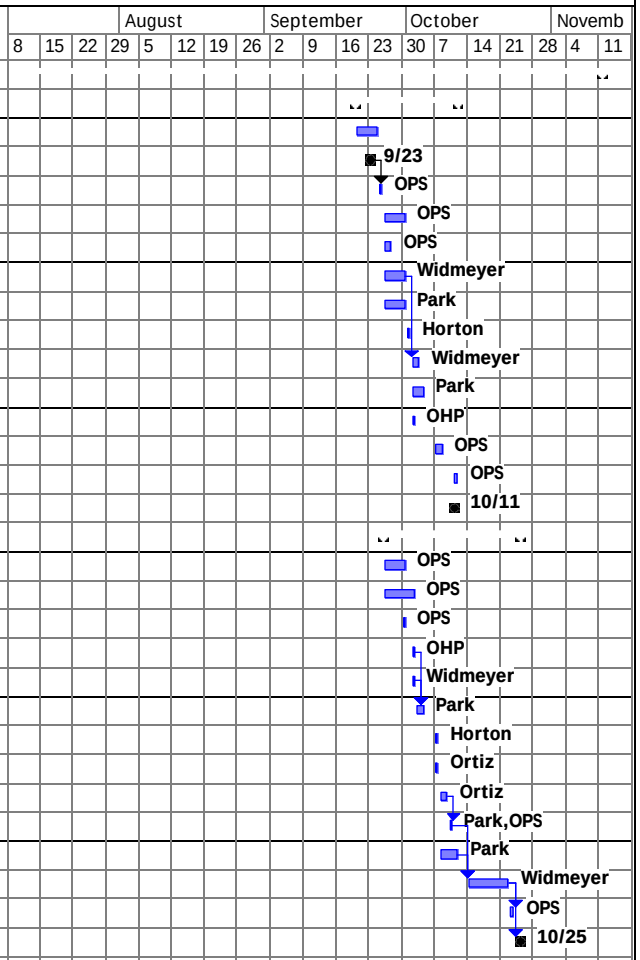
SPEAR SHUTDOWN - 2002

ID	Task Name	Duration	Start	Finish	Predec	Resource Names
620	replace with required shielding thickness in 24"x28" hole	65 d?	7/9	10/4		
621	**Install shielding in new East pit cable tray**	**1 d**	**7/9**	**7/9**		
622	cover lead with aluminum plate on both sides of shielding	1 d	7/9	7/9		
623	install new East pit shadow mask (4 walls)	0 d	7/9	7/9		
624	Install shielding in new south bend magnet alcove wall	1 d?	7/8	7/8		
625	**BLPPS**	**212 d?**	**1/21**	**11/11**		
626	BL1PPS	0 d	7/9	7/9		
627	BL2PPS	0 d	7/9	7/9		
628	BL7PPS	0 d	7/9	7/9		
629	BL8PPS	0 d	7/9	7/9		
630	BL9PPS	0 d	7/9	7/9		
631	BL11PPS	0 d	7/9	7/9		
632	Booster	0 d	7/9	7/9		



SPEAR SHUTDOWN - 2002

ID	Task Name	Duration	Start	Finish	Predec	Resource Names
635	**Accelerator Startup 2002**	**212 d?**	**1/21**	**11/11**		
636	**LINAC & LTB**	**16 d**	**9/20**	**10/11**		
637	LCW ON	3 d	9/20	9/24		
638	Provide Linac and Booster BAS.	0 d	9/23	9/23		Evans
639	BAS Checks.	1 d	9/25	9/25	638FS-	OPS
640	ACM pre-checks (No Beam)	3 d	9/26	9/30		OPS
641	Pre-run Checks	2 d	9/26	9/27		OPS
642	Prepare PS's for PPS Cert.	3 d	9/26	9/30		Widmeyer
643	Prepare RF for PPS Cert.	3 d	9/26	9/30		Park
644	PPS Certification	1 d	10/1	10/1		Horton
645	PS's Interlock Checks	2 d	10/2	10/3	642	Widmeyer
646	S-Band System Interlock Checks	3 d	10/2	10/4		Park
647	BSOIC's Checks	1 d	10/2	10/2		OHP
648	Process Linac (Beam)	2 d	10/7	10/8		OPS
649	ACM Cert. (with beam)	1 d	10/11	10/11		OPS
650	BEAM to Booster	0 d	10/11	10/11		Haggart
651	**BOOSTER & BTS**	**21 d?**	**9/26**	**10/25**		
652	BAS Checks	3 d	9/26	9/30		OPS
653	Pre-run Checks	5 d	9/26	10/2		OPS
654	BCS (BSOIC's) Checks	1 d?	9/30	9/30		OPS
655	Prepare PSs for PPS Cert.	1 d	10/2	10/2		OHP
656	Prepare RF for PPS Cert	1 d	10/2	10/2		Widmeyer
657	PPS Certification	2 d	10/3	10/4	655,65	Park
658	Heat and Smoke detectors test	1 d	10/7	10/7		Horton
659	Kicker Tests	1 d	10/7	10/7		Ortiz
660	358 RF interlock Tests	2 d	10/8	10/9		Ortiz
661	358 RF Processing	1 d	10/10	10/10	660	Park,OPS
662	PS's Interlock and Power Tests	4 d	10/8	10/11		Park
663	Establish Booster Beam	7 d	10/14	10/22	661,66	Widmeyer
664	Injector Rad. Measurments	1 d	10/23	10/23	663	OPS
665	Beam to SPEAR	0 d	10/25	10/25	663	OHP
667	**SPEAR**	**203 d?**	**1/21**	**10/29**		
668	LCW ON (10/1)	4 d	10/1	10/4		OPS
669	Provide SPEAR BAS	0 d	9/30	9/30		Ernst
670	BCS (BSOIC's) Checks	1 d	10/4	10/4		Evans,OPS
671	Perform BAS Checks	3 d	10/7	10/9		OHP
672	Beam Line Pre-Run Checks	5 d	10/7	10/11	668	OPS
673	Kicker Tests	1 d	10/14	10/14		Kerr
674	Beam Line PPS Checks	5 d	10/7	10/11		Wachter
675	SPEAR Pre-run Checks	5 d	10/14	10/18		Horton
676	Magnet Polarity Checks	1.5 d	10/16	10/17		OPS,Nzeadibe
677	Ring Lock Up	0 d	10/16	10/16		Kerr
678	BLA System Hardware Checks	2 d	10/17	10/18		OPS



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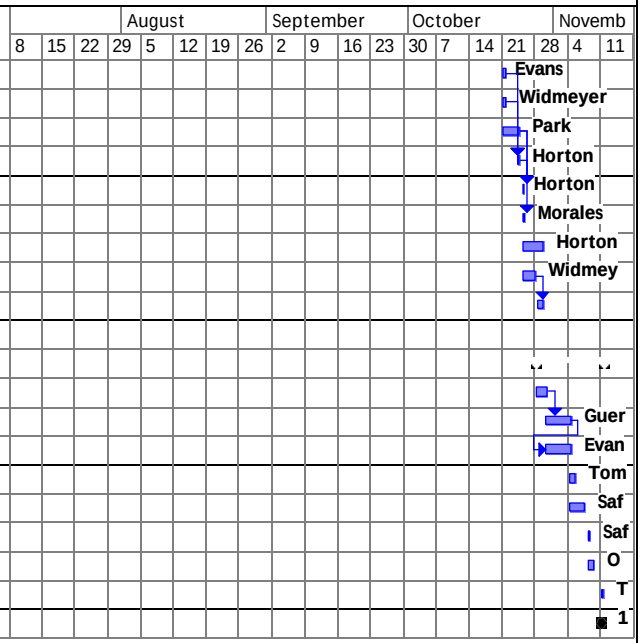
ID	Task Name	Duration	Start	Finish	Predec	Resource Names
679	Prepare PSs for PPS Cert.	1 d	10/21	10/21		Evans
680	Prepare RF for PPS Cert.	1 d	10/21	10/21		Widmeyer
681	PPS Certification	4 d	10/21	10/24		Park
682	PS and RF PPS Cert.	1 d	10/24	10/24	679,68	Horton
683	DIPS On (6am-10am)	4 h	10/25	10/25	681,68	Horton
684	Global PPS Certification (10am-2pm	1 d	10/25	10/25	681	Morales
685	PS's Intlk & Pwr tests	3 d	10/25	10/29		Horton
686	RF Intlk. checks & Tests	1.5 d	10/25	10/28		Widmeyer
687	RF Processing	1.5 d	10/28	10/29	686	
688		1 d?	1/21	1/21		Park
689	**CONFIG. DEVELOPMENT**	**11 d**	**10/28**	**11/11**		
690	Inj. and 3 GeV Config development	3 d	10/28	10/30		
691	BLA Checks, Radiation Surveys	4 d	10/30	11/4	690FS-	Guerra/Ops
692	Prepare BL's for Steering	4 d	10/30	11/4	691FS-	Evans
693	Quad Shunt Char.	2 d	11/4	11/5		Tompkins
694	Steer BL's	4 d	11/4	11/7		Safranek
695	Radiation Measurements	1 d	11/8	11/8		Safranek/Tompkins
696	Prepare BL's for Users	1 d	11/8	11/9		OHP
697	Final checks and Scrub	1 d	11/11	11/11		Tompkins
698	Beam To Users	0 d	11/11	11/11		OPS