

DO Upgrade Schedule
Split Silicon Option - Draft

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
0	DO Upgrade Schedule	2028 d	2/2/93	2/15/01		As S		
1	Rollout/disassembly	64 w	2/27/96	6/6/97		Start		
2	PLATFORM PREPARATION	50.8 w	2/3/97	2/11/98		As S		
3	Remove obsolete equipment/cables	32 w	2/3/97	9/17/97		Start		MTF100[3]
4	Enlarge CF cable notches	4 w	6/2/97	6/27/97		Start		MTF100[0.3]
5	Refurbish platform	30 w	6/30/97	2/11/98	4	As Sc		MTF100,ETF100
6								
7	SOLENOID SYSTEM	180.2 w	10/3/94	4/28/98		As S		
8	Cryo System Development	168 w	10/3/94	2/2/98		As S		
9	Building addition construction	52 w	7/3/95	7/8/96		Must		MEF310[0.2],DesF310[0.2]
10	Cryo system design	114.4 w	10/3/94	1/2/97		Start		MEF310[1.1],DesF310,MTF310[0.5]
11	Cryo system fab/installation	47 w	6/19/96	5/30/97	10FS-26 w	As Sc		MEF310,DesF310[0.5],MTF310[4]
12	Develop control system	46 w	7/1/96	6/4/97		Start		MTF310[0.5]
13	Fab/install control dewar platforms	13.6 w	10/15/97	2/2/98		Start		MTF310[3],MEF310[0.1]
14	Refrigeration system test	4 w	6/9/97	7/7/97	11	Start		MEF310[2],MTF310[3]
15	Power/quench protection development	90 w	1/15/96	10/27/97		Start		MEF310[0.1],EEF310[0.7],MTF310[0.5],ETF310[0.75],DesF310[0.1],PhysF310[0.1]
16	Cryo/electrical system documentation	16 w	1/7/98	4/28/98		Start		PhysF310,MEF310[0.2],EEF310[0.2]
17	Magnet fabrication	111 w	3/8/95	5/15/97		Finis		MEF310[0.8],PhysF310[2]
18	M1-Solenoid Delivered to Fermilab	0 w	5/12/97	5/12/97	17	As S		
19	Magnet preparation	4 w	5/12/97	6/9/97	18	As Sc		MEF310[0.25],MTF310[0.5]
20								
21	CENTRAL PRESHOWER	222.2 w	11/6/95	5/2/00		As S		
22	Central Preshower Fabrication	222.2 w	11/6/95	5/2/00		As S		
23	Conceptual design	10 w	11/7/95	1/19/96		Start		PhysU113[2]
24	Design Report	0 w	1/15/96	1/15/96		Start		
25	TDR Review	0 w	4/6/96	4/6/96		Start		
26	Engineering/Design	44 w	4/8/96	2/26/97	25	As Sc		MEF113[0.2],DesF113
27	FY96 UM MOU	0.42 w	11/6/95	11/8/95		As Sc	1.1.3.f	k\$[0.2],k\$[0.02]
28	Scintillator	42 w	11/6/95	9/3/96		As S		PhysU113[0.5]
29	Procure scintillating materials	14 w	11/6/95	2/15/96		Start	1.1.3.a	k\$[0.09]
30	Procure die	11 w	3/12/96	5/28/96		Start	1.1.3.2	k\$[0.11]
31	Compounding	2 w	6/3/96	6/14/96		Start		
32	Extrusion run	4 w	6/17/96	7/15/96	30,31	As Sc	1.1.3.2	Stud113,k\$[0.16]
33	Strip wrapping	9 w	7/1/96	9/3/96	32SS+2 w	As Sc	1.1.3.3	MTF113,Stud113,k\$[0.1]
34	Scintillating strips ready	0 w	9/3/96	9/3/96	33	As S		
35	Fibers and Connectors	87.8 w	3/1/96	12/1/97		As S		PhysU113[0.5]
36	Procure fibers	10 w	3/1/96	5/9/96		Start	1.1.3.4	k\$[0.25]
37	Cut, polishing and silvering	19 w	5/17/96	10/1/96	36FS+1 w	As Sc	1.1.3.4	MTF113[0.2],k\$[0.05]
38	Fibers ready	0 w	10/1/96	10/1/96	37	As S		
39	Connector R&D and design	13 w	4/15/96	7/16/96		Start		MEU113[0.4],MTU113[0.2],MEF113[0.05]
40	Connector manufacture	4 w	7/31/96	8/27/96	39FS+2 w	As Sc		MEU113[0.2],MTU113
41	First FY97 UIC MOU	1.4 w	10/1/96	10/9/96		Start	1.1.3.4	k\$[0.21]
42	Fiber/connector assembly jig	16 w	12/9/96	4/9/97	25FS-10 w	As Sc	1.1.3.4	DesF113[0.5],k\$[0.02]
43	Fiber/Connector Assembly	21 w	7/1/97	11/26/97	42FS-6 w	Finis	1.1.3.4	MTF113,k\$[0.03]
44	Second FY97 UIC MOU	0.19 w	8/29/97	8/29/97		Start	1.1.3.f	k\$[0.02]
45	Fiber/Connector assembly complete	0 w	12/1/97	12/1/97	44	As S		
46	Detector Modules	197.4 w	1/2/96	12/17/99		As S		PhysU113[2]
47	Fab slumping press	12 w	10/24/96	1/29/97	24FS-16 w	As Sc	1.1.3.f	MTF113,MTU113[0.5],k\$[0.17]
48	Heat form scintillating strips	8 w	3/6/97	4/30/97	47FS+5 w	As Sc		MTF113[0.5],MTU113[0.5]
49	Fab assembly tables	12 w	10/24/96	1/29/97	24FS-16 w	As Sc	1.1.3.f	MTF113[0.5],MEF113[0.05],MTU113[0.5],k\$[0.13]
50	Procure module skins	12 w	12/9/96	3/12/97	24FS-10 w	As Sc	1.1.3.f	k\$[0.28]
51	Fab mounting blocks	15 w	5/15/97	8/29/97	24FS-10 w	As Sc	1.1.3.4	MEF113[0.1],MTU113[0.25],k\$[0.11]
52	Fab storage containers	12 w	12/2/96	3/5/97	26FS-10 w	Start	1.1.3.f	MTF113[0.25],MTU113[0.1],k\$[0.03]
53	Procure blue LEDs	4 w	12/16/96	1/22/97	24FS-9 w	As Sc		
54	Fab LED systems	21 w	1/2/97	5/29/97	53FS-3 w	As Sc		MTU113
55	Prepare Construction Facility	47 w	1/2/96	12/2/96	26FS-9 w	Start	1.1.3.f	Stud113[2],k\$[0.14]
56	Construction of the first modules	4 w	5/21/97	6/18/97	48SS+2 w,49,50SS+8 w,51SS+8 w,42SS+4	As Sc	1.1.3.f	MTU113,Stud113[2],k\$[0.01]
57	M3-First Central Preshower Module Complete	0 w	6/18/97	6/18/97	56SS+4 w	As S		
58	Full Module Production	19 w	8/1/97	12/16/97	56	As Sc	1.1.3.f	MTU113,Stud113[2],k\$[0.16]
59	Transportation to Fermilab	17.5 w	8/15/97	12/19/97	58SS+2 w	As Sc	1.1.3.f	MTU113[0.1],MTF113[0.1],k\$[0.01]
60	Test Modules at DAB	6 w	1/5/98	2/13/98		Start		PhysU113[3],MTF113[0.25]
61	M2-Central Preshower Module Fabrication Complete	0 w	12/16/97	12/16/97	58	As S		
62	Fabricate clear fiber waveguides	13 w	9/16/99	12/17/99		Start		
63	Calibration system	20 w	12/1/99	5/2/00		As S		PhysU113[0.5]
64	Fab LED cable and control system	20 w	12/1/99	5/2/00		Start		
65	Fab temperature monitor system	20 w	12/1/99	5/2/00		Start		
66	Calibration system ready	0 w	5/2/00	5/2/00	64,65	As S		
67	Install Central Preshower	29.2 w	10/15/97	5/21/98		As S		
68	Procure lead pre-radiator	7 w	10/15/97	12/4/97		Start	1.1.3.f	k\$[0.02]
69	Fabricate mounting hardware	4.6 w	3/1/98	4/1/98		Start	1.1.3.f	MEF113[0.1],MTF113[0.1],k\$[0.04]
70	Install mounting hardware and lead	5.6 w	4/2/98	5/11/98	68,69	As Sc		MEF113[0.1],MTF113

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71	Install detector modules	1.6 w	5/12/98	5/21/98	70,60FS-2 w	As Sc		MEF113[0.1],MTF113,PhysU113[0.5]
72	M2-Central Preshower Installed on Solenoid	0 w	5/21/98	5/21/98	71	As S		
73								
74	SOLENOID INSTALLATION AND TEST	100.2 w	9/22/97	10/1/99		As S		
75	Design magnet installation eqpt.	18.8 w	9/22/97	2/13/98		Start		MEF310[0.5],DesF310[0.7]
76	Fab installation equipment	12 w	11/17/97	2/23/98		Start		MEF310[0.2],MTF310[2]
77	Install, hookup, and test magnet	70.6 w	5/1/98	10/1/99		As S		
78	Pre-install Installation Fixturing and Support Feet	2 w	5/22/98	6/5/98	72,76	As Sc		MTF310
79	Insert Solenoid into CC and Survey	3 w	6/8/98	6/26/98	78	As Sc		MTF310,MEF310[0.2]
80	Prefit Chimney and SS Vacuum Pipe	1 w	6/29/98	7/6/98	79	As Sc		MTF310,MEF310[0.5]
81	Fix Chimney Position	1 w	7/7/98	7/13/98	80	As Sc		MEF310[0.2],MTF310[0.5]
82	Begin Installation	0 w	7/13/98	7/13/98	81	As S		
83	Splice Leads, Re-insulate Vacuum, Close Up	3 w	7/14/98	8/3/98	82	As Sc		MEF310[0.2],MTF310[0.2]
84	Perform Leak Checks	2 w	8/4/98	8/17/98	83	As Sc		MTF310[2]
85	Cooldown Refrigerator	3 d	8/25/98	8/27/98	84	As Sc		MEF310,MTF310[1.5]
86	Safety Review and Approval	8.2 w	7/14/98	9/9/98	83FF	As Sc		MEF310[0.1]
87	Controls	9.5 w	5/27/98	8/3/98		As S		
88	Install Controls Rack in Platform (electrical power)	2 w	5/27/98	6/10/98	92SS+50 %	As Sc		MTF310[0.5]
89	Run Cable to Instrumentation Port	5 w	6/29/98	8/3/98	79	As Sc		MTF310[0.5]
90	Install Control Lines to Control Dewar	6 w	6/22/98	8/3/98	88	As Sc		MTF310[0.5]
91	Control Dewar, Cryo and Vacuum	12.8 w	5/1/98	7/31/98		As S		
92	Install VLPC Transfer Line and Vacuum Work	7 w	5/1/98	6/19/98		Start		
93	Solenoid U Tubes	5 w	5/1/98	6/5/98		Start		MTF310
94	Drafting for Lead Flow Jumpers	2 w	5/28/98	6/10/98		Start		DesF310,MEF310[0.2]
95	Procure Lead Flow Jumper Parts	6 w	5/21/98	7/2/98		Start		
96	Fabricate and Install Lead Flow Jumper; Modify Frost-proof Box	3 w	7/6/98	7/24/98	94,95	As Sc		MTF310[1.2]
97	Toshiba Checkout of Control Dewar	1 w	7/27/98	7/31/98	96	As Sc		MEF310[0.2],PhysF310[0.5]
98	Electrical	4 w	6/1/98	6/26/98		As S		
99	Buss Extension; Flexible Jumpers	4 w	6/1/98	6/26/98		Start		EEF310[0.2]
100	Perform Cold Test	1.2 w	9/1/98	9/9/98	85,86,89,90,93,97,99	As Sc		MEF310,MTF310[0.25],PhysF310[0.2]
101	Cold Test Completed	0 w	9/9/98	9/9/98	100	As S		
102	Install ICD Iron	4.8 w	6/21/99	7/23/99		Start		MTF310[2]
103	Install B-Field Measuring Apparatus	3 w	1/4/99	1/22/99	102,1385	As Sc		MTF310,PhysF310
104	Close Central Iron	3 w	1/25/99	2/12/99	102,103	As Sc		MTF310[0.5]
105	Begin Commissioning	0 w	9/9/98	9/9/98	101,104	As S		
106	High Current Testing	3 w	9/10/98	9/30/98	105	As Sc		PhysF310,EEF310[0.5],ETF310
107	M1-Solenoid Installed and Tested	0 w	9/30/98	9/30/98	106	As S		
108	Perform Field Mapping	38.4 w	1/4/99	10/1/99	107	Start		PhysF310,ETF310[0.2],MTF310[0.2]
109	Field Mapping Complete	0 w	10/1/99	10/1/99	108	As S		
110								
111	FIBER TRACKER FABRICATION	254.4 w	7/3/95	8/11/00		As S		
112	Tracker Engineering Design	105 w	1/2/96	2/11/98		As S		
113	Define Layer Structure	18 w	1/2/96	5/6/96		Start		
114	Develop Mechanical Support Conceptual Design	18 w	5/7/96	9/12/96	113	As Sc		MEF112,DesF112[0.25]
115	Develop Engineering Detail and Final Specifications	69 w	9/13/96	2/11/98	114	As Sc		MEF112[0.5],DesF112,PhysF112
116	Engineering Design Complete	0 w	2/11/98	2/11/98	115	As S		
117	M3-Fiber Tracker TDR Submitted	0 w	1/8/98	1/8/98	116FS-5 w	Start		
118	Ribbon/Waveguide Connector Fabrication	97.3 w	2/12/98	2/4/00		As S		
119	Perform R&D for Connector	24 w	2/12/98	7/31/98	115	Start		MTF112[0.1],DesF112[0.25],MEF112[0.25],PhysU112[0.5]
120	Test Connector	36 w	3/12/98	11/23/98	119SS+4 w	As Sc		MTU112[0.25],MEU112[0.25],PhysU112[0.2]
121	Connector Designed	0 w	11/23/98	11/23/98	116,120	As S		
122	Connector Production	57.3 w	11/24/98	2/4/00		As S	1.1.2.2	k\$[1.75],kSc[0.34]
123	Produce Connectors- Cylinder 3 (Torlon)	8 w	11/24/98	2/3/99	121	As Sc		MTF112[0.5],MEF112[0.25]
124	Produce Connectors- Cylinder 8 (Torlon)	10 w	3/25/99	6/3/99	123FS+7 w	As Sc		MTF112[0.4],MEF112[0.4]
125	Produce Connectors- Cylinder 7 (Torlon)	9 w	6/4/99	8/6/99	124	As Sc		MTF112[0.4],MEF112[0.4]
126	Generate Drawings for connectors - Cylinders 6,5,4,2, and 1	6 w	6/4/99	7/16/99	124	As Sc		DesF112
127	Connector Decision	0 w	9/21/99	9/21/99		Start		
128	Produce Connectors 8 Stereo (Aluminum)	2.5 w	9/21/99	10/7/99	127	As Sc		MTF112[0.5],MEF112[0.5]
129	Produce Connectors 7	3 w	10/7/99	10/28/99	128	As Sc		MTF112[0.5],MEF112[0.5]
130	Produce Connectors 6	3 w	10/28/99	11/18/99	129	As Sc		MTF112[0.5],MEF112[0.5]
131	Produce Connectors 5	2 w	11/18/99	12/6/99	130	As Sc		MTF112[0.5],MEF112[0.5]
132	Produce Connectors 4	1 w	12/6/99	12/13/99	131	As Sc		MTF112[0.5],MEF112[0.5]
133	Produce Connectors 3	0.5 w	2/2/00	2/4/00	132	Start		MTF112[0.5],MEF112[0.5]
134	Produce Connectors 2	0.5 w	12/16/99	1/3/00	133	As Sc		MTF112[0.5],MEF112[0.5]
135	Produce Connectors 1	0.5 w	1/3/00	1/5/00	134	As Sc		MTF112[0.5],MEF112[0.5]
136	Connectorization Tooling	52.6 w	11/24/98	1/3/00		As S		
137	Design Tooling	4 w	11/24/98	1/6/99	121	As Sc		MEF112[0.5]
138	Fabricate Axial B3 Prototype Tooling	4 w	1/7/99	2/3/99	137	As Sc		MEF112[0.1]
139	Fabricate Stereo B3 Prototype Tooling	4 w	2/4/99	3/3/99	138	As Sc		MEF112[0.1]
140	Debug Connectorization Tooling	7.2 w	2/17/99	4/7/99	122SS+4 w,139	As Sc		MTF112,MEF112[0.15]
141	Modify Connectorization design	1 w	9/21/99	9/27/99	127	As Sc		MEF112[0.5]

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142	Procure Full Connectorization Tooling Set	12.6 w	9/21/99	1/3/00		As S	1.1.2.2	k\$[0.4],k\$c[0.04]
143	Procure 8 axial tooling	1 w	9/21/99	9/27/99	127	As Sc		MEF112[0.1]
144	Procure Cylinder 8 Stereo, 7, and 6 Tooling	1.5 w	9/28/99	10/7/99	143	As Sc		MEF112[0.2]
145	Generate Drawings for connector tooling - Cylinders 1-5	2 w	9/28/99	10/11/99	143	As Sc		DesF112
146	Procure Cylinders 1-5 Tooling	8 w	10/22/99	1/3/00	145	As Sc		MEF112[0.1]
147	Fiber Procurement	234 w	7/3/95	3/20/00		As S		
148	Perform Fiber R&D	63 w	7/3/95	9/24/96		Start		PhysU112[0.25]
149	Submit Fiber Orders	10 w	9/25/96	12/5/96	148	As Sc	1.1.2.3	k\$[9.22],k\$c[0.92]
150	Procure Waveguide Fiber	98.2 w	3/3/97	2/26/99		Start		
151	Procure Scintillating Fiber	29.6 w	2/3/97	8/29/97		Start		
152	Perform Scintillating Fiber QC	36 w	8/3/98	4/28/99		Start		PhysU112[0.15],MTU112[0.15]
153	Procure Additional Scintillating Fiber-FY99	21.2 w	10/7/99	3/20/00		As S	1.1.2.3	k\$[1.13],k\$c[0.11]
154	Delivery - 12,000 canes	1 d	10/7/99	10/7/99		Start		
155	Fiber Aluminization	5.2 w	10/8/99	11/12/99	154	As Sc		PhysF112[0.2]
156	Delivery - 8,000 canes	0.2 w	12/13/99	12/13/99		Start		
157	Fiber Aluminization	2 w	12/14/99	1/10/00	156	As Sc		PhysF112[0.2]
158	Delivery - 8,000 canes	0.2 w	1/4/00	1/4/00		Start		
159	Fiber Aluminization	2 w	1/5/00	1/18/00	158	As Sc		PhysF112[0.2]
160	Delivery - 8,000 canes	0.2 w	2/14/00	2/14/00		Start		
161	Fiber Aluminization	2 w	2/15/00	2/28/00	160	As Sc		PhysF112[0.2]
162	Delivery - 9,000 canes	0.2 w	3/6/00	3/6/00		Start		
163	Fiber Aluminization	2 w	3/7/00	3/20/00	162	As Sc		PhysF112[0.2]
164	Cylinder Procurement	127.6 w	8/3/97	3/10/00		As S		
165	Perform Cylinder R&D	52 w	8/3/97	8/20/98		Start		MTF112[0.5],MEF112[0.5],PhysF112[0.5]
166	Integrate Design- Connectors/Ribbons	4 w	11/24/98	1/6/99	121,165	As Sc		DesF112,PhysF112[0.5]
167	Final Cylinder Engineering Design	0 w	1/6/99	1/6/99	166	As S		
168	Procure Cylinder Parts	30.2 w	8/21/98	4/7/99		As S		
169	Procure Carbon Fiber	20 w	8/21/98	1/26/99	165	As Sc	1.1.2.7	k\$[0.88],k\$c[0.13]
170	Procure Mandrels and Perform QC	30.2 w	8/21/98	4/7/99		As S		
171	Mandrel 3	4 w	8/21/98	9/18/98	165	As Sc		
172	Mandrel 7	7 w	1/7/99	2/24/99	167	As Sc		MTF112[0.15],PhysF112[0.1]
173	Mandrel 8	2 w	2/25/99	3/10/99	172	As Sc		MTF112[0.15],PhysF112[0.1],CMM112[0.2]
174	Mandrel 6	2 w	3/11/99	3/24/99	173	As Sc		PhysF112[0.1],CMM112[0.2],MTF112[0.15]
175	Mandrel 5	2 w	3/11/99	3/24/99	173	As Sc		PhysF112[0.1],CMM112[0.2],MTF112[0.15]
176	Mandrel 4	2 w	3/25/99	4/7/99	175	As Sc		PhysF112[0.1],MTF112[0.15],CMM112[0.2]
177	Mandrel 2	2 w	3/25/99	4/7/99	175	As Sc		PhysF112[0.1],MTF112[0.15],CMM112[0.2]
178	Mandrel 1	2 w	3/25/99	4/7/99	175	As Sc	1.1.2.7	PhysF112[0.1],MTF112[0.15],CMM112[0.2],k\$[0.68],k\$c[0.1]
179	Fabricate Cylinders and Bands	52.3 w	11/2/98	11/23/99		As S		
180	Cylinders 3A B	14 w	11/2/98	2/23/99	169SS+10 w,171	As Sc	1.1.2.7	MTF112,PhysF112[0.5],MEF112[0.25],k\$[0.18],k\$c[0.03]
181	Cylinder 6	4 w	3/25/99	4/21/99	174	As Sc	1.1.2.7	MTF112[3],PhysF112[0.5],CMM112[0.2],k\$[0.43],k\$c[0.06],MEF112[0.2]
182	Cylinder 8 AB	3 w	4/22/99	5/12/99	181	As Sc		MTF112[3],PhysF112[0.5],CMM112[0.3],MEF112[0.2]
183	Cylinder 7 AB	9 w	5/13/99	7/16/99	182	As Sc		MTF112[3],PhysF112[0.5],CMM112[0.2],MEF112[0.2]
184	Cylinder 2	2 w	7/19/99	7/30/99	183	As Sc		MTF112[3],PhysF112[0.5],CMM112[0.25],MEF112[0.2]
185	Cylinder 4	3.5 w	9/21/99	10/14/99	127	As Sc		MTF112[3],PhysF112[0.5],CMM112[0.2],MEF112[0.2]
186	Cylinder 7 C	1 w	10/7/99	10/14/99	185FS-1 w	As Sc		MTF112[3],PhysF112[0.5],CMM112[0.2],MEF112[0.2]
187	Cylinder 5	1 w	10/14/99	10/21/99	186	Start		MTF112[3],PhysF112[0.5],CMM112[0.2],MEF112[0.2]
188	Cylinder 3C	3 w	10/26/99	11/16/99	187FS+3 d	As Sc		MTF112[3],PhysF112[0.5],CMM112[0.25],MEF112[0.2]
189	Cylinder 1	1 w	11/16/99	11/23/99	188	As Sc		MTF112[3],PhysF112[0.5],CMM112[0.25],MEF112[0.2]
190	Fabricate End Rings, AI support disks, and QC	52.8 w	1/7/99	2/1/00		As S		
191	Specify End Ring Material	2 w	1/7/99	1/20/99	167	As Sc		MEF112[0.25]
192	Procure End Ring Material	7 w	1/21/99	3/10/99	191	As Sc	1.1.2.7	k\$[0.73],k\$c[0.14]
193	End Rings- 3A	4 w	2/18/99	3/17/99	192SS+4 w	As Sc		MTF112[0.25]
194	Finalize End Ring-Disk interface design	5 w	3/18/99	4/21/99	193	As Sc		MEF112[0.5],MTF112[0.2],DesF112
195	Cylinder 3B ER&D	4 w	4/15/99	5/12/99	180,193FS+4 w	As Sc		CMM112[0.1]
196	Cylinder 8 ER&D	2 w	9/21/99	10/4/99	127	As Sc		CMM112[0.1]
197	Cylinder 7 ER&D	4 w	10/5/99	11/1/99	196	As Sc		CMM112[0.1]
198	Cylinder 6 ER&D	9 d	11/2/99	11/12/99	181,197	As Sc		CMM112[0.1]
199	Cylinder 5 ER&D	5 w	11/15/99	1/4/00	198	As Sc		CMM112[0.1]
200	Cylinder 4 ER&D	1 w	1/5/00	1/11/00	199	As Sc		CMM112[0.1]
201	Cylinder 3C ER&D	1 w	1/12/00	1/18/00	188,200	As Sc		CMM112[0.1]
202	Cylinder 2 ER&D	1 w	1/19/00	1/25/00	201	As Sc		CMM112[0.1]
203	Cylinder 1 ER&D	1 w	1/26/00	2/1/00	202	As Sc		CMM112[0.1]
204	Cylinder QC	13.4 w	10/5/99	1/21/00		As S		
205	QC Cylinder 8	2 d	10/5/99	10/6/99	182,196	As Sc		CMM112
206	QC Cylinder 7	2 d	11/2/99	11/3/99	186,197	As Sc		CMM112
207	QC Cylinder 6	2 d	11/15/99	11/16/99	181,198	As Sc		CMM112
208	QC Cylinder 5	2 d	1/5/00	1/6/00	187,199	As Sc		CMM112
209	QC Cylinder 4	2 d	1/12/00	1/13/00	185,200	As Sc		CMM112
210	QC Cylinder 3C	2 d	1/19/00	1/20/00	188,201	As Sc		CMM112
211	QC Cylinder 2	3 d	11/11/99	11/15/99	184,202	As Sc		CMM112
212	QC Cylinder 1	3 d	1/19/00	1/21/00	189,203	As Sc		CMM112

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
213	Mate End Rings to Cylinders	39.4 w	5/20/99	3/10/00		As S		
214	Cylinder 3B	1 w	5/20/99	5/27/99	180,195FS+1 w	As Sc		MTF112,PhysF112[0.25],CMM112[0.5],MEF112[0.2]
215	Cylinder 8	1 w	10/25/99	10/29/99	205	Start		PhysF112[0.25],MTF112,CMM112[0.5],MEF112[0.2]
216	Cylinder 7	1 w	11/18/99	11/24/99	206	Start		PhysF112[0.25],MTF112,CMM112[0.5],MEF112[0.2]
217	Cylinder 6	1 w	11/17/99	11/23/99	207	As Sc		PhysF112[0.25],MTF112,CMM112[0.5],MEF112[0.2]
218	Cylinder 5	1 w	1/7/00	1/13/00	208	As Sc		PhysF112[0.25],MTF112,CMM112[0.5],MEF112[0.2]
219	Cylinder 4	1 w	1/14/00	1/20/00	209	As Sc		PhysF112[0.25],MTF112,CMM112[0.5],MEF112[0.2]
220	Cylinder 3C	1 w	2/21/00	2/25/00	210	Start		PhysF112[0.25],MTF112,CMM112[0.5],MEF112[0.2]
221	Cylinder 2	1 w	2/28/00	3/3/00	211,202,220	As Sc		PhysF112[0.25],MTF112,CMM112[0.5],MEF112[0.2]
222	Cylinder 1	1 w	3/6/00	3/10/00	212,221	As Sc		PhysF112[0.25],MTF112,CMM112[0.5],MEF112[0.2]
223	Ribbon Production	156.7 w	1/2/97	3/6/00		As S		
224	Perform Ribbon R&D	75 w	1/2/97	7/1/98		Start		MTF112[0.5],MEF112
225	Design Ribbon Tooling	12 w	9/16/97	12/10/97		As Sc		DesF112[2],MEF112[0.25]
226	Final Ribbon Design	0 w	11/23/98	11/23/98	121,225	As S		
227	Procure Positioning Devices	0.42 w	9/2/97	9/4/97		Start	1.1.2.2	k\$[0.23],k\$c[0.02]
228	Procure Ribbon Tooling	75.3 w	8/3/98	2/18/00		As S		
229	Fabricate Aluminum Backbones	35 w	8/3/98	4/21/99	119	As Sc	1.1.2.2	MEF112[0.1],k\$[0.52],k\$c[0.05]
230	Align/Setup Thermwood	8 w	3/18/99	5/12/99		Start	1.1.2.2	k\$[0.3],k\$c[0.03]
231	3B Axial Setup and Alignment	1 w	5/13/99	5/19/99	229FS-12 w,230	As Sc		MTF112,MEF112[0.5],DesF112[0.5]
232	3B Stereo Setup and Alignment	1 w	5/20/99	5/27/99	231	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
233	8 Axial Setup and Alignment	1 w	7/12/99	7/16/99	232FS+6 w	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
234	8 Stereo Setup and Alignment	0.8 w	8/7/99	8/12/99	233FS+3 w	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
235	6 Axial Setup and Alignment	0.8 w	8/13/99	8/18/99	302	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
236	6 Stereo Setup and Alignment	1 w	10/18/99	10/22/99	261	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
237	7 Axial Setup and Alignment	3 d	9/27/99	9/29/99	257FS+3 d	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
238	7 Stereo Setup and Alignment	4 d	9/15/99	9/20/99	255FS+2 w	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
239	5 Axial Setup and Alignment	4 d	11/8/99	11/11/99	264	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
240	5 Stereo Setup and Alignment	4 d	11/8/99	11/11/99	259	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
241	4 Axial Setup and Alignment	4 d	12/7/99	12/10/99	266	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
242	4 Stereo Setup and Alignment	4 d	1/5/00	1/10/00	268	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
243	3 Axial Setup and Alignment	4 d	2/14/00	2/18/00	270	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
244	3 Stereo Setup and Alignment	4 d	2/10/00	2/15/00	272	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
245	2 Axial Setup and Alignment	4 d	10/6/99	10/11/99		Start		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
246	2 Stereo Setup and Alignment	9 d	10/12/99	10/22/99	245	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
247	1 Axial Setup and Alignment	4 d	1/7/00	1/12/00	278FS+4 w	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
248	1 Stereo Setup and Alignment	4 d	1/7/00	1/12/00	280	As Sc		MTF112[0.5],MEF112[0.5],CMM112,DesF112[0.5]
249	Ribbon Fabrication, Connectorization, and QC	37.5 w	5/28/99	3/6/00		As S	1.1.2.2	k\$[0.33],k\$c[0.03]
250	Cylinder 3B	4 w	5/28/99	6/24/99	123,140,231FS+1 w	As Sc		MTF112[5.5],MEF112[0.5],PhysF112[0.5]
251	Cylinder 8 A 1	10 d	9/21/99	10/4/99	127,233FS+1 w,250	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
252	Connectorize 8 A 1	8 d	9/30/99	10/11/99	143FS+2 d,251SS+2 d	As Sc		MTF112
253	Cylinder 8 A 2	8 d	10/20/99	10/29/99	305	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
254	Connectorize 8 A 2	8 d	10/22/99	11/2/99	143,253FF+2 d	As Sc		MTF112
255	Cylinder 8 S	2.4 w	8/13/99	8/30/99	234	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
256	Connectorize 8 S	3 w	10/7/99	10/28/99	128,255FF+1 w	As Sc		MTF112
257	Cylinder 6 A	4.6 w	8/19/99	9/21/99	235	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
258	Connectorize 6 A	12 d	11/18/99	12/8/99	130,144,257SS+1 w	As Sc		MTF112
259	Cylinder 6 S	2 w	10/25/99	11/5/99	155SS+1 w,236	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
260	Connectorize 6 S	3 w	11/18/99	12/13/99	130,259SS+4 d	As Sc		MTF112
261	Cylinder 7 A	12 d	9/30/99	10/15/99	125,237	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
262	Connectorize 7 A	3 w	10/28/99	11/18/99	129,144,261SS+2 d	As Sc		MTF112
263	Cylinder 7 S 1	10 d	10/5/99	10/18/99	238,251	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
264	Cylinder 7 S 2	1 w	11/1/99	11/5/99	253,263	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
265	Connectorize 7 S	20 d	11/4/99	12/6/99	129FS+1 w,263SS+2 d	As Sc		MTF112
266	Cylinder 5 A	3 w	11/12/99	12/6/99	155SS+1 w,239	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
267	Connectorize 5 A	2 w	11/23/99	12/9/99	131SS+3 d,266SS+2 d	As Sc		MTF112
268	Cylinder 5 S	2 w	1/7/00	1/20/00	157SS+1 w,240,280	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
269	Connectorize 5 S	3 w	1/11/00	1/31/00	131,268SS+2 d	As Sc		MTF112
270	Cylinder 4 A	2.5 w	1/27/00	2/14/00	159SS+1 w,241,282	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
271	Connectorize 4 A	1.9 w	2/3/00	2/16/00	132SS+2 d,146SS+2 w,270FF+3 d	As Sc		MTF112
272	Cylinder 4 S	2 w	1/27/00	2/9/00	159SS+1 w,242	Start		MTF112[3],MEF112[0.25],PhysF112[0.25]
273	Connectorize 4 S	2 w	2/1/00	2/14/00	132,146,272FF+3 d	As Sc		MTF112
274	Cylinder 3C A	1.5 w	2/22/00	3/2/00	161SS+1 w,243	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
275	Connectorize 3C A	1.5 w	2/24/00	3/6/00	133SS+2 d,146,274SS+2 d	As Sc		MTF112
276	Cylinder 3C S	1.5 w	2/22/00	3/2/00	161SS+1 w,244,284	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
277	Connectorize 3C S	1.5 w	2/24/00	3/6/00	133,146,276SS+2 d	As Sc		MTF112
278	Cylinder 2 A	2 w	11/10/99	11/23/99	245,264	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
279	Connectorize 2 A	1 w	1/26/00	2/1/00	134,278SS+2 d	Start		MTF112
280	Cylinder 2 S	4 w	11/24/99	1/6/00	246,278	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
281	Connectorize 2 S	1 w	2/2/00	2/8/00	134,146,280FF+3 d,279	As Sc		MTF112
282	Cylinder 1 A	8 d	2/2/00	2/11/00	247,280	Start		MTF112[3],MEF112[0.25],PhysF112[0.25]
283	Connectorize 1 A	8 d	2/4/00	2/15/00	135,146,282SS+2 d	As Sc		MTF112

DO Upgrade Schedule
Split Silicon Option - Draft

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
284	Cylinder 1 S	2 w	1/21/00	2/3/00	248,268	As Sc		MTF112[3],MEF112[0.25],PhysF112[0.25]
285	Connectorize 1 S	8 d	1/25/00	2/3/00	135,146,284SS+2 d	As Sc		MTF112
286	M3-Fiber Tracker Ribbon Fabrication Begun	0 w	5/28/99	5/28/99	249SS	As S		
287	M3-Fiber Tracker Ribbon Fabrication 50% Complete	0 w	11/5/99	11/5/99	249SS+64 %	As S		
288	M3-Fiber Tracker Ribbon Fabrication Complete	0 w	3/6/00	3/6/00	249	As S		
289	Ribbon Mounting	122.4 w	11/3/97	5/3/00		As S		
290	Perform Mounting R&D	8 w	11/3/97	1/12/98		Start		MEF112,PhysF112
291	Finalize Tooling Design	20 w	11/3/97	4/6/98	290SS	As Sc		MEF112[0.5],DesF112
292	Finalize Mounting Procedures	0 w	1/6/99	1/6/99	166,291	As S		
293	Setup Mounting Facility-CMM	4 w	6/1/98	6/26/98	115	Start		MEF112[0.2],MTF112[0.25],DesF112[0.4],PhysF112[0.25]
294	Procure and Fabricate Mounting Machine Parts	19 w	4/7/98	8/19/98	291	As Sc	1.1.2.2	MEF112[0.5],DesF112,k[0.9],k\$c[0.18]
295	Perform Mounting Machine Final Assembly	3 w	8/20/98	9/10/98	294	Start		ETF112,MTF112[0.5],MEF112[0.5]
296	Perform Mounting Machine Final Setup and Test	5 w	9/11/98	10/15/98	293,295	As Sc		ETF112,MTF112,MEF112[0.5]
297	Debug Ribbon Mounting Procedures	20 w	1/7/99	5/27/99		As S		
298	Debug Ribbon Mounting Procedures - 6" Cylinder	8 w	1/7/99	3/3/99	292,296	As Sc		MTF112,MEF112[0.5],PhysF112
299	Mounting Machine Final Setup	1 w	3/4/99	3/10/99	298	As Sc		
300	Debug Ribbon Mounting Procedures - 3A	6 w	4/15/99	5/27/99	299FS+5 w	As Sc		MTF112,MEF112[0.5],PhysF112
301	Mount Ribbons	38 w	7/26/99	5/3/00		As S		
302	Cylinder 3B A	2.8 w	7/26/99	8/12/99	214,250SS+50 %,300FS+8 w	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
303	Cylinder 3B Stereo alignment	2 d	8/13/99	8/16/99	302	As Sc		CMM112,PhysF112
304	Cylinder 3B S	2.6 w	8/17/99	9/2/99	303	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
305	Cylinder 8 Glue Tests	8 d	10/8/99	10/19/99	304FS+24 d	As Sc		MEF112,PhysF112[0.5]
306	Mold Setup 8A	3 d	9/21/99	9/23/99	127	As Sc		CMM112,MTF112[0.5]
307	MM Align 8A	9 d	11/1/99	11/11/99	215,253,305,306	As Sc		CMM112,PhysF112
308	Mount 8 A	12 d	11/12/99	12/1/99	253,307	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
309	Mold Setup 8 S	3 d	9/21/99	9/23/99	127	As Sc		CMM112,MTF112[0.5]
310	MM Align 8 S	1 d	12/2/99	12/2/99	308,309	As Sc		CMM112,PhysF112
311	Mount 8 S	7 d	12/3/99	12/13/99	255,308,310	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
312	Mold Setup 7A	3 d	12/2/99	12/6/99	261,308	As Sc		CMM112,MTF112[0.5]
313	MM Align 7 A	2 d	12/14/99	12/15/99	216,311,312	As Sc		CMM112,PhysF112
314	Mount 7 A	7 d	12/16/99	1/7/00	313	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
315	Mold Setup 7 S	3 d	12/14/99	12/16/99	264,311	As Sc		CMM112,MTF112[0.5]
316	MM Align 7 S	1 d	1/10/00	1/10/00	314,315	As Sc		CMM112,PhysF112
317	Mount 7 S	2 w	1/11/00	1/24/00	316	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
318	Mold Setup 6 A	3 d	1/10/00	1/12/00	257,314	As Sc		CMM112,MTF112[0.5]
319	MM Align 6 A	2 d	1/25/00	1/26/00	217,317,318	As Sc		CMM112,PhysF112
320	Mount 6 A	6 d	1/27/00	2/3/00	319	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
321	Mold Setup 6 S	3 d	1/25/00	1/27/00	259,317	As Sc		CMM112,MTF112[0.5]
322	MM Align 6 S	1 d	2/4/00	2/4/00	320,321	As Sc		CMM112,PhysF112
323	Mount 6 S	6 d	2/7/00	2/14/00	322	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
324	Mold Setup 5 A	3 d	2/4/00	2/8/00	266,320	As Sc		CMM112,MTF112[0.5]
325	MM Align 5 A	2 d	2/15/00	2/16/00	218,323,324	As Sc		CMM112,PhysF112
326	Mount 5 A	5 d	2/17/00	2/23/00	325	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
327	Mold Setup 5 S	3 d	2/15/00	2/17/00	268,323	As Sc		CMM112,MTF112[0.5]
328	MM Align 5 S	1 d	2/24/00	2/24/00	326,327	As Sc		CMM112,PhysF112
329	Mount 5 S	5 d	2/25/00	3/2/00	328	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
330	Mold Setup 4 A	3 d	2/24/00	2/28/00	270,326	As Sc		CMM112,MTF112[0.5]
331	MM Align 4 A	2 d	3/3/00	3/6/00	219,329,330	As Sc		CMM112,PhysF112
332	Mount 4 A	5 d	3/7/00	3/13/00	331	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
333	Mold Setup 4 S	3 d	3/3/00	3/7/00	329	As Sc		CMM112,MTF112[0.5]
334	MM Align 4 S	1 d	3/14/00	3/14/00	332,333	As Sc		CMM112,PhysF112
335	Mount 4 S	4 d	3/15/00	3/20/00	272,334	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
336	Mold Setup 3C A	3 d	3/14/00	3/16/00	274,332	As Sc		CMM112,MTF112[0.5]
337	MM Align 3C A	2 d	3/21/00	3/22/00	220,335,336	As Sc		CMM112,PhysF112
338	Mount 3C A	4 d	3/23/00	3/28/00	337	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
339	Mold Setup 3C S	3 d	3/21/00	3/23/00	276,335	As Sc		CMM112,MTF112[0.5]
340	MM Align 3C S	1 d	3/29/00	3/29/00	338,339	As Sc		CMM112,PhysF112
341	Mount 3C S	3 d	3/30/00	4/3/00	340	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
342	Mold Setup 2 A	3 d	11/24/99	11/30/99	278	As Sc		CMM112,MTF112[0.5]
343	MM Align 2 A	2 d	4/4/00	4/5/00	221,341,342	As Sc		CMM112,PhysF112
344	Mount 2 A	4 d	4/6/00	4/11/00	343	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
345	Mold Setup 2 S	3 d	4/12/00	4/14/00	280,344	As Sc		CMM112,MTF112[0.5]
346	MM Align 2 S	2 d	4/17/00	4/18/00	344,345	As Sc		CMM112,PhysF112
347	Mount 2 S	3 d	4/19/00	4/21/00	346	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
348	Mold Setup 1 A	3 d	2/14/00	2/16/00	282	As Sc		CMM112,MTF112[0.5]
349	MM Align 1 A	2 d	4/24/00	4/25/00	222,347,348	As Sc		CMM112,PhysF112
350	Mount 1 A	3 d	4/26/00	4/28/00	349	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
351	Mold Setup 1 S	3 d	2/4/00	2/8/00	284	As Sc		CMM112,MTF112[0.5]
352	MM Align 1 S	1 d	5/1/00	5/1/00	350,351	As Sc		CMM112,PhysF112
353	Mount 1 S	2 d	5/2/00	5/3/00	284,352	As Sc		MTF112[1.5],MEF112[0.5],PhysF112
354	M2-First Cylinder Complete	0 w	9/2/99	9/2/99	304	As S		

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ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
355	<i>Cylinders 8&7 Complete</i>	0 w	1/24/00	1/24/00	317	As S		
356	<i>M3-Fiber Tracker Cylinders 8, 7, 6, and 5 Complete</i>	0 w	3/2/00	3/2/00	329	As S		
357	<i>M3-Fiber Tracker Ribbon Mounting Complete</i>	0 w	5/3/00	5/3/00	301	As S		
358	Waveguide Production	214.8 w	4/1/96	8/2/00		As S		
359	Design and Setup Factory	30 w	4/1/96	10/30/96		Start	1.1.2.3	MEU112[0.5],k\$(0.5)
360	Notre Dame MOU FY98	0.2 w	8/3/98	8/3/98		Start	1.1.2.3	k\$(1.35),k\$c[0.19]
361	Perform Design R&D	16 w	9/15/98	1/20/99		As Sc		MTF112[0.7],PhysU112,MTU112
362	Perform Pre-production Checkout	28 w	1/21/99	8/6/99	359,361	As Sc		MEU112[0.5],MTU112,PhysU112
363	<i>Waveguide Facility Ready</i>	0 w	8/6/99	8/6/99	362	As S		
364	Indiana Univ MOU FY99	0.2 w	3/3/99	3/3/99		Start	1.1.2.3	k\$(0.65),k\$c[0.06]
365	Produce Waveguides	48.6 w	8/7/99	8/2/00		As S		
366	Spool Fiber	39 w	8/7/99	5/24/00	363	As Sc	1.1.2.3	PhysU112[0.05],MTU112[1.5],MEU112[0.1],k\$(0.48),k\$c[0.1]
367	Optical tests of fiber	21 w	2/1/00	6/27/00		Start		
368	Sheath fiber	25 w	2/1/00	7/26/00	367SS	As Sc		
369	Connectorize curved end	25 w	2/8/00	8/2/00	368SS+1 w	As Sc	1.1.2.3	MTU112,PhysU112[0.1],k\$(0.38),k\$c[0.04]
370	Connectorize/map 128 X 2 End	25 w	2/8/00	8/2/00	369SS	As Sc		MTU112,MEU112[0.1],PhysU112[0.2]
371	Perform Final Test	25 w	2/8/00	8/2/00	370SS	As Sc		MTU112[0.2],PhysU112[0.2]
372	<i>M3-Fiber Tracker Waveguide Production Begun</i>	0 w	8/7/99	8/7/99	365SS	As S		
373	<i>Waveguide Production 50% Complete</i>	0 w	3/16/00	3/16/00	365SS+60 %	As S		
374	<i>M3-Waveguide Production Complete</i>	0 w	8/2/00	8/2/00	365	As S		
375	Waveguide Routing	50 w	8/3/98	8/6/99		Start		MEF112[0.1],DesF112,PhysF112[0.75]
376	Calibration System	80 w	11/24/98	7/14/00		As S		
377	Perform R&D/Design	10 w	11/24/98	2/17/99	226	As Sc		PhysU112[0.5],MTU112
378	Prototype and Test System	10 w	2/18/99	4/28/99	377	As Sc	1.1.2.6	PhysU112[0.5],MTU112,k\$(0.65),k\$c[0.12]
379	Integrate design with cylinder nesting	13 w	4/29/99	7/30/99	378,391	As Sc		
380	<i>Final Mechanical Design Complete</i>	0 w	7/30/99	7/30/99	379	As S		
381	Procure LED Panels	8 w	8/2/99	9/27/99	380	As Sc		
382	Design and Fabricate Calibration Electronics	47 w	8/2/99	7/14/00		As S	1.1.2.6	k\$,k\$c
383	Design LED Card	26 w	8/2/99	2/16/00	380	As Sc		EEU112[0.1]
384	Fabricate LED Cards	7 w	2/17/00	4/5/00	383	As Sc		MTU112[0.25]
385	Design driver card	8 w	2/17/00	4/12/00	383	As Sc		EEU112[0.5]
386	Fabricate driver cards	13 w	4/13/00	7/14/00	385	As Sc		MTU112[0.5]
387	Install calibration system electronics	4 w	7/17/00	8/11/00	384,386	As Sc		PhysU112[0.5]
388	Assembly Engineering	67.2 w	10/15/98	3/6/00		As S		
389	Design Assembly/Support	58.2 w	10/15/98	1/3/00		As S		
390	Develop Conceptual Design	18 w	10/15/98	3/5/99		Start		MEF112[0.5],DesF112[0.2]
391	<i>M2 - Assembly Design Complete</i>	0 w	3/5/99	3/5/99	390	As S		
392	Procure Support Tooling	14 w	3/8/99	6/14/99	391	As Sc	1.1.2.7	MEF112[0.5],k\$(0.13),k\$c[0.05]
393	Design Transportation/insertion cart and produce full drawings	17 w	3/8/99	7/6/99	392	Start		MEF112[0.25],DesF112[0.5]
394	Design nesting cart and produce full drawings	25.2 w	4/12/99	10/7/99	391,393SS+5 w	Start		MEF112[0.25],DesF112[0.5]
395	Fabricate transportation cart	5.6 w	7/7/99	8/14/99	393	As Sc		MEF112[0.1]
396	Fabricate nesting cart	7 w	10/8/99	11/29/99	394	As Sc		MEF112[0.1]
397	Final Assembly	3 w	11/30/99	1/3/00	396	As Sc		MEF112[0.1],MTF112[0.25]
398	Nesting Tests	7.2 w	11/29/99	1/31/00		As S		
399	Produce Test Parts	2 w	11/29/99	12/10/99	216,391FS+5 w	As Sc		MTF112[0.25]
400	Assemble and Test	4 w	1/4/00	1/31/00	397,399FS+1 w	As Sc		MTF112,MEF112[0.5]
401	<i>Nesting Tests Complete</i>	0 w	1/31/00	1/31/00	400	As S		
402	Fabricate Nesting Rings	37.6 w	5/28/99	3/6/00		As S	1.1.2.7	k\$(0.47),k\$c[0.19]
403	Prepare drawings for nesting rings and washers	6 w	5/28/99	7/9/99	380	As Sc		DesF112
404	Fabricate OD rings	7 w	11/12/99	1/17/00	403	Start		MTF112[0.5],MEF112[0.1]
405	Fabricate washers	7 w	1/18/00	3/6/00	404	Start		
406	Tracker Assembly	19.4 w	1/4/00	5/17/00		As S		
407	Install OD rings on cylinders	19.4 w	1/4/00	5/17/00		As S	1.1.2.7	k\$(0.39),k\$c[0.08]
408	Install OD rings and LED panels on Cylinder 8	2 w	1/4/00	1/17/00	311FS+1 w,402SS+30 %,381SS+6 w	As Sc		MTF112,MEF112[0.1],PhysF112[0.5]
409	Install Cylinder 8 in Nesting Fixture	2 w	2/1/00	2/14/00	400,408	As Sc		MTF112,MEF112[0.5],PhysF112[0.25]
410	Install OD rings and LED panels on Cylinder 7	1 w	2/1/00	2/7/00	317FS+1 w,402SS+40 %,381SS+8 w	As Sc		MTF112,MEF112[0.1],PhysF112[0.5]
411	Install Cylinder 7 in 8	2 w	2/15/00	2/28/00	409,410	As Sc		MTF112,MEF112[0.5],PhysF112[0.25]
412	Install OD rings and LED panels on Cylinder 6	1 w	2/15/00	2/21/00	323,402SS+50 %,381SS+10 w	As Sc		MTF112,MEF112[0.1],PhysF112[0.5]
413	Install Cylinder 6 in 7	1 w	2/29/00	3/6/00	411,412	As Sc		MTF112,MEF112[0.5],PhysF112[0.25]
414	Install OD rings and LED panels on Cylinder 5	1 w	3/3/00	3/9/00	329,402SS+60 %,381SS+12 w	As Sc		MTF112,MEF112[0.1],PhysF112[0.5]
415	Install Cylinder 5 in 6	1 w	3/10/00	3/16/00	413,414	As Sc		MTF112,MEF112[0.5],PhysF112[0.25]
416	Install OD rings and LED panels on Cylinder 4	1 w	3/21/00	3/27/00	335,402SS+70 %,381SS+14 w	As Sc		MTF112,MEF112[0.1],PhysF112[0.25]
417	Install Cylinder 4 in 5	1 w	3/28/00	4/3/00	415,416	As Sc		MTF112,MEF112[0.5],PhysF112[0.25]
418	Install OD rings and LED panels on Cylinder 3C	1 w	4/4/00	4/10/00	341,402SS+10 %,381SS+4 w	As Sc		MTF112,MEF112[0.1],PhysF112[0.5]
419	Install Cylinder 3 in 4	1 w	4/11/00	4/17/00	417,418	As Sc		MTF112,MEF112[0.5],PhysF112[0.25]
420	Install OD rings and LED panels on Cylinder 2	1 w	4/24/00	4/28/00	347,402SS+80 %,381SS+16 w	As Sc		MTF112,MEF112[0.1],PhysF112[0.5]
421	Install Cylinder 2 in 3	1 w	5/1/00	5/5/00	419,420	As Sc		MTF112,MEF112[0.5],PhysF112[0.25]
422	Install OD rings and LED panels on Cylinder 1	1 w	5/4/00	5/10/00	353,402,381SS+18 w	As Sc		MTF112,MEF112[0.1],PhysF112[0.5]
423	Install Cylinder 1 in 2	1 w	5/11/00	5/17/00	421,422	As Sc		MTF112,MEF112[0.5],PhysF112[0.25]
424	<i>M2-Fiber Tracker Assembly Begun</i>	0 w	2/1/00	2/1/00	409SS	As S		
425	<i>Cylinder 7 Installed in Cylinder 8</i>	0 w	2/28/00	2/28/00	411	As S		

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
426	M2-Fiber Tracker Assembly Complete	0 w	5/17/00	5/17/00	423	As S		
427	Tracker Supports	12 w	2/15/00	5/8/00		As S		
428	Perform Detailed Design	6 w	2/15/00	3/27/00	409	As Sc		DesF112,MEF112[0.3]
429	Tracker Supports Design Complete	0 w	3/27/00	3/27/00	428	As S		
430	Fabricate Tracker Supports	6 w	3/28/00	5/8/00	428	As Sc	1.1.2.7	k\$(0.05),k\$c[0.01]
431								
432	VLPC CASSETTE MANUFACTURE	255.4 w	9/15/95	11/3/00		As S		
433	VLPC DEVELOPMENT	48.4 w	5/13/96	5/2/97		As S		
434	HISTE V Characterization	12 w	5/13/96	8/6/96		Finisl		PhysU112[2],PhysF112[0.25]
435	HISTE V 128 Ch Cassette Production	8 w	8/29/96	10/24/96	434SS+2 w	Start		MTF112[2],PhysF112[0.25]
436	HISTE V Characterization complete	0 w	10/24/96	10/24/96	435	As S		
437	Histe VI benchmark tests	42 w	6/27/96	5/2/97		As S		
438	Fabrication of HISTE VI Test Cassettes	6 w	6/27/96	8/8/96		Start		DesF112,MTF112,PhysF112[0.25]
439	HISTE VI Test	12 w	12/4/96	3/7/97	438	Finisl		PhysU112[2],MTF112[0.25]
440	Notice to proceed for full HISTE VI production	0 w	3/7/97	3/7/97	439	As S		
441	Full Analysis of HISTE VI Data	8 w	3/10/97	5/2/97	440	As Sc		PhysU112,PhysF112
442	CASSETTE MANUFACTURE	254.4 w	9/15/95	10/27/00		As S		
443	Task II	141.4 w	11/1/95	9/1/98		As S		
444	System Engineering	12 w	11/1/95	1/29/96		Start		MEF112,DesF112[2],PhysF112[0.5]
445	VLPC Module Design	8 w	1/24/96	3/19/96	444	As Sc		DesF112[1.5]
446	Hybrid Fabrication and Assembly	16 w	12/1/95	3/25/96		Start		
447	Hybrid Test/Characterization	16 w	12/22/95	4/15/96	446SS+3 w	As Sc		
448	Parts Procurement	36 w	6/26/96	3/20/97		Start		
449	Ready for 1st article assembly	0 w	3/20/97	3/20/97	448	As S		
450	Fiber Module Assembly	84.4 w	6/26/96	3/13/98		As S		
451	Factory Setup	6 w	6/26/96	8/7/96		Start		MTF112,DesF112[0.25],ETF112
452	Module assembly procedure debug	68 w	10/8/96	2/27/98	451	Start		DesF112[0.1],MTF112
453	Procedures Finalized	0 w	3/1/98	3/1/98	452	As S		
454	Module Assembly	2 w	3/2/98	3/13/98	452	As Sc		MTF112[2],MEF112[0.1],PhysF112[0.25]
455	1st Article Cassette Assembly	4 w	3/16/98	4/10/98	449,450	As Sc		MEF112,MTF112,PhysF112[0.25]
456	1024 Channel cassette test stand	30 w	11/1/95	6/4/96		As S		
457	DAQ/Software design/debug	30 w	11/1/95	6/4/96		Start		PhysU112,ETU112
458	M3-Ready for 1st VLPC Cassette Test	0 w	4/10/98	4/10/98	455,457,509	As S		
459	1st Article Test	20 w	4/13/98	9/1/98	458	As Sc		MTF112,ETF112[0.5],PhysU112[2],PhysF112
460	HISTE VI Cassette Procurement	254.4 w	9/15/95	10/27/00		As S		
461	Design Finalization	6 w	9/2/98	10/14/98		As Sc		
462	Cassette Parts Procurement	138 w	9/2/97	6/21/00		As S		
463	Finalize Engineering Drawings	4 w	9/2/98	9/30/98	459	As Sc		MEF112,DesF112
464	Submit Parts for Bids	3.2 w	9/2/97	9/23/97		As Sc		
465	Award Contracts-FY97	0.2 w	9/24/97	9/24/97		As Sc	1.1.2.4	k\$(7.27),k\$c[1.6]
466	Qualify Flex Circuit Vendor	95 w	9/25/97	8/30/99	465	As Sc		
467	Award Contracts-FY99	0.2 w	8/31/99	8/31/99	466	As Sc	1.1.2.4	k\$(2.07),k\$c[0.62]
468	Flex Circuit Delivery	22 w	1/19/00	6/21/00	467	Start		
469	Assembly Tooling	4 w	3/16/98	4/10/98		As S		
470	Tooling Design	2 w	3/16/98	3/27/98	455SS	As Sc		MTF112
471	Procure tooling	2 w	3/30/98	4/10/98	470	As Sc		
472	Special Test Equipment	111.4 w	4/1/96	6/26/98		As S		
473	Optical bundle test stand	19.8 w	2/9/98	6/26/98		As S		
474	Design	6 w	2/9/98	3/20/98	452FS-3 w	As Sc		DesF112[0.25],PhysF112[0.5]
475	Parts fabrication and procurement	9.8 w	3/23/98	5/29/98	474	As Sc		MTF112[0.25],PhysF112[0.1]
476	Assembly and debug	4 w	6/1/98	6/26/98	475	As Sc		MTF112[0.5],ETF112[0.5],PhysF112
477	Flex circuit test stand	21.2 w	4/1/96	8/28/96		As S		
478	Procure commercial cable tester	4 w	4/1/96	4/26/96		Start	1.1.2.4	k\$(0.04),k\$c[0.01]
479	Design/layout/procure pc interface boards	3 w	8/1/96	8/21/96		Start		ETF112
480	Assemble and debug test fixture	1 w	8/22/96	8/28/96	478,479	As Sc		ETF112
481	HISTE VI Hybrid Production	246.8 w	9/15/95	9/5/00		As S		
482	Procure VLPCs	10 w	9/15/95	11/27/95		Start	1.1.2.4	k\$(28.11)
483	Detector Fab Production	88 w	9/16/96	6/26/98		Start		
484	M2-VLPC Production 50% Complete	0 w	8/31/97	8/31/97	483SS+50 %	As S		
485	M3-VLPC Production Complete	0 w	6/26/98	6/26/98	483	As S		
486	Hybrid Assembly and Test	58 w	5/1/98	7/2/99	483FS-8 w	As Sc		
487	Fermilab Hybrid test	58 w	7/6/99	9/5/00	486	As Sc		MTF112[0.1],PhysU112[0.25]
488	VLPC Contract Adjustment	0.2 w	11/30/98	11/30/98		Start	1.1.2.4	k\$(3.47)
489	Cassette factory setup	63 w	4/13/98	7/20/99		As S		
490	Factory layout design	5 w	4/13/98	5/15/98	469	Start	1.1.2.4	MEF112,PhysF112[0.25],k\$(0.98),k\$c[0.07]
491	Full tooling checkout	4 w	5/18/98	6/15/98	490	As Sc		MEF112,MTF112
492	Factory setup and debug	50 w	7/15/98	7/20/99	491FS+4 w	As Sc		MTF112,MEF112,PhysU112
493	Factory Ready	0 w	7/20/99	7/20/99	492	As S		
494	Module Assembly and Test	49 w	7/21/99	7/18/00		As S		
495	PreProduction checkout	9 w	7/21/99	9/22/99	493	As Sc		MEF112[0.5],MTF112[2],PhysU112[0.25]
496	Cassette Production Readiness Review	0 w	10/4/99	10/4/99	466,495	Start		

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497	Production	40 w	9/23/99	7/18/00	495	As Sc		MTF112[3],MEF112[0.5],PhysU112[0.5]
498	Module Production Begun	0 w	9/23/99	9/23/99	497SS	As S		
499	Cassette Assembly and Test	40 w	1/19/00	10/27/00		As S		
500	Module/Hybrid integration	37 w	1/19/00	10/6/00	486SS+8 w,497SS+9 w,468SS	As Sc		MTF112[0.5],ETF112[0.25],PhysU112[0.25]
501	Cassette assembly	37 w	1/26/00	10/13/00	500SS+1 w	As Sc		MTF112[0.5],MEF112[0.25],PhysU112[0.2],DesF112[0.1]
502	M3-VLPC Cassette Assembly Begun	0 w	1/26/00	1/26/00	501SS	As S		
503	M3-VLPC Cassette Assembly 50% Complete	0 w	6/5/00	6/5/00	501SS+50 %	As S		
504	M3-VLPC Cassette Assembly Complete	0 w	10/13/00	10/13/00	501	As S		
505	Cassette Test	37 w	2/9/00	10/27/00	501SS+2 w	As Sc		PhysU112[0.5],MTF112[0.1]
506	CRYOGENIC SYSTEM	203.2 w	5/28/96	7/7/00		As S		
507	Test Cryostat Design	20 w	5/28/96	10/16/96		Start		MEF112,DesF112
508	Test Cryostat Fabrication	25 w	10/17/96	4/23/97		As Sc	1.1.2.5	MTF112,DesF112,MEF112[0.5],k\$[0.18]
509	Test Cryostat Commissioning	2 w	7/1/97	7/15/97	508	As Sc		MEF112[0.5],MTF112,PhysF112[0.5]
510	Cassette Thermal Test	29.4 w	10/22/97	6/1/98		Start		MEF112[0.3],MTF112[0.3]
511	M3-Test VLPC Cryostat Ready	0 w	7/15/97	7/15/97	509	As S		
512	Procure raw materials for line and boxes fabrication	1 w	9/2/97	9/8/97		Start	1.1.2.5	MEF112,k\$[0.47]
513	LN2/Lhe Transfer Line/Boxes Design	19.2 w	11/3/97	3/31/98		Start		MEF112[0.5],DesF112[0.5]
514	LN2/Lhe Transfer Line/Boxes Fabrication	42 w	11/17/97	9/24/98	512,513SS+2 w	As Sc	1.1.2.5	MEF112[0.1],MTF112[0.5],k\$[0.05]
515	LN2/Lhe Transfer Line/Boxes Installation	8 w	9/25/98	11/19/98	514	As Sc		MEF112[0.2],MTF112[2]
516	Final Cryostat Design	10 w	8/25/99	11/3/99	497SS-4 w,510	Start		MEF112,DesF112
517	Procure stock for cryostats	1 w	9/2/97	9/8/97		Start	1.1.2.5	MEF112,k\$[0.26],k\$c[0.03]
518	Fabricate east cryostat	25 w	11/4/99	5/12/00	516,517	As Sc	1.1.2.5	MTF112[2],MEF112[0.2],k\$[0.96],k\$c[0.1]
519	Begin East Cryostat Fabrication	0 w	11/4/99	11/4/99	518SS	As S		
520	Installation Equipment Design	2 w	3/6/00	3/17/00	518FS-10 w	Start		MEF112[0.5],DesF112[0.75]
521	Fab Installation Equipment	4 w	3/20/00	4/14/00	520	As Sc		MEF112[0.3],MTF112
522	Procure temperature sensors	1 w	6/2/97	6/6/97		Start	1.1.2.5	MTF112,k\$[0.19],k\$c[0.01]
523	Fabricate west cryostat	27 w	11/4/99	5/26/00	518SS	As Sc	1.1.2.5	MTF112[2],MEF112[0.1],k\$[0.96],k\$c[0.1]
524	Cryostat Installation/Hookup	3 w	5/18/00	6/8/00	518,521,523FF+1.6 w	As Sc	1.1.2.5	MTF112[2],MEF112[0.1],k\$[0.1],k\$c[0.01],Platform[0.25]
525	M3-East VLPC Cryostat Installed	0 w	5/24/00	5/24/00	524SS+1 w	As S		
526	System Installation/Test	4 w	6/9/00	7/7/00	515,524	As Sc		MEF112[1.5],MTF112[2]
527	M3-VLPC Cryo System Operational	0 w	7/7/00	7/7/00	526	As S		
528	Install 50 cassettes in east cryostat	5 w	7/17/00	8/18/00	505SS+50 %,526FS+1 w	As Sc		PhysU112[0.2],MTF112[0.2],ETF112[0.5],PhysF112[0.2],Platform[0.1]
529	Install 50 cassettes in west cryostat	5 w	10/2/00	11/3/00	505FF+1 w,528,526FS+1 w	As Sc		PhysU112[0.2],MTF112[0.2],ETF112[0.5],PhysF112[0.2],Platform[0.1]
530								
531	SILICON TRACKER FABRICATION	388.6 w	2/2/93	10/11/00		As S		
532	SILICON TRACKER R&D	336.4 w	2/2/93	9/21/99		As S		
533	Barrel detectors	292.8 w	2/2/93	10/29/98		As S		
534	Test MSU detectors	24.2 w	2/2/93	7/20/93		As Sc		PhysF111[0.2]
535	Receive MSU second iteration	14.4 w	5/21/93	8/30/93	534	As Sc		
536	Test MSU second iteration	30 w	5/31/93	12/24/93	535	As Sc		PhysF111[0.1]
537	Design 3 chip masks	24 w	6/1/94	11/15/94		As Sc		PhysF111[0.25]
538	Produce 3 chip prototype	14.6 w	12/21/94	4/1/95	537	As Sc		
539	Test 3 chip prototypes	6 w	3/29/95	5/9/95	538FS+2 w	As Sc		PhysF111[2]
540	Design 9 chip masks	38 w	12/1/95	8/28/96	537FS+20 w	As Sc		PhysU111[0.2]
541	Produce 9 chip prototype	72.4 w	4/16/96	9/25/97	540	As Sc		
542	Design 6 chip masks	12 w	8/1/97	10/24/97		Start		PhysU111[0.25],DesF111[0.5]
543	Test 9 chip prototypes	8 w	10/10/97	12/8/97	541FS+2 w	As Sc		MTF111[0.5],PhysF111[0.5],PhysU111
544	Produce 6 chip prototype	42 w	10/27/97	9/2/98	542	As Sc		
545	Test 6 chip prototype	8 w	9/3/98	10/29/98	544	As Sc		PhysF111[0.5],PhysU111
546	Readout connections and cables	280.4 w	2/19/93	8/20/98		As S		
547	Prototype cable design	4 w	2/19/93	3/18/93		As Sc		ETF111[0.5],EEF111[0.25]
548	Microstrip cable prototype	76 w	3/19/93	9/1/94	547	As Sc		
549	Cable tests	4 w	9/2/94	9/29/94	548	As Sc		EEF111[0.25],ETF111[0.5]
550	Final cable design	8 w	2/3/97	3/28/97	549FS+36 w	Start		PhysU111[0.25],EEF111[0.25],ETF111[0.25]
551	Prototype cable production	16 w	4/1/98	7/23/98		Start		
552	Test cable system	4 w	7/24/98	8/20/98	551	As Sc		PhysF111[0.25],ETF111[0.25],EEF111[0.25]
553	Readout Mount	267.8 w	2/26/93	5/29/98		As S		
554	SVX I MCM	6 w	2/26/93	4/8/93		As Sc	1.1.1.1	ETF111[0.63],EEF111
555	SVX I MCM tests	25.2 w	4/9/93	10/1/93	554	As Sc		EEF111[0.25],ETF111[0.25],PhysF111[0.25]
556	Cooling studies	10 w	5/14/93	7/22/93	554FS+5 w	As Sc		MTF111[0.2],MEF111[0.25]
557	SVX II MCM design	25.8 w	11/2/93	5/1/94	554,567	As Sc	1.1.1.1	EEF111[0.12]
558	SVX II-a MCM prototype	26 w	5/2/94	10/28/94	557	As Sc		
559	SVX II-a MCM prototype tests	4 w	1/9/95	2/3/95	558FS+10 w	As Sc		EEF111[0.5],ETF111[0.5]
560	SVX IIb MCM design	30 d	2/6/95	3/17/95	559,570SS+1 w	As Sc	1.1.1.1	EEF111[0.5]
561	SVX II-b MCM prototype	12 w	7/10/95	10/1/95	560	As Sc		
562	SVX IIb MCM prototype tests	20 w	11/27/95	4/16/96	561FS+8 w	As Sc		EEF111[0.2],PhysF111[0.2]
563	Final 3 chip MCM design	2 w	2/17/97	2/28/97	562SS+4 w,577SS+2 w	Start	1.1.1.1	EEF111[0.25]
564	Final 3 chip MCM tests	8 w	3/3/97	4/25/97	563	Start		EEF111[0.5],ETF111,PhysU111[0.25],PhysF111[0.25]
565	Design of all MCM types	60 w	3/17/97	5/29/98	564SS+2 w	As Sc		EEF111[0.1],DesF111[0.1]
566	SVX II	276.6 w	3/1/93	8/3/98		As S		
567	SVX II Design	36 w	3/1/93	11/5/93		As Sc	1.1.1.1	EEF111[0.57],k\$[0.9]

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ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
568	SVX II submission a	12 w	11/2/93	1/24/94	567	As Sc		
569	SVX II submission a tests	26.2 w	4/1/94	10/1/94	568	As Sc		EEF111[0.5]
570	SVX II submission b	16 w	11/7/94	2/24/95	569	As Sc		
571	SVX II submission b tests	18 w	6/27/95	10/30/95	570	Finisl		ETF111,EEF111[2],PhysF111[2]
572	SVX II b design changes	8 w	9/5/95	10/30/95	571SS+10 w	As Sc		EEF111
573	SVX II submission c	12.6 w	11/1/95	2/1/96	572	Start	1.1.1.1	k\$(0.58)
574	SVX II rad Hard design	6.4 w	11/3/95	12/20/95	573SS	As Sc		EEF111[1.06],EEU111[1.06]
575	SVX IId rad hard submission	17 w	12/20/95	4/18/96	574	As Sc	1.1.1.1	k\$(1.14)
576	SVX II submission c tests	10 w	2/9/96	4/18/96	573FS+1 w	As Sc		EEF111
577	SVX IId rad hard tests	6 w	5/2/96	6/13/96	575	Start		ETF111[2],EEF111[1.5],TStnd,PhysF111
578	Cable Driver Chip	0.2 w	8/3/98	8/3/98		Start	1.1.1.1	k\$(0.05)
579	Barrel Ladders	258.2 w	10/20/93	11/17/98		As S		
580	Ladder Be location, thickness	5.6 w	10/20/93	11/26/93		As Sc		MEF111[0.18]
581	Ladder Thermal and mech. deflections	4 w	10/20/93	11/16/93		As Sc		MTF111[0.5],MEF111[0.25]
582	Ladder glue tests	25.6 w	11/17/93	5/14/94	581	As Sc		MTF111[0.25],MEF111[0.25]
583	Ladder wirebond tests	19.2 w	11/29/93	4/11/94	580	As Sc		MTF111[0.2],MEF111[0.25]
584	Ladder final specification	8.8 w	5/16/94	7/14/94	581,582	As Sc		DesF111[0.25],MEF111[0.25]
585	3 chip Ladder fixtures	37 w	1/15/95	9/30/95	584	Finisl		DesF111[0.25],MEF111[0.25],PhysF111[0.25]
586	3 chip Ladder prototypes	36 w	10/1/95	6/14/96	538FS+2 w,539FS+2 w,561FS+4 w,585FS+	As Sc		MTF111[0.25],MEF111[0.25],CMM,PhysF111[0.2]
587	9 chip ladder fixtures	40 w	1/15/97	10/24/97		Start		MEF111[0.5],PhysF111[0.25],DesF111[0.75]
588	9 chip ladder prototypes	14.4 w	1/6/98	4/15/98	543SS+3 w,587FS+8 w	As Sc		MTF111[0.25],MEF111[0.25],PhysU111[0.25],CMM,PhysF111[0.25]
589	6 chip ladder fixtures	16 w	5/1/98	8/24/98	587	Start		MEF111[0.5],DesF111[0.75]
590	6 chip ladder prototypes	8 w	9/23/98	11/17/98	589FS+4 w	As Sc		MTF111[0.25],MEF111[0.25],PhysU111[0.25],CMM,PhysF111[0.25]
591	Barrel Bulkheads	147.4 w	1/1/94	11/7/96		As S		
592	Fabricate bulkhead prototype	34.8 w	1/1/94	9/1/94		As Sc		DesF111[0.25],MEF111[0.5]
593	Ladder alignment, cable routing	2 w	9/15/94	9/29/94	592SS+1 w	As Sc		MTF111[0.5],MEF111[0.25]
594	Measure bulkhead prototype	4 w	10/3/94	10/28/94	592	As Sc		MTF111[0.25],CMM
595	Pressure/thermal tests	6 w	10/29/94	12/9/94	594	As Sc		MTF111[0.5]
596	Freeze bulkhead geometry	0.2 w	12/12/94	12/12/94	593,595	As Sc		
597	Be Bulkhead Prototype Production	40 w	12/1/95	9/12/96	596FS+20 w	Start		
598	Bulkhead cooling, mounting tests	6 w	9/27/96	11/7/96	597FS+2 w	As Sc		MTF111[0.5],MEF111[0.25],CMM
599	Cooling system	217.2 w	1/3/94	4/14/98		As S		
600	Heat transfer studies	32 w	1/3/94	8/12/94		As Sc		MTF111[0.25],MEF111[0.25]
601	Manifold line sizing	32 w	8/15/94	3/24/95	600	As Sc		MTF111[0.5],MEF111[0.25]
602	System design	34 w	8/4/97	4/14/98	601SS+4 w	Start		MTF111[0.25],MEF111[0.4],DesF111[0.8]
603	External Support	249.8 w	1/15/94	12/18/98		As S		
604	1/2 cyl ANSYS simulation	2 w	1/15/94	1/28/94		As Sc		MEF111
605	1/2 cyl conceptual design	11 w	1/31/94	4/15/94	604	As Sc		MEF111[0.5]
606	1/2 cyl test structures	6 w	4/18/94	5/27/94	605	As Sc		MTF111[0.5],MEF111[0.5],PhysF111[0.25]
607	1/2 cyl structural tests	6 w	5/30/94	7/8/94	606	As Sc		MTF111[0.5],CMM[0.5]
608	1/2 cyl Final design	24 w	10/3/97	4/3/98		Start		DesF111,MEF111[0.5]
609	Installation fixture design	20 w	7/29/98	12/18/98	608FS+16 w	As Sc		MEF111[0.5],DesF111[0.75]
610	H disk	150.4 w	4/3/95	4/1/98		As S		
611	Outer Det - 1st proto. prod	16 w	4/3/95	7/21/95		Start		PhysU111,ETU111[0.25]
612	Outer det - 1st proto test	15.6 w	8/7/95	11/24/95	611FS+2 w	As Sc		PhysU111[1.54],MEU111[1.03]
613	Inner+Outer detector design	16 w	2/2/96	5/23/96	612FS+12 w	As Sc		PhysU111[0.5],MTF111[0.1]
614	Inner+Outer detector proto. Prod.	12 w	6/24/96	9/17/96	613FS+4 w	As Sc		
615	Inner+outer Proto. Testing	12 w	9/18/96	12/12/96	614	As Sc		PhysU111[2],ETU111[0.5],MTF111[0.1],PhysF111[0.25]
616	Production detector mask design	12 w	12/13/96	3/18/97	615	As Sc		PhysU111[0.5]
617	H disk assembly + fixture design	47.4 w	4/16/97	4/1/98	616FS+4 w	As Sc		MEF111[0.5],DesF111[0.75],PhysU111[0.25]
618	F Disk	189.2 w	12/1/95	9/21/99		As S		
619	Order prototype wedge detectors	0.2 w	12/1/95	12/1/95		As Sc		
620	F Wedge detector mask design	8 w	10/1/96	11/25/96	540FS+8 w,619	Start		DesF111[0.25],PhysU111[0.25],PhysF111[0.25]
621	Disk jumper design	3.4 w	2/3/97	2/25/97		Start		MTF111[0.25],MEF111[0.25]
622	F Disk assembly + fixture design	60 w	2/26/97	5/11/98	621	As Sc		MEF111[0.5],DesF111[0.75]
623	F Wedge prototype production	31 w	5/15/97	1/6/98	620FS+4 w	Start		
624	Evaluate F wedge prototype detectors	8 w	1/7/98	3/3/98	623	As Sc		PhysU111[0.25],MTF111[0.25],PhysF111[0.2]
625	F Disk test assembly	4 w	8/24/99	9/21/99	622SS+13 w,624,704	Start		MTF111[0.5],MEF111[0.25],PhysF111[0.25]
626	Radiation Tests	83.8 w	9/14/95	5/15/97		As S		
627	Run 1	1 w	9/14/95	9/20/95		Start		PhysU111[1.5],MTF111[0.25],PhysF111[1.5]
628	Run 2 (wedge Proto)	6.2 w	1/4/96	2/15/96		Finisl		PhysU111[1.5],MTF111[0.5],PhysF111[0.5]
629	Run 3 (SVX II)	4 w	5/10/96	6/7/96	575FS+3 w	As Sc		PhysU111[1.5],MTF111[0.25],PhysF111[0.5]
630	Run 4 (DS ladder)	2.6 w	4/29/97	5/15/97	543SS+4 w,679SS+16 w	As Sc		PhysU111[1.5],MTF111[0.25],PhysF111[0.5]
631	Test Beam	73.4 w	3/15/96	9/2/97		As S		
632	Procure Magnet	16 w	3/15/96	7/8/96		Start		MEF111[0.1]
633	Instrument Table	12 w	12/3/96	3/6/97		Start		MTF111[0.25],MEF111[0.2],PhysU111[0.25]
634	Produce Beam Telescope	4 w	1/15/97	2/11/97	632SS+6 w	Start		PhysU111[0.5],MTF111[0.25]
635	Produce Test assemblies	12 w	2/5/97	4/29/97	586SS+2 w,634SS+3 w	As Sc		PhysU111[0.25],MTF111[0.25],PhysF111[0.25]
636	Run	13 w	6/2/97	9/2/97	632FS+12 w,633FS+12 w,634FS+4 w,636F	As Sc		MTF111[0.25],PhysU111[3],PhysF111[0.5]
637	SILICON TRACKER CONSTRUCTION	309.4 w	8/10/94	10/11/00		As S		
638	Detector systems	301.4 w	8/10/94	8/15/00		As S		

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
639	Barrels + Ladders	292.2 w	8/10/94	6/9/00		As S		
640	LADDER Admin	289.6 w	8/10/94	5/22/00		As S		
641	Procure 3 chip SS wafers	250.2 w	8/10/94	8/2/99		As Sc	1.1.1.3	k\$[4.83],k\$c
642	Procure 9 chip wafers	10 w	8/10/94	10/18/94		As Sc	1.1.1.3	k\$[7.64],k\$c[0.4]
643	Produce 3 chip SS wafers	99.2 w	4/20/95	4/7/97		As Sc		
644	Procure Bulkheads	178 w	12/6/95	7/7/99	596	Must	1.1.1.3	k\$[1.77],k\$c[0.09]
645	Probe test ladder detectors	199.4 w	5/1/96	5/22/00	538,643SS+20 w,664FF+3 w	Start		MTF111[0.2],PStn,PhysF111[0.75],MTU111[2]
646	Procure ladder Be	26 w	8/1/96	2/13/97		Start	1.1.1.3	k\$[1.36],k\$c[0.04]
647	FY 96,97 Probe MOUs	0.2 w	10/1/96	10/1/96		Start	1.1.1.3	k\$[1.17],k\$c[0.05]
648	Procure ladder fixtures FY96,97	26 w	10/1/96	4/14/97		Start	1.1.1.3	k\$[0.2]
649	Ladder fabrication FY97	0.19 w	10/1/96	10/1/96		Start	1.1.1.3	k\$[0.03]
650	Evaluate Be parts	12 w	11/22/96	2/27/97	646SS+16 w	As Sc		MEF111[0.2],MTF111[0.4]
651	Manufacture ladder supports	30 w	12/2/96	7/11/97	584,586SS+4 w	Start		MTF111[0.25]
652	Procure 6 chip DS wafers	14 w	6/16/97	9/23/97		Start	1.1.1.3	k\$[3.54],k\$c[0.25]
653	M3-Silicon Tracker Ladder Production Begun	0 w	9/1/97	9/1/97	661SS	As S		
654	FY 98 Probe MOUs	0.2 w	10/1/97	10/1/97		Start	1.1.1.3	k\$[0.75],k\$c[0.03]
655	Procure ladder fixtures FY98	26 w	10/1/97	4/15/98		Start	1.1.1.3	k\$[0.2]
656	Ladder fabrication FY98	0.4 w	7/1/98	7/2/98		Start	1.1.1.3	k\$[0.25],k\$c[0.02]
657	Probe detectors FY99	0.2 w	4/1/99	4/1/99		Start	1.1.1.3	
658	Procure ladder fixtures FY99	0.2 w	7/1/99	7/1/99		Start	1.1.1.3	
659	Procure ladder Be fy99	0.2 w	5/3/99	5/3/99		Start	1.1.1.3	
660	Ladder Fabrication FY99	0.2 w	7/1/99	7/1/99		Start	1.1.1.3	
661	3 Chip Ladders Mech Assy	17 w	11/1/97	3/16/98		As Sc		MTF111[2],CMM,PhysF111[0.1]
662	Evaluate Bulkheads	45 w	9/1/98	8/2/99	644FF+6 w	Must		MEF111[0.1],MTF111[0.3]
663	6 Chip Ladders	74.6 w	12/1/98	6/9/00		As S		
664	Produce 6 chip DSDM wafers	69 w	12/1/98	5/1/00		Start		DSDM detectors
665	Produce 6 chip HDI	21 w	4/16/99	9/14/99	752SS+4 w	As Sc	1.1.1.1	
666	Assemble and test 6 Chip HDIs	16 w	10/6/99	2/10/00	665FS+3 w	As Sc	1.1.1.1	PhysU111[0.25],ETU111[0.5],TStd[0.5]
667	6 chip ladder fabrication	32 w	10/6/99	6/2/00	666SS,752FS+4 w	As Sc		MTF111[1.5],WBndr[0.5],CMM
668	6 Chip Ladder Fabrication 20% Complete	0 w	1/31/00	1/31/00	667SS+47 %	As S		
669	6 Chip Ladder Fabrication 80% Complete	0 w	4/18/00	4/18/00	667SS+80 %	As S		
670	6 Chip Ladder Fabrication Complete	0 w	6/2/00	6/2/00	667	As S		
671	6 chip ladder testing/burn-in	32 w	10/13/99	6/9/00	667SS+1 w	As Sc		TStd[0.5],burn-in stand[0.5],laser stand[0.25]
672	3 Chip ladder production	53 w	2/22/99	3/17/00		As S		
673	3 chip ladder fabrication	51 w	2/22/99	3/3/00	743FF+6 w	Start		CMM,MTF111[0.75],WBndr[0.2]
674	3 Chip Ladder Fabrication 20% Complete	0 w	5/10/99	5/10/99	673SS+30 %	As S		
675	3 Chip Ladder Fabrication 80% Complete	0 w	10/26/99	10/26/99	673SS+90 %	As S		
676	3 Chip Ladder Fabrication Complete	0 w	3/3/00	3/3/00	673	As S		
677	3 chip ladder testing/burn-in	49 w	3/22/99	3/17/00	673SS+4 w	As Sc		laser stand[0.5],burn-in stand[0.5]
678	9 Chip ladder production	70.6 w	1/1/99	6/1/00		As S		
679	Produce 9 chip wafers (micron)	65 w	1/1/99	4/21/00	543,642FS+94 w	Finisl		
680	Produce 9 chip wafers(CSEM)	44 w	3/30/99	2/21/00		Start	1.1.1.3	k\$[0.1]
681	Produce 9 chip HDI	60 w	1/4/99	3/17/00		Start		
682	Assemble and test 9 Chip HDIS	62 w	1/18/99	4/14/00	681SS+2 w	As Sc	1.1.1.1	ETU111[0.5],PhysU111[0.25],TStd[0.5]
683	9 chip ladder fabrication	58 w	4/1/99	6/1/00	682SS	Start		MTF111[1.5],WBndr[0.65],CMM,PhysF111
684	9 Chip Ladder Fabrication 20% Complete	0 w	11/4/99	11/4/99	683SS+50 %	As S		
685	9 Chip Ladder Fabrication 80% Complete	0 w	3/10/00	3/10/00	683SS+80 %	As S		
686	9 Chip Ladder Fabrication Complete	0 w	6/1/00	6/1/00	683	As S		
687	9 chip ladder testing/burn-in	58 w	4/1/99	6/1/00	683SS	As Sc		burn-in stand,laser stand[0.5]
688	F Disks	229.2 w	1/3/96	8/15/00		As S		
689	F Disk Admin	212.6 w	1/3/96	4/18/00		As S		
690	Order F disk wafers	0.2 w	1/3/96	1/3/96		Start	1.1.1.2	k\$[3.94],k\$c[0.2]
691	FY96 MOU UCR and OU	0.2 w	10/1/96	10/1/96		Start	1.1.1.2	k\$[0.14]
692	Procure F disk Supports FY97	0.19 w	10/1/96	10/1/96		Start	1.1.1.2	k\$[0.03]
693	Procure F disk supports FY98	20 w	10/13/97	3/16/98	622SS+44 w	Start	1.1.1.2	k\$[1.5],k\$c[0.15]
694	Procure F wedge fixtures FY98	32 w	12/1/97	7/27/98		Start	1.1.1.2	k\$[0.27],k\$c[0.04]
695	Probe test F wafers FY99	12 w	5/3/99	7/27/99		Start	1.1.1.2	
696	Procure F wedge fixtures FY99	12 w	3/1/99	5/21/99		Start	1.1.1.2	
697	Probe test F wedges	105 w	3/4/98	4/18/00	702FF	As Sc	1.1.1.2	MTU111,PhysU111[0.5],PStn,MTF111[0.5],k\$[0.25],k\$c[0.02]
698	Procure F wedge Be	20 w	5/30/98	10/20/98		Start	1.1.1.2	k\$[0.31],k\$c[0.03],MTF111[0.2]
699	Disk Spares FY 97	0.2 w	10/1/96	10/1/96		Start	1.1.1.2	k\$[0.38],k\$c[0.03]
700	Disk Spares FY98	0.2 w	10/1/97	10/1/97		Start	1.1.1.2	k\$[0.6],k\$c[0.05]
701	F Wedge Production	121.6 w	3/4/98	8/15/00		As S		
702	Produce F Disk Wafers (Micron)	105 w	3/4/98	4/18/00	623	Finisl		
703	Produce F disk wafers(Eurisys)	54 w	1/15/99	2/17/00		Start	1.1.1.2	k\$[0.25]
704	Produce F Disk HDI	22 w	3/22/99	8/24/99	565SS+60 w,750SS+8 w	Start	1.1.1.1	MTU111[0.25],PhysU111[0.25],k\$[1.68],k\$c[0.16]
705	Assemble and Test F disk HDIs	28 w	9/16/99	4/14/00	704FS+3 w,739SS+8 w	Start	1.1.1.1	PhysU111[0.25],k\$[0.25],k\$c[0.02],TStd[0.5],ETU111[0.5]
706	Produce F wedge assemblies	29 w	11/8/99	6/14/00	702FF+4 w,703FF+3 w,705FF+4 w	As Sc	1.1.1.2	MTF111[2],CMM,PhysF111,WBndr,k\$[0.06],PhysU111
707	M3-Silicon Tracker F Wedge Production Begun	0 w	11/8/99	11/8/99	706SS	As S		
708	F Wedge Assemblies 20% Complete	0 w	1/24/00	1/24/00	706SS+30 %	As S		
709	F Wedge Assemblies 80% Complete	0 w	5/3/00	5/3/00	706SS+80 %	As S		

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
710	F Wedge Assemblies Complete	0 w	6/14/00	6/14/00	706	As S		
711	F wedge testing/burn-in	29 w	11/22/99	6/28/00	706SS+2 w	As Sc		PhysU111,TStnd[0.5],burn-in stand[0.2],laser stand[0.2]
712	Mount F wedges on ring	21 w	2/14/00	7/11/00	693FS+4 w,711SS+2 w	Start		MTF111[0.5],MEF111[0.5],CMM[0.5],PhysF111[0.5]
713	M3-Silicon Tracker F Disks Complete	0 w	8/15/00	8/15/00	712FS+5 w	As S		
714	H Disks	162.8 w	4/16/97	8/1/00		As S		
715	H Wedge Admin	149 w	4/16/97	4/24/00		As S		
716	Procure H wedge substrates FY 97	0.97 d	4/16/97	4/16/97		As Sc	1.1.1.2	k\$[0.03]
717	Probe test H wafers	136 w	7/18/97	4/24/00	723SS+12 w,724FF	As Sc	1.1.1.2	MTU111[1.5],PhysU111,PStn,k\$[0.1]
718	Procure H wedge fixtures FY98	12 w	4/2/98	6/25/98	617	Start	1.1.1.2	MEF111[0.25],k\$[0.15],k\$c[0.02]
719	Procure H wedge fixtures FY99	12 w	4/1/99	6/24/99		Start	1.1.1.2	MTF111
720	Procure H disk supports	16 w	5/29/98	9/21/98	617FS+8 w	As Sc	1.1.1.2	
721	Procure H wedge substrates FY98	12 w	8/3/98	10/26/98		Start	1.1.1.2	k\$[0.63],k\$c[0.06]
722	H Wedge Production	162.8 w	4/16/97	8/1/00		As S		
723	Produce first batch of H disk wafers	130.4 w	4/16/97	12/1/99	616FS+4 w	As Sc	1.1.1.2	PhysU111[1.5],k\$[2.21],k\$c[0.11]
724	Produce second batch of H-disk wafers	12 w	2/1/00	4/24/00		Start		
725	Produce H disk HDI	16 w	3/1/99	6/21/99	751SS+4 w	Start	1.1.1.5	
726	Assemble and Test H disk HDIs	33 w	7/7/99	3/10/00	725FS+2 w	As Sc	1.1.1.5	PhysU111[0.25],ETU111[0.5],TStnd
727	H half wedge fabrication	42 w	7/21/99	5/26/00	617SS+13 w,717SS+8 w,726SS+2 w	As Sc	1.1.1.2	MTF111[2],CMM,PhysF111[0.5],k\$[0.05],WBndr[0.7],burn-in stand[0.5],laser st
728	H Wedge Production Begun	0 w	7/19/99	7/19/99	727SS	As S		
729	H Half-Wedge Fabrication 20% Complete	0 w	10/15/99	10/15/99	727SS+35 %	As S		
730	H Half-Wedge Fabrication 80% Complete	0 w	3/29/00	3/29/00	727SS+80 %	As S		
731	H Half Wedge Fabrication Complete	0 w	5/26/00	5/26/00	727	As S		
732	H half wedge testing/burn-in	42 w	7/28/99	6/5/00	727SS+1 w	As Sc		PhysU111,TStnd[0.5],PhysF111[0.25]
733	H full wedge assembly	20 w	1/17/00	6/5/00	732FF	As Sc		
734	Mount H wedge on ring	21 w	2/14/00	7/11/00	720FS+2 w,733SS+2 w	Start		MTF111[2],MEF111[0.5],PhysU111[3],CMM[0.5],TStnd[0.25],PhysF111[0.5],k\$[0
735	M3-First Silicon Tracker H Disk Assembled	0 w	3/10/00	3/10/00	734SS+4 w	As S		
736	M3-Silicon Tracker H Disks Complete	0 w	8/1/00	8/1/00	734FS+3 w	As S		
737	Electronics Systems	206.8 w	5/3/96	7/11/00		As S		
738	Electronics Admin	147.8 w	5/3/96	4/30/99		As S		
739	Probe SVX II (1st lot)	8 w	5/3/96	6/28/96	575FS+2 w	As Sc		MTU111[1.5],PhysU111[0.5],PStn
740	Produce rad hard SVX II-2nd lot	14 w	5/20/96	8/27/96		Must	1.1.1.4	k\$[4.71]
741	Probe SVX II (2nd lot)	40 w	10/1/96	7/23/97	740FS+2 w	Start	1.1.1.4	MTU111[0.5],PhysU111[0.5],PStn,TStnd,k\$[0.23]
742	Produce testing systems	52 w	10/15/96	10/30/97		Start	1.1.1.1	PhysF111[0.5],EEF111[0.5],PhysU111,k\$[0.25],k\$c[0.02]
743	Produce 3 chip flex circuit	87.2 w	3/31/97	1/8/99	564SS+4 w	Start	1.1.1.5	ETF111[0.5],PhysU111,k\$[0.38],k\$c[0.03]
744	Disk HDI FY97	0.42 w	7/1/97	7/3/97		Start	1.1.1.5	k\$[0.11],k\$c[0.01]
745	Barrel HDI FY98	0.4 w	1/2/98	1/6/98		Start	1.1.1.5	k\$[1.53],k\$c[0.12]
746	Chip test FY98	0.2 w	5/1/98	5/1/98		Start	1.1.1.4	k\$[0.05]
747	Procure test systems fy 98	0.4 w	6/1/98	6/2/98		Start	1.1.1.1	k\$[0.2],k\$c[0.02]
748	Procure Test systems FY 99	0.2 w	1/4/99	1/4/99		Start	1.1.1.1	
749	Produce 9 chip HDI FY99	6 w	1/4/99	2/12/99		Start	1.1.1.5	
750	Produce F disk HDI prototypes	8 w	1/11/99	3/5/99		Start		
751	Produce H disk HDI prototypes	10 w	1/11/99	3/19/99		Start		
752	Produce 6 chip HDI prototype	6 w	3/22/99	4/30/99		Start		
753	Assembly and Test FY98	0.2 w	6/1/98	6/1/98		Start	1.1.1.5	
754	Cables	48.6 w	7/13/99	7/6/00		As S		
755	Cables for 10% test	22 w	7/13/99	12/16/99		As S		
756	Procure inner(low mass) cables for 10% test	22 w	7/13/99	12/16/99		Start		
757	Procure outer(high mass) cables for 10% test	13 w	7/21/99	10/20/99		Start		
758	Production cables	42.8 w	8/23/99	7/6/00		As S		
759	Design, procure and test inner(low mass) cables	42 w	8/27/99	7/6/00		Start	1.1.1.5	k\$[1.5],k\$c[0.3]
760	Design, procure and test outer(high mass) cables	29 w	8/23/99	3/29/00		Start	1.1.1.5	
761	Transition Card	6 w	1/17/00	2/25/00		Start	1.1.1.5	ETU111[0.25]
762	Interface card	50.4 w	7/2/99	7/11/00		As S		
763	Interface card prototype layout	15.4 w	7/2/99	10/20/99		Start		
764	Interface card prototype assembly and test	14 w	10/21/99	2/11/00	763	As Sc		
765	Interface card prototype 2 layout	3 w	3/13/00	3/31/00	764FS+4 w	As Sc		
766	Interface card prototype 2 assembly and test	4 w	4/10/00	5/5/00	765FS+1 w	As Sc		
767	Interface card final revisions	2 w	3/20/00	3/31/00	764FS+5 w	As Sc		
768	Interface card production	9 w	4/3/00	6/5/00	767	As Sc	1.1.1.5	EEU111[0.5],ETU111[0.75]
769	Interface Card Production Complete	0 w	6/5/00	6/5/00	768	As S		
770	Interface card testing	12 w	4/17/00	7/11/00	768SS+2 w	As Sc		
771	Bias System	6 w	3/1/00	4/11/00		Start	1.1.1.5	ETF111,EEF111[0.2]
772	Assembly and Installation	61.8 w	7/15/99	10/11/00		As S		
773	10% test	38.4 w	8/16/99	5/26/00		As S		
774	Install cooling, power and DAQ in lab C	7.6 w	8/16/99	10/7/99		Start		
775	Complete test station	8.6 w	8/16/99	10/14/99		Start		
776	Twelve ladder test	11 w	11/5/99	2/7/00	774,775FS+3 w	As Sc		
777	Twelve Ladder Test Complete	0 w	2/7/00	2/7/00	776	As S		
778	First barrel/disk test	10 w	3/20/00	5/26/00	777,788	As Sc		
779	Support cylinder	39 w	8/16/99	6/1/00		As S		
780	Complete design of cylinder, mount, and beam tube support	5 w	8/16/99	9/20/99		Start		MEF111,PhysF111,DesF111

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
781	Manufacture support structure and mounts	16 w	8/16/99	12/8/99	603,780SS	As Sc	1.1.1.E	MTF111[0.5],MEF111[0.5],k\$(0.15),k\$(0.03)
782	Align cylinder in Sci-Fi barrel 1	1 w	5/18/00	5/24/00	781,426	As Sc		MTF112[2],PhysF111,CMM112
783	Move cylinder to Sci Det, align on LK	1 w	5/25/00	6/1/00	782	As Sc		CMM111,MTF111,PhysF111
784	Barrel/Disk Module assemblies	59.4 w	8/2/99	10/11/00		As S		
785	Design and fabricate fixtures and assembly stations	15 w	8/2/99	11/15/99		Start		
786	Align and measure first bulkhead set	5 w	9/21/99	10/25/99		Start		
787	Install ladders in first barrel	2 w	2/7/00	2/18/00	786	Start		
788	Install first F disk on barrel	2 w	3/6/00	3/17/00	712SS+3 w,787	As Sc		
789	Mount ladders/wedges on bulkheads 2-6	21.6 w	2/21/00	7/21/00	787SS+2 w	As Sc	1.1.1.3	MTF111[0.5],MEF111[0.25],PhysU111[0.5],CMM,TStdnd[0.25],PhysF111[0.25],k
790	Test Barrels	32 w	2/28/00	10/11/00	789SS+1 w	As Sc		MTF111[0.25],PhysU111,CMM[0.5],TStdnd[0.5],PhysF111[0.5]
791	Install barrel/disk modules in support	6 w	6/23/00	8/4/00	783,789FF+2 w	As Sc		PhysF111[2],PhysU111[2],MTF111[2.5],k\$(0.25),k\$(0.05),CMM
792	Produce end F disk modules	3 w	7/12/00	8/1/00	712	As Sc		MEF111[0.25],MTF111,PhysU111[0.5]
793	Install end F disk modules	2 w	8/14/00	8/25/00	791FS+1 w,792FS+1 w	As Sc		
794	Install H disks into Sci Fi supports	3 w	6/27/00	7/18/00	734FF+1 w	As Sc		MTF111[2],PhysU111[2],PhysF111
795	Complete first barrel	0 w	2/18/00	2/18/00	787	As S		
796	M2-First Silicon Tracker Barrel/Disk Module Complete	0 w	3/17/00	3/17/00	787,788	As S		
797	Complete 4 barrels	0 w	7/11/00	7/11/00	796FS+16 w	Start		
798	M3-All Silicon Tracker Barrels/Disks Complete	0 w	8/25/00	8/25/00	791,793	As S		
799	Mechanical systems and DAB Preparation	57.8 w	7/15/99	9/13/00		As S		
800	Plumbing and cooling system	46 w	7/15/99	6/20/00	599FS+24 w	Start	1.1.1.E	MTF111[0.25],MEF111[0.25],k\$(0.16),k\$(0.03),DAB_Gas_Plumbing[0.1]
801	Alignment System	34 w	1/3/00	8/29/00		Start	1.1.1.E	MTF111,ETF111,PhysU111[0.5],MEF111[0.5],PhysF111[0.5],k\$(0.1),k\$(0.02)
802	Monitoring systems	30 w	10/1/99	5/15/00		Start	1.1.1.E	ETF111[0.5],EEF111[0.25],MTF111[0.5],PhysU111[2],PhysF111[0.5],k\$(0.25),k
803	Air System	23 w	4/3/00	9/13/00		Start	1.1.1.E	MTF111[0.25],MEF111[0.25],k\$(0.15),k\$(0.03),DAB_Gas_Plumbing[0.1]
804	Produce installation fixtures	20 w	1/17/00	6/5/00		Start		MTF111[0.25]
805	Central Silicon Complete & Ready To Move To DAB	0 w	9/18/00	9/18/00	791,793FS+3 w	As S		
806	H-disks Ready	0 w	8/15/00	8/15/00	736FS+2 w,794FS+4 w	As S		
807	North Half-Cylinder Complete	0 w	8/1/00	8/1/00		Start		
808	South Half-Cylinder Complete	0 w	11/1/00	11/1/00		Start		
809	M1-Central Silicon Complete	0 w	11/1/00	11/1/00	807,808	As S		
810								
811	TRACKING ELECTRONICS FABRICATION	273.4 w	10/3/94	3/22/00		As S		
812	Design	123.4 w	10/3/94	3/7/97		As S		
813	SVXII Rad Hard Chips Available	0 w	10/1/96	10/1/96		Start		
814	Port Card/VRB Test	4 w	10/3/94	10/28/94		As Sc		
815	Port Card Redesign	58 w	10/31/94	12/12/95	814	As Sc		EEF115[0.7],ETF115
816	VRB Card Redesign	58 w	10/31/94	12/12/95	814	As Sc		EEF115,ETF115
817	Backplane/Download Final Design	58 w	10/31/94	12/12/95	814	As Sc		EEF115[0.5],ETF115[0.5]
818	L1/L2 framework specs complete	40 w	8/14/95	5/23/96		Start		EEU115[0.25]
819	Controller Card Redesign	30 w	5/24/96	1/7/97	814SS+2 w,818	As Sc		EEU115
820	M3-Tracking Electronics System Test Begins	0 w	3/7/97	3/7/97	815,816,817,819,636SS	As S		
821	Preproduction	252.4 w	10/3/94	10/11/99		As S		
822	Procure Additional VRB Cards	0.2 w	6/1/99	6/1/99		Start	1.1.5.3	k\$(0.45)
823	Procure Port Card Parts	16 w	10/2/95	1/25/96		Start	1.1.5.2	k\$(1.57),k\$(0.1)
824	Port Card Preproduction	38 w	10/22/97	7/31/98	636SS+20 w	Start	1.1.5.2	EEF115[0.3],EEU115[0.3],k\$(3.34),k\$(0.22)
825	Order Placed for Preproduction Port Cards	0 w	10/22/97	10/22/97	824SS	As S		
826	Procure VRB Card Parts	16 w	10/3/94	1/20/95		Start	1.1.5.2	k\$(2.96),k\$(0.05)
827	VRB Card Preproduction	17 w	6/15/97	10/14/97	636SS+13 w	Start	1.1.5.2	EEF115[0.3],k\$(6.13),k\$(0.09)
828	Order Placed for VRB Cards	0 w	9/3/97	9/3/97	827SS	As S		
829	Full VRB Crate Test	2 w	7/2/98	7/16/98	827FS+11 w	As Sc		
830	Controller Preproduction	73 w	4/23/98	10/11/99	636SS+44 w	As Sc		EEF115[0.1],EEU115[0.1]
831	Order Placed for Controller Cards	0 w	10/11/99	10/11/99	830	As S		
832	Preproduction Testing	38 w	10/22/97	7/31/98	824SS	As Sc		PhysU115,PhysF115
833	Production	117 w	10/22/97	3/15/00		As S		
834	Port Card Production and Test	79 w	8/3/98	3/15/00	832	As S		EEF115[0.1],ETU115[2],ETF115[0.3]
835	Final Delivery of Sequencers	0 w	3/15/00	3/15/00	834	As S		
836	VRB Card Production and Test	61.2 w	7/17/98	10/11/99	829	As Sc		EEF115,ETU115,ETF115
837	Full Production of Port/VRB Cards Begun	0 w	8/21/98	8/21/98	834SS+3 w,836SS+3 w	As S		
838	Controller Card Production and Test	18 w	10/12/99	3/1/00	830	As Sc	1.1.5.2	EEF115[0.1],ETF115[0.25],k\$(0.74),k\$(0.01)
839	Full Production of Controller Card Begun	0 w	10/12/99	10/12/99	838SS	As S		
840	Back Plane Production and Test	10 w	10/22/97	1/14/98		Start		EEF115[0.1]
841	Procure Fiber Optic Cables	12 w	7/15/96	10/7/96		Start	1.1.5.2	EEF115[0.1],k\$(0.22)
842	Support Services (racks, power supplies, tests, etc.)	131 w	5/1/97	1/4/00		Start	1.1.1.E	EEF115,ETF115
843	System Install and Test	16 w	11/16/99	3/22/00	834FS-4 w,836	As Sc		EEF115,PhysU115[2],PhysF115,ETF115[2],MCH1[0.1]
844	Final Electronics Installed	0 w	3/22/00	3/22/00	843	As S		
845	First Readout Crate Installed & Working	0 w	11/16/99	11/16/99	843SS	As S		
846								
847	FIBER TRIGGER ELECTRONICS FABRICATION	311.6 w	10/3/94	12/21/00		As S		
848	SVX II	172.6 w	10/1/96	4/5/00		As S		
849	SVXII Rad Hard Chips Available	0 w	10/1/96	10/1/96		Start		
850	SVX II+Pick Off Packaging Proto.	54 w	10/1/96	10/30/97	849	As Sc		EEF115[0.2],EEU115[0.5]
851	Pickoff chip-third prototype	19 w	11/5/97	4/1/98		Start		EEF115[0.5],PhysF115[0.5]

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
852	M3-Fiber Trigger Pickoff Chips Ordered	0 w	7/1/97	7/1/97		As S		
853	Pickoff Chip Production	16 w	11/19/98	3/26/99	851FS+6 w,852	Start	1.1.5.3	PhysU115,PhysF115[0.3],EEF115[0.5],k\$[0.15],k\$c[0.03]
854	Multichip Modules Ordered	0 w	10/20/97	10/20/97		Start		
855	Multichip Module Preproduction	77 w	11/26/97	6/24/99	853FF+4 w,854FS+4 w	Finish	1.1.5.3	EEF115[0.5],k\$[8.48],k\$c[0.65]
856	Final Production - MCM	12 w	1/13/00	4/5/00	868	As Sc		ETF115,EEF115
857	Multichip Modules Received	0 w	4/5/00	4/5/00	856	As S		
858	FE Analog Boards	311.6 w	10/3/94	12/21/00		As S		
859	Analog Board Prototype	34 w	11/1/95	7/2/96		Start		EEF115[0.5],ETF115[0.5],PhysF115[0.3]
860	Procure Parts - FY95	16 w	10/3/94	1/20/95	859	Start	1.1.5.3	k\$[0.2],k\$c[0.04]
861	Procure Parts - FY96	16 w	10/2/95	1/25/96	860	Start	1.1.5.3	k\$[2.18],k\$c[0.09]
862	Analog Board Test with Cassette	35 w	4/13/98	12/23/98	861	As Sc		PhysU115,PhysF115[0.3]
863	M3-Fiber Tracker Analog Board Test Complete	0 w	12/23/98	12/23/98	862	As S		
864	Preproduction Boards	58.2 w	4/1/99	6/2/00		As S		
865	8-chip boards	32 w	4/1/99	11/15/99		Start		
866	12-chip boards	32.2 w	10/5/99	6/2/00	865FS-6 w	As Sc		
867	Final Test	32.2 w	11/16/99	7/17/00		As S		
868	8-chip test	6 w	11/16/99	1/12/00	855,865	As Sc		PhysU115[2],PhysF115[0.6],ETF115[0.5]
869	12-chip test	6 w	6/5/00	7/17/00	866	As Sc		PhysU115[2],PhysF115[0.6],ETF115[0.5]
870	Redesign and Test Boards	30.2 w	1/13/00	8/14/00		As S		
871	8-chip board	11 w	1/13/00	3/29/00	868	As Sc		PhysU115[2],PhysF115[0.6],ETF115[0.5]
872	12-chip board	4 w	7/18/00	8/14/00	869	As Sc		PhysU115[2],PhysF115[0.6],ETF115[0.5]
873	Bid Production	34.2 w	11/16/99	7/31/00		As S		
874	Bid 8-chip board production	8 w	11/16/99	1/26/00	865	As Sc		
875	Bid 12-chip board production	8 w	6/5/00	7/31/00	866	As Sc		
876	8-chip Board Production	27 w	1/26/00	8/4/00		As S		
877	M3-Fiber Tracker 8-chip Analog Boards Ordered	0 w	1/26/00	1/26/00	874,868	As S	1.1.5.3	k\$[1.06],k\$c[0.19]
878	Produce 10 8-chip boards	4 w	3/30/00	4/26/00	856SS+6 w,877,871	As Sc		EEF115[2],ETF115[1.5]
879	Ten 8-chip Analog Boards Available	0 w	4/26/00	4/26/00	878	As S		
880	Test 10 8-Chip Boards	2 w	4/27/00	5/10/00	879	As Sc		EEF115,ETF115
881	Produce and test remaining 8-chip boards	12 w	5/11/00	8/4/00	880	As Sc		EEF115[2],ETF115[1.5]
882	8-chip Analog Boards Ready	0 w	8/4/00	8/4/00	881	As S		
883	12-chip Board Production	20 w	7/31/00	12/21/00		As S		
884	M3-Fiber Tracker 12-chip Analog Boards Ordered	0 w	7/31/00	7/31/00	875,869	As S		
885	Produce 10 12-chip boards	4 w	8/15/00	9/12/00	884,872,856SS+6 w	As Sc		
886	Ten 12-chip Analog Boards Available	0 w	9/12/00	9/12/00	885	As S		
887	Test ten 12-Chip Boards	2 w	9/13/00	9/26/00	886	As Sc		
888	Produce and test remaining 12-chip boards	12 w	9/27/00	12/21/00	887	As Sc		
889	12-chip Analog Boards Ready	0 w	12/21/00	12/21/00	888	As S		
890	CFT Digital Boards	191.6 w	11/12/96	10/2/00		As S		
891	Development	81 w	11/12/96	7/7/98		Start		EEU115
892	Test Board Prototype Fabrication	4 w	1/4/99	1/29/99		Start		EEF115[0.3],ETF115[0.5]
893	Test Board Prototype Complete	0 w	1/29/99	1/29/99	892	As S		
894	Board Test	12 w	2/1/99	4/23/99	850,892	As Sc		PhysU115,PhysF115[0.3],EEF115,ETF115[0.5]
895	Final Design	28 w	4/1/99	10/18/99		As S		
896	Design Motherboard	6 w	4/1/99	5/12/99		Start		EEF115,ETF115[0.5]
897	Design Level 1 Daughter Board	20 w	5/13/99	10/4/99	896	As Sc		EEF115,ETF115[0.5],PhysF115
898	Design Level 2 Daughter Board	22 w	5/13/99	10/18/99	896	As Sc		EEF115[2],ETF115[0.5]
899	Final Prototypes	35 w	5/13/99	2/2/00		As S		
900	Mother Board Prototype	6 w	5/13/99	6/24/99	896	As Sc		EEF115,ETF115[0.5]
901	Level 1 Daughter Board Prototype	10 w	10/5/99	12/15/99	897	As Sc		EEF115,ETF115[0.5]
902	Level 2 Daughter Board Prototype	13 w	10/19/99	2/2/00	898	As Sc		EEF115,ETF115[0.5]
903	Final Test	13 w	12/16/99	3/29/00		As S		
904	Test Mother Board and Level 1 Daughter Board	6 w	12/16/99	2/9/00	900,901	As Sc		PhysU115,PhysF115[0.3],EEF115,ETF115[0.5]
905	Test Mother Board and Level 2 Daughter Board	8 w	2/3/00	3/29/00	900,902	As Sc		PhysU115,PhysF115[0.3],EEF115,ETF115[0.5]
906	Redesign	9 w	2/10/00	4/12/00		As S		
907	Motherboard Redesign	4 w	2/10/00	3/8/00	904	As Sc		PhysU115[0.5],PhysF115[0.1],EEF115[0.5],ETF115[0.25]
908	Level 1 Daughter Board Redesign	3 w	2/10/00	3/1/00	904	As Sc		PhysU115[0.5],PhysF115[0.1],EEF115[0.5],ETF115[0.25]
909	Level 2 Daughter Board Redesign	2 w	3/30/00	4/12/00	905	As Sc		PhysU115[0.5],PhysF115[0.1],EEF115[0.5],ETF115[0.25]
910	Bid Mother and Daughter Boards	12.6 w	10/19/99	1/31/00	895	As Sc		
911	M3-CFT Digital Boards Ordered	0 w	1/31/00	1/31/00	910	As S		
912	Produce 10 Boards	8 w	4/13/00	6/8/00	906,911	As Sc	1.1.5.3	EEF115,ETF115[0.5],k\$[1.98],k\$c[0.38]
913	10 Digital Boards Available	0 w	6/8/00	6/8/00	912	As S		
914	Test Boards	4 w	6/9/00	7/7/00	913	As Sc		
915	Final Production	12 w	7/10/00	10/2/00	914	As Sc	1.1.5.3	EEF115,ETF115[0.5],k\$[2.7],k\$c[0.49]
916	CFT Digital Boards Ready	0 w	10/2/00	10/2/00	915	As S		
917	Mixer Boards	68.8 w	4/1/99	8/17/00		As S		
918	Test Board Design	19 w	4/1/99	8/13/99		Start		EEF115[0.5]
919	Test Board Prototype	9.8 w	8/16/99	10/22/99	918	As Sc		EEF115
920	Prepare Final Design	12 w	12/1/99	3/7/00	919	Start		EEF115
921	Mixer Board Design Finished	0 w	3/7/00	3/7/00	920	As S		
922	Build Mixer Prototype	11 w	3/8/00	5/23/00	921	As Sc		EEF115,ETF115[0.2]

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ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
923	Redesign Mixer Board	4 w	5/24/00	6/21/00	922	As Sc		EEF115
924	Bid Mixer Boards	6 w	2/14/00	3/24/00	919,920SS	Start		
925	Mixer Boards Ordered	0 w	6/21/00	6/21/00	923,924	As S	1.1.5.3	k\$[1.27],k\$c[0.26]
926	Build Production Boards	8 w	6/22/00	8/17/00	923,925	As Sc		EEF115[0.5]
927	Mixer Boards Ready	0 w	8/17/00	8/17/00	926	As S		
928	Support Hardware	58.4 w	5/17/99	7/20/00		As S		
929	Design FEA Backplane	4 w	5/17/99	6/14/99		Start		EEF115
930	Produce FEA Backplane	11 w	10/11/99	1/11/00		As Sc	1.1.5.3	k\$[0.09],k\$c[0.02]
931	Design Motherboard Backplanes	4 w	9/1/99	9/29/99	895	As Sc		EEF115
932	Produce Motherboard Backplanes	15 w	9/30/99	1/28/00	931	As Sc	1.1.5.3	k\$[0.11],k\$c[0.02]
933	Design Mixer Board Backplanes	4 w	3/8/00	4/4/00	920	As Sc		EEF115
934	Produce Mixer Board Backplanes	15 w	4/5/00	7/20/00	933	As Sc		
935	Rack Prep in Movable Counting House	30 w	5/1/97	12/3/97		Start		EEF115[0.2],ETF115
936	Install cable ways and fiber tracker electrical cables	4 w	6/5/00	6/30/00		Start		MTF115[2],Platform
937	Installation & System Test	16 w	8/29/00	12/21/00	881,915SS+50 %,926,888FF	As Sc		EEF115[3],PhysU115[2],PhysF115,ETF115,Platform[0.7],MCH1[0.4]
938	First Crate Operational	0 w	5/10/00	5/10/00	880	As S		
939								
940	Design, fabricate tracker installation fixture	8 w	3/2/00	4/27/00	941SF-4 w	As Sc		MEF112[2],MTF112[2],Welder_Day
941	Install/align fiber tracker in solenoid	2 w	5/25/00	6/8/00	782	As Sc		MEF112[2],MTF112[4],Align_Day,ICR_North,ICR_South
942	Hookup fiber tracker -South	4 w	6/9/00	7/7/00	941,373	As Sc		MTF112[4],PhysU112[2],PhysF112,ICR_South,Platform[0.5]
943	Hookup fiber tracker - North	4 w	7/10/00	8/4/00	374FF,942	As Sc		MTF112[4],PhysU112[2],PhysF112,ICR_North,Platform[0.5]
944	Install silicon high mass cables	5 w	8/7/00	9/11/00	943	As Sc		MTF111[2],ETF111[2],EEF111[0.5],PhysF111[0.5],PhysU111[0.5],ICR_North,IC
945	Commission fiber tracker	19 w	7/24/00	12/6/00	943SS+2 w,938,528SS+1 w,529FF+1 w	As Sc		PhysU112[3],PhysF112[3]
946	Install north half of central silicon in fiber tracker	2 w	8/22/00	9/5/00	943SS+50 %,807,2060	As Sc		MTF111[4],PhysF111[2],ICR_North,Align_Day[0.2]
947	Hookup north half of central silicon	3 w	9/6/00	9/26/00	946	As Sc		MTF111[4],PhysU111[2],PhysF111,EEF115,ETF115,ICR_North
948	Checkout north half of silicon detector	5 w	9/6/00	10/10/00	947SS	As Sc		PhysU111[3],PhysF111[3],EEF115,ETF115,ICR_North[0.3]
949	Install south half of central silicon in fiber tracker	2 w	11/6/00	11/17/00	808,943,2065	As S		MTF111[4],PhysF111[2],ICR_South,Align_Day[0.2]
950	Hookup south half of central silicon	3 w	11/20/00	12/12/00	949	As S		MTF111[4],PhysU111[2],PhysF111,EEF115,ETF115,ICR_South
951	Checkout south half of silicon detector	5 w	11/20/00	12/28/00	950SS	As S		PhysU111[3],PhysF111[3],EEF115,ETF115,ICR_South[0.3]
952	Install/hookup silicon H-disk south	1 w	1/2/01	1/8/01	806,951	As S		MTF111[3],PhysU111[2],PhysF111,ICR_South,Align_Day[0.2]
953	Install/hookup silicon H-disk north	1 w	1/2/01	1/8/01	947,806,952SS	As S		MTF111[3],PhysU111[2],PhysF111,ICR_North,Align_Day[0.2]
954	Final hookup and survey beam pipe	1 w	1/9/01	1/15/01	953	As S		MTF111[3],PhysU111[2],PhysF111,ICR_North,Align_Day[0.2]
955	M2-Silicon Tracker Installed in Solenoid/Fiber Tracker	0 w	11/17/00	11/17/00	949	As S		MTF100,MEF111[0.25],PhysF111[0.25],Align_Day,ICR_North,ICR_South
956	Silicon And Beam Pipe Installed And Surveyed	0 w	1/15/01	1/15/01	954	As S		
957								
958	CALORIMETER FRONT-END ELECTRONICS	373 w	8/5/93	1/3/01		As S		
959	M3-Calorimeter Electronics TDR Submitted	0 w	6/12/97	6/12/97		Start		
960	Preamp Construction	337.6 w	8/5/93	4/18/00		As S		
961	Purchase cables	39 w	8/5/93	5/4/94		Start	1.2.1.6	PhysU121[0.2],ETF121[0.2],k\$[5.57],k\$c[0.06]
962	Hybrid Construction	305.2 w	12/9/93	1/7/00		As S		
963	Preamp design finalization	165 w	12/9/93	2/28/97		Finisl	1.2.1.1	PhysU121,k\$[0.11],k\$c[0.01]
964	Preamp Design Finalized	0 w	2/28/97	2/28/97	963	As S		
965	Order first preamp parts	74.68 w	12/9/93	5/16/95	963SS	As Sc	1.2.1.1	k\$[2.54],k\$c[0.1]
966	Build vendor preamp tester	29 w	3/20/97	10/13/97	963	As Sc	1.2.1.1	EEF121[0.5],ETF121[0.8],k\$[0.06]
967	Order final parts	38.2 w	3/3/97	12/1/97	963	As Sc		PhysU121
968	Order caps	2 w	11/14/97	12/1/97	967	As Sc	1.2.1.1	k\$[0.68],k\$c[0.07]
969	Receive parts	18 w	12/16/97	5/1/98	967FS+2 w	As Sc		PhysU121[0.1]
970	Bid preamp	2 w	9/16/96	9/27/96	963FS-22 w	As Sc	1.2.1.1	PhysU121[0.5],k\$[0.06]
971	Order preamp	2 w	9/30/96	10/11/96	970	As Sc	1.2.1.1	PhysU121[0.1],k\$[3.28],k\$c[0.16]
972	Vendor engineering samples production	23.2 w	9/18/97	3/13/98	963,971	As Sc		PhysU121[0.1]
973	Certify engineering samples	4 w	3/16/98	4/10/98	972	As Sc	1.2.1.1	EEF121,PhysU121,ETF121,k\$[0.01]
974	Pre-production (300) samples from vendor	17 w	8/5/98	12/4/98	973FS+16 w	As Sc		
975	Evaluate Pre-production	2 w	12/7/98	12/18/98	974	As Sc		PhysU121[0.25],EEF121[0.5]
976	Vendor production 4,700 pcs	4 w	1/4/99	1/29/99	975	As Sc		
977	M3-Calorimeter Preamp Production Begun	0 w	1/4/99	1/4/99	976SS	As S		
978	Evaluate 4,700 preamp lot	19 w	2/1/99	6/14/99	976,977	As Sc		
979	Vendor preamp 1st lot production & test (27,500)	12 w	8/4/99	10/27/99	978FS+7 w	As Sc		ETF121[0.1],PhysU121[0.05]
980	Preamp 1st production lot shipped from vendor	0 w	10/27/99	10/27/99	979	As S		
981	Vendor preamp 2nd lot production & test (27,500)	2.4 w	10/28/99	11/12/99	980	As Sc		
982	Preamp production complete at vendor	0 w	11/12/99	11/12/99	981	As S		
983	In house preamp test/inventory	6 w	11/11/99	1/7/00	980FS+2 w	As Sc		ETF121[0.5],PhysU121[0.25],Jollif[0.5],Gao[0.25]
984	Preamp Motherboard Construction	283.4 w	8/5/94	4/4/00		As S		
985	Bid motherboard	5 w	8/5/94	9/8/94		Start		PhysU121[0.2]
986	Place motherboard order	2 w	9/9/94	9/22/94	985	As Sc	1.2.1.1	PhysU121[0.1],k\$[0.97],k\$c[0.05]
987	Place first parts orders	20 w	9/23/94	2/9/95	986	As Sc	1.2.1.1	k\$[0.99],k\$c[0.01]
988	Finalize design/modifications	130 w	9/9/94	3/31/97	985	As Sc		PhysU121[0.1]
989	Preamp Motherboard Design Complete	0 w	3/31/97	3/31/97	988	As S		
990	Place MOU with Columbia U. -FY96	2.67 w	1/2/96	1/19/96	988SS+65 w	Start	1.2.1.1	k\$[0.92],k\$c[0.11]
991	Vendor 1st production (100bds)	24 w	3/30/98	9/16/98	988FS+49 w	As Sc		PhysU121[0.1]
992	Vendor Assembly/test 1st production	5 w	9/17/98	10/21/98	987,990,991	As Sc		PhysU121[0.2]
993	Certify motherboard 1st production	29 w	10/8/98	5/14/99	992FS-2 w	As Sc		ETF121,PhysU121

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ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
994	Vendor 2nd production	12 w	5/17/99	8/10/99	993	As Sc		
995	Evaluate 2nd production	5.4 w	8/11/99	9/17/99	994	As Sc		
996	Preamp Motherboard Production Begun	0 w	9/20/99	9/20/99	995,997SS	As S		
997	Vendor production	11 w	9/20/99	12/7/99	995	As Sc		PhysU121[0.1],Groer[0.05],Tuts[0.05]
998	Preamp Motherboard Fabrication Complete	0 w	12/7/99	12/7/99	997	As S		
999	Vendor Assembly/test	18 w	11/15/99	4/4/00	998	As Sc		PhysU121[0.2],Gao[0.2]
1000	Preamp Motherboard Assembly Complete	0 w	4/4/00	4/4/00	999	As S		
1001	Preamp Power Supply Construction	151.6 w	3/3/97	3/28/00		As S		
1002	Order Prototype Switching Supply	7.4 w	4/3/97	5/23/97	963	Start		EEF121[0.2]
1003	Design mechanical housing	4 w	3/3/97	3/28/97	963	As Sc		EEF121[0.2]
1004	Test Prototype supply	28 w	5/27/97	12/12/97	1002,1003	As Sc		EEF121,PhysU121[0.2]
1005	Preamp PS Design Finalized	0 w	12/12/97	12/12/97	1004	As S		
1006	Bid supplies	4 w	7/30/97	8/26/97	1004SS+9 w	As Sc		EEF121[0.2]
1007	Order preamp supplies	2 w	8/27/97	9/10/97	1006	As Sc	1.2.1.1	EEF121[0.1],k\$[0.91],k\$c[0.1]
1008	Vendor delivery	21 w	12/8/97	5/14/98	1007FS+12 w	As Sc		ETF121[0.1]
1009	Construct mechanical housing	40 w	11/2/98	8/26/99	1007FS+52 w	Start		ETF121[0.2]
1010	Preamp Power Supply Assembly Started	0 w	8/6/99	8/6/99	1011SS	As S		
1011	Assemble supplies	18.6 w	8/6/99	12/17/99	1008,1009FS-3 w	As Sc	1.2.1.1	EEF121[0.1],k\$[0.18],k\$c[0.03],ETF121[1.3],Cherry,Huffman[0.1],Emery[0.3]
1012	Preamp Power Supplies 50% Complete	0 w	10/8/99	10/8/99	1011SS+9 w	As S		
1013	Preamp Power Supply Fabrication Complete	0 w	12/17/99	12/17/99	1011	As S		
1014	Test and install supplies	26 w	9/13/99	3/28/00	1011SS+5 w	Start	1.2.1.1	ETF121[1.5],EEF121[0.2],k\$[0.04],k\$c[0.01],PhysU121[0.5],Emery,Liston[0.5],C
1015	Install preamps on motherboard	15 w	12/15/99	4/11/00	983SS+2 w,999SS+4 w	As Sc		ETF121,PhysU121[0.2],Jollif,Gao[0.1],Groer[0.1]
1016	Preamp system burn-in test	14 w	1/12/00	4/18/00	1015SS+2 w	As Sc		ETF121[0.2],PhysU121[0.4],Groer[0.2],Gao[0.2],Minor[0.2]
1017	M2-Calorimeter Preamp System Test Complete	0 w	4/18/00	4/18/00	1016	As S		
1018	BLS Construction	316.2 w	8/10/94	11/30/00		As S		
1019	SCA construction	293.2 w	8/10/94	6/16/00		As S		
1020	SCA place order	7 w	8/10/94	9/27/94		Start	1.2.1.2	PhysU121[0.1],k\$[4.04],k\$c[0.81]
1021	SCA design finalization/proto	85 w	9/28/94	5/20/96	1020	As Sc	1.2.1.2	EEU121[0.1],PhysU121[0.05],k\$[0.23]
1022	SCA 10-wafer Pre-production	8 w	5/21/96	7/17/96	1021	As Sc		
1023	SCA 10-wafer Packaging	4 w	7/18/96	8/14/96	1022	As Sc		EEF121[0.05],ETF121[0.2]
1024	SCA Pre-production Acceptance Tests	43 w	8/15/96	6/27/97	1023	Finish		PhysU121[0.2],EEF121[0.2],ETF121[0.5]
1025	Order Additional SCAs	12 w	6/30/97	9/23/97	1024	As Sc	1.2.1.2	ETF121[0.5],k\$[0.94],k\$c[0.19]
1026	SCA Preproduction Evaluation Complete	0 w	6/27/97	6/27/97	1024	As S		
1027	SCA die production	20 w	6/2/97	10/21/97	1024FS-4 w	As Sc		PhysU121[0.05]
1028	SCA die packaging	42 w	8/12/97	6/18/98	1027SS+10 w	As Sc	1.2.1.2	PhysU121[0.05],ETF121[0.5],k\$[0.42],k\$c[0.04]
1029	Place Change Order for Packaging Additional SCAs	2 w	1/15/98	1/28/98	1028SS+20 w	As Sc	1.2.1.2	k\$[0.17],k\$c[0.02]
1030	Fermilab SCA Tester Design	42 w	9/10/97	7/17/98	1028FF+4 w	As Sc	1.2.1.2	EEF121[0.2],ETF121[0.5],k\$[0.03]
1031	Test SCAs	33 w	11/20/97	7/27/98	1030	As Sc	1.2.1.2	ETF121[0.5],k\$[0.03]
1032	SCA 24-wafer prototype production	13 w	8/17/98	11/16/98		Start		
1033	SCA 24-wafer prototype packaging	4 w	11/17/98	12/16/98	1032	As Sc		
1034	SCA 24-wafer Acceptance Tests	21 w	12/17/98	5/27/99	1033	As Sc		
1035	SCA wafer final production	14 w	5/28/99	9/3/99	1034	As Sc	1.2.1.2	k\$[0.55],k\$c[0.11]
1036	Final SCA Fabrication Complete	0 w	9/3/99	9/3/99	1035	As S		
1037	SCA wafer packaging	4.4 w	9/7/99	10/6/99	1036	As Sc		
1038	Start FNAL SCA Testing	0 w	10/18/99	10/18/99	1037FS+1.6 w	As S		
1039	Test SCAs	5.2 w	10/19/99	11/23/99	1031,1038	As Sc		
1040	SCA Testing 50% Complete	0 w	11/3/99	11/3/99	1039SS+60 %	As S		
1041	SCA Testing Complete	0 w	11/23/99	11/23/99	1039	As S		
1042	Negotiate spare SCAs with SuperTech	12 w	11/24/99	3/2/00	1041	As Sc		EEF121[0.05],PhysU121[0.1],Huffman[0.05],Tuts[0.1]
1043	Produce/receive new SCAs	8 w	3/3/00	4/27/00	1042	As Sc		EEF121[0.05],ETF121[0.05],Huffman[0.05],Liston[0.05]
1044	Package SCAs	4 w	4/28/00	5/25/00	1043	As Sc		ETF121[0.2],Liston[0.2]
1045	Test SCAs	3 w	5/26/00	6/16/00	1044	As Sc		ETF121,PhysU121[0.2],Jollif,Gao[0.2]
1046	Shaper Hybrid construction	247.8 w	3/1/95	2/22/00		As S		
1047	Finalize shaper hybrid design	181 w	3/1/95	10/5/98		As Sc		EEU121[0.3],PhysU121[0.1]
1048	Order First Shaper Hybrid Parts	24 w	6/10/97	11/26/97		Start	1.2.1.2	k\$[3.48],k\$c[0.09]
1049	Stony Brook MOU -FY96	6.32 w	8/15/96	9/30/96		Start	1.2.1.2	k\$[1.62],k\$c[0.24]
1050	Bid shaper hybrid	6 w	10/6/98	11/16/98	1047	As Sc		EEU121[0.5],PhysU121[0.05]
1051	Place shaper hybrid order	4 w	8/9/99	9/3/99	1050	Start		EEU121[0.05]
1052	Vendor 1st production	10 w	9/7/99	11/15/99	1048,1051	As Sc		EEU121[0.1]
1053	Certify 1st production	8 w	11/16/99	1/26/00	1052	As Sc		EEU121,PhysU121[0.5],Schamberger[0.5],Manziona
1054	Shaper Hybrid Design and Test Complete	0 w	1/26/00	1/26/00	1053	As S		
1055	Place SB MOU-FY98(shaper hybrid)	4 w	9/4/98	10/2/98		Start	1.2.1.2	k\$[4.58],k\$c[0.46]
1056	Shaper Hybrid Production Started	0 w	1/20/00	1/20/00	1057SS	As S		
1057	Vendor shaper hybrid production & test	4.8 w	1/20/00	2/22/00	1049,1053,1054	As Sc		EEU121[0.1],Manziona[0.1]
1058	Shaper Hybrid 50% Complete	0 w	2/22/00	2/22/00	1057SS+95 %	As S		
1059	Shaper Hybrid Construction Complete	0 w	2/22/00	2/22/00	1057	As S		
1060	Trigger Sum, Backplane Construction	172.8 w	5/2/97	10/27/00		As S		
1061	Place SB MOU-FY98(Buffer,Control, Trigger Sum,Backplane)	0.2 w	9/4/98	9/4/98	1055SS	As Sc	1.2.1.2	k\$[2.23],k\$c[0.27]
1062	Finalize designs	72 w	5/2/97	10/12/98	1047SS+50 %	Start		EEU121[0.3],PhysU121[0.1]
1063	Trigger Sum Design and Test Complete	0 w	10/12/98	10/12/98	1062	As S		
1064	Bid designs	15 w	11/1/99	2/29/00	1062,1063	Start		EEU121[0.5],PhysU121[0.05],Manziona[0.5],Schamberger[0.05]

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1065	Place orders	2 w	3/1/00	3/14/00	1061,1064	As Sc		EEU121[0.05],Manzione[0.05]
1066	Vendor 1st production	4 w	4/12/00	5/9/00	1065FS+4 w	As Sc		EEU121[0.1],Manzione[0.1]
1067	Assembly 1st production	4 w	5/10/00	6/7/00	1066	As Sc		EEU121[0.1],Manzione[0.1]
1068	Certify 1st production	1 w	6/8/00	6/14/00	1067	As Sc		EEU121,PhysU121,Manzione,Schamberger
1069	Place SB MOU-FY99 (BLS Contoller)	0.2 w	6/15/00	6/15/00	1068	As Sc	1.2.1.2	k\$[0.97],k\$c[0.19]
1070	Trigger Sum Production Started	0 w	6/15/00	6/15/00	1071SS	As S		
1071	Vendor production	6 w	6/15/00	7/27/00	1068	As Sc		EEU121[0.05],Manzione[0.05]
1072	Trigger Sum Production Complete	0 w	7/27/00	7/27/00	1071	As S		
1073	Assembly	6 w	7/28/00	9/8/00	1072	As Sc		EEU121[0.05],Manzione[0.05]
1074	Trigger Sum Assembly Complete	0 w	9/8/00	9/8/00	1073	As S		
1075	In house Trigger testing	9 w	8/25/00	10/27/00	1073SS+4 w	Start		PhysU121[0.05],EEU121[0.2],Manzione[0.2],Schamberger[0.05]
1076	Daughterboard Construction	62 w	8/17/99	11/14/00		As S		
1077	Order Daughterboard prototype	4 w	8/17/99	9/14/99		Start		
1078	Evaluate prototype	9 w	9/15/99	11/16/99	1077	As Sc		
1079	Bid Daughterboard 1st production	4 w	10/27/99	11/23/99	1078FS-3 w	As Sc		
1080	Place Daughterboard 1st production order	8 w	11/24/99	2/3/00	1079	As Sc		EEU121[0.15],PhysU121[0.1],Schamberger[0.1],Manzione[0.15]
1081	Vendor Daughterboard 1st production	4 w	2/25/00	3/23/00	1080FS+3 w	As Sc		EEU121[0.05],PhysU121[0.05],Manzione[0.05],Schamberger[0.05]
1082	Assembly of Daughterboard 1st production	4 w	3/24/00	4/20/00	1081	As Sc		EEU121[0.1],PhysU121[0.05],Manzione[0.1],Schamberger[0.05]
1083	Certify Daughterboard 1st production	8 w	4/28/00	6/23/00	1082,1099FF	As Sc		EEU121[0.25],PhysU121[0.25],Manzione[0.25],Schamberger[0.25]
1084	Daughterboard Vendor Production Started	0 w	6/23/00	6/23/00	1083	As S		
1085	Vendor daughterboard full production	8 w	6/26/00	8/21/00	1084	As Sc		EEU121[0.05],PhysU121[0.05],Manzione[0.05],Schamberger[0.05]
1086	Daughterboard Vendor Production Complete	0 w	8/21/00	8/21/00	1085	As S		
1087	Daughterboard Assembly	8 w	8/22/00	10/17/00	1085SS+8 w	As Sc		EEU121[0.05],PhysU121[0.05],Manzione[0.05],Schamberger[0.05]
1088	Daughterboard Testing Started	0 w	9/20/00	9/20/00	1089SS	As S		
1089	Test Daughterboard	8 w	9/20/00	11/14/00	1087SS+4 w	As Sc		EEU121[0.15],PhysU121[0.05],Manzione[0.15],Schamberger[0.05]
1090	Daughterboard Testing Complete	0 w	11/14/00	11/14/00	1089	As S		
1091	BLS Motherboard construction	150.2 w	10/22/97	11/7/00		As S		
1092	Place SB MOU-FY98(Motherboard)	0.2 w	9/4/98	9/4/98	1055SS	As Sc	1.2.1.2	k\$[1.88],k\$c[0.19]
1093	Finalize designs & prototype	89 w	10/22/97	8/13/99	1047SS+90 %,1062SS+50 %	As Sc		EEU121[0.3],PhysU121[0.1]
1094	Evaluate prototype	5 w	8/16/99	9/20/99	1093	As Sc		
1095	Bid BLS motherboard	12 w	10/27/99	2/3/00	1078FS-3 w,1094	As Sc		EEU121[0.1],PhysU121[0.05],Manzione[0.1],Schamberger[0.05]
1096	Place BLS motherboard order	2 w	2/25/00	3/9/00	1095FS+3 w	Start		EEU121[0.05],Manzione[0.05]
1097	Vendor 1st production	4 w	3/10/00	4/6/00	1096	As Sc		EEU121[0.05],PhysU121[0.05],Manzione[0.05],Schamberger[0.05]
1098	Assemble BLS Motherboard 1st production	5 w	4/7/00	5/11/00	1097	As Sc		EEU121[0.1],PhysU121[0.05],Manzione[0.1],Schamberger[0.05]
1099	Certify 1st production	6 w	5/12/00	6/23/00	1098	As Sc		EEU121[0.25],PhysU121[0.25],Manzione[0.25],Schamberger[0.25]
1100	BLS Motherboard Design and Test Complete	0 w	6/23/00	6/23/00	1099	As S		
1101	Bid & order BLS Motherboard	3 w	6/26/00	7/17/00	1099	As Sc		EEU121[0.1],PhysU121[0.05],Manzione[0.1],Schamberger[0.05]
1102	BLS Motherboard Production Starts	0 w	7/18/00	7/18/00	1103SS	As S		
1103	Vendor BLS motherboard production	6 w	7/18/00	8/28/00	1055,1101	As Sc		EEU121[0.05],Manzione[0.05]
1104	BLS Motherboard Production Complete	0 w	8/28/00	8/28/00	1103	As S		
1105	Assembly of BLS Motherboard	6 w	8/29/00	10/10/00	1104	As Sc		EEU121[0.1],Manzione[0.1]
1106	BLS Motherboard Assembly Complete	0 w	10/10/00	10/10/00	1105	As S		
1107	In house BLS motherboard test	6 w	9/27/00	11/7/00	1105SS+4 w	As Sc		PhysU121[0.05],EEU121[0.5],Manzione[0.5],Schamberger[0.05]
1108	BLS Assembly/Test	8 w	10/4/00	11/30/00	1031SS+50 %,1075SS+1 w,1089SS+1 w,11	As Sc		EEU121,PhysU121[0.5],Manzione,Schamberger[0.5]
1109	M2-Calorimeter BLS Assembly Complete	0 w	11/30/00	11/30/00	1039,1059,1108	As S		
1110	BLS Power Supply Construction	35.6 w	12/17/99	9/8/00		As S		
1111	Order Prototype Parts/Transformers	7 w	12/17/99	2/17/00	1021,1047,1062,1093	Start		EEF121[0.2],ETF121[0.1],Huffman[0.2],Minor[0.1]
1112	Test Prototype supply	2 w	2/18/00	3/2/00	1111	As Sc		EEF121[0.1],ETF121[0.2],Huffman[0.1],Liston[0.2]
1113	M3-Calorimeter BLS PS Prototype Built/Tested	0 w	3/2/00	3/2/00	1112	As S		
1114	Bid transformer	2 w	3/15/00	3/28/00	1052SS,1065,1097SS,1112,1113	As Sc		EEF121[0.2],Huffman[0.2]
1115	Order transformer	1 w	3/29/00	4/4/00	1114	As Sc	1.2.1.2	EEF121[0.1],k\$[0.38],k\$c[0.08],Huffman[0.1]
1116	Vendor delivery	8 w	4/5/00	5/31/00	1115	As Sc		ETF121[1.5],EEF121[0.2],Minor[0.5],Cherry[0.5],Liston[0.5],Huffman[0.2]
1117	Mechanical rework	16 w	5/3/00	8/24/00	1116SS+50 %	As Sc		ETF121[2],EEF121[0.2],Minor,Cherry,Huffman[0.2]
1118	Assembly of BLS Power Supplies Started	0 w	5/31/00	5/31/00	1117SS+4 w	As S		
1119	Test supplies	12 w	6/8/00	8/31/00	1118SS+1 w	As Sc		ETF121[0.5],EEF121[0.2],Liston[0.5],Huffman[0.2]
1120	Installation of BLS Power Supplies Started	0 w	6/14/00	6/14/00	1119SS+1 w	As S		
1121	Install BLS power supplies	12 w	6/15/00	9/8/00	1120	As Sc		ETF121[2],EEF121[0.1],Liston,Minor,Huffman[0.1],Platform
1122	BLS Power Supplies Installed	0 w	9/8/00	9/8/00	1121	As S		
1123	Calibration system construction	146 w	4/1/97	3/17/00		As S		
1124	Finalize calibration prototype design	58 w	4/1/97	6/1/98	988	As Sc		EEU121,PhysU121[0.2]
1125	Calibration Prototype Design Complete	0 w	6/1/98	6/1/98	1124	As S		
1126	Prototyping	25 w	5/4/98	10/28/98	1124FS-4 w	As Sc		EEU121[0.5],ETU121[0.2],PhysU121[0.2]
1127	Prototype Test at Fermilab	3 w	10/29/98	11/18/98	1126	As Sc		EEU121,PhysU121
1128	Finalize calibration system design	30 w	11/19/98	7/6/99	1127	As Sc		EEU121[0.5],ETU121[0.1],PhysU121[0.1]
1129	Calibration System Design Complete	0 w	7/6/99	7/6/99	1128	As S		
1130	Bid calibration system	4 w	7/7/99	8/3/99	1128	As Sc		EEU121[0.1]
1131	Place calibration system order	2 w	8/4/99	8/17/99	1130	As Sc	1.2.1.5	EEU121[0.05],k\$[2.1]
1132	Vendor calibration system production	18 w	8/18/99	1/7/00	1131	As Sc		EEU121[2],Lebbolo,DelaTaille[0.5],Martin[0.5]
1133	Installation of Calibration System Started	0 w	11/11/99	11/11/99	1134SS	As S		
1134	Installation/debugging	16 w	11/11/99	3/17/00	1132SS+13 w	As Sc		EEU121,PhysU121[2],Lebbolo[0.5],DelaTaille[0.5],Olivier,Bassler[0.5],Petroff[0.5]
1135	Calibration system Installed & Debugged	0 w	3/17/00	3/17/00	1134	As S		

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1136	Timing & Control System construction	96.2 w	9/4/98	8/18/00		As S		
1137	Place SB MOU-FY98(Timing and Control System)	0.2 w	9/4/98	9/4/98	1055SS	As Sc	1.2.1.4	k\$[0.2],k\$c[0.04]
1138	Finalize timing system design	47 w	6/18/99	6/1/00	1047,1062,1093FS-8 w	As Sc		PhysU121[1.1],Schamberger[0.1],UnknownPhysU121
1139	Design Fanout System	14 w	6/18/99	9/27/99	1138SS	As Sc		EEU121,PhysU121[0.2]
1140	Timing & Control System Design Complete	0 w	6/1/00	6/1/00	1138,1139	As S		
1141	Bid Fanout System	6 w	3/20/00	4/28/00	1139	Start		EEU121[0.1],PhysU121[0.1],Manziona[0.1],Schamberger[0.1]
1142	Place Fanout System Order	1 w	5/1/00	5/5/00	1141	As Sc	1.2.1.4	EEU121[0.05],k\$[0.43],k\$c[0.09],Manziona[0.05]
1143	Produce Fanout System	8 w	5/8/00	7/3/00	1142	As Sc		EEU121[0.1],PhysU121[0.05],Manziona[0.1],UnknownPhysU121[0.05]
1144	Bid timing system	2 w	6/2/00	6/15/00	1138	As Sc	1.2.1.4	EEU121[0.1],k\$[1.08],k\$c[0.22],Manziona[0.1]
1145	Place timing system order	1 w	6/16/00	6/22/00	1144	As Sc		EEU121[0.05],Manziona[0.05]
1146	Production of Timing System Started	0 w	6/23/00	6/23/00	1147SS	As S		
1147	Vendor timing system production	6 w	6/23/00	8/4/00	1145	As Sc		EEU121[0.05],Manziona[0.05]
1148	In house timing system tests	2 w	8/7/00	8/18/00	1147	As Sc		EEU121[0.5],PhysU121[0.3],Manziona[0.5],Schamberger[0.05],UnknownPhysU
1149	Timing System Installed	0 w	8/18/00	8/18/00	1148	As S		
1150	Install Feedthrough Cables	18 w	5/29/96	10/3/96		As S		
1151	Remove old cable (link to Rollout)	12 w	5/29/96	8/21/96		Start		ETF121,PhysU121[1.5]
1152	Install new cables	12 w	6/12/96	9/5/96	1151SS+2 w	As Sc		ETF121,PhysU121[1.5]
1153	Test new cables	12 w	7/11/96	10/3/96	1152SS+4 w	As Sc		PhysU121[2]
1154	Feedthrough to Preamp Cabling Finished	0 w	10/3/96	10/3/96	1153	As S		
1155	Installation	47.4 w	1/26/00	1/3/01		As S		
1156	Install CC, ECN Preamps	12 w	1/26/00	4/18/00	1014SS+2 w,1016SS+2 w,1134SS+2 w,115	As Sc		ETF121[2],PhysU121[2.5],Liston,Groer,Gao,Tuts[0.5],Minor,PP_NE[0.25],PP_M
1157	Preamp Installation Started	0 w	1/26/00	1/26/00	1156SS	As S		
1158	Checkout CC, ECN Preamp system	12 w	2/9/00	5/2/00	1138SS+25 w,1156SS+2 w	As Sc		EEF121[0.5],ETF121[0.5],PhysU121[2.5],Huffman[0.5],Liston[0.5],Groer,Gao,Sc
1159	M3-Calorimeter CC,ECN Preamp Installation Complete	0 w	5/2/00	5/2/00	1158	As S		
1160	Install BLS system	8 w	10/18/00	12/14/00	1108SS+2 w,1119SS+2 w,1143	As Sc		ETF121[2],PhysU121[0.2],EEF121[0.1],Liston,Minor,Huffman[0.1],UnknownPhy
1161	Checkout BLS system	7 w	11/1/00	12/21/00	1148,1160SS+2 w	As Sc		EEF121[0.5],ETF121[0.5],PhysU121[2],Huffman[0.5],Liston[0.5],Schamberger[C
1162	Final checkout	1 w	12/26/00	1/3/01	1158,1161	As Sc		PhysU121[3.2],EEF121[0.1],UnknownPhysU121,Groer,Gao,Tuts[0.2],Platform[C
1163	M3-CC, ECN Calorimeter System Checked Out	0 w	1/3/01	1/3/01	1158,1162	As S		
1164	Recable ECS Calorimeter	3 w	9/6/00	9/26/00	946,2043	As Sc		MTF121[2],PhysU121[2.5],ETU121,Liston,Minor,Groer[0.25],Gao,UnknownPhys
1165	Install ECS Preamps	5 w	9/15/00	10/20/00	1156,1164SS+50 %	As Sc		ETF121,PhysU121,Liston[0.5],Gao[0.8],Groer[0.2],Minor[0.5],PP_SE[0.5],PP_S
1166	Checkout ECS Preamp system	4.8 w	9/29/00	11/2/00	1165SS+2 w	As Sc		EEF121[0.5],ETF121[0.5],PhysU121[3],Huffman[0.5],Liston[0.5],Groer,Schamb
1167	Calorimeter Ready to Roll in	0 w	1/3/01	1/3/01	1121,1163	As S		
1168	Checkout of Calorimeter Electronics Complete	0 w	1/3/01	1/3/01	1163,1166	As S		
1169								
1170	ICD FABRICATION	255.6 w	6/1/95	7/20/00		As S		
1171	Design	132.8 w	10/2/95	6/1/98		As S		
1172	Module Design	32 w	10/2/95	5/16/96		Start	1.2.2.2	PhysU122[0.1],MEU122[0.2],k\$[0.05]
1173	Drawers, Crate Design	40 w	1/2/96	10/10/96		Start	1.2.2.4	PhysU122[0.1],MEU122[0.2],k\$[0.09],k\$c[0.01]
1174	Fiber System Design	24 w	9/3/96	3/3/97		Start	1.2.2.3	PhysU122[0.1],MEU122[0.2],k\$[0.08],k\$c[0.01]
1175	Electronics Design	58 w	4/1/97	6/1/98		Start	1.2.2.4	PhysU122[0.2],EEU122[0.2],k\$[0.07],k\$c[0.01]
1176	LED Calibration Design	41 w	6/1/97	4/1/98		Start	1.2.2.7	PhysU122[0.1],MEU122[0.05],k\$[0.06],k\$c[0.01]
1177	Technical Design Report	32.4 w	11/1/96	7/1/97		Finis		PhysU122[0.4]
1178	M3-ICD TDR Submitted	0 w	6/30/97	6/30/97	1177	Start		
1179	Magnetic Field Testing	76 w	6/1/95	11/22/96		Start		PhysU122[0.1],MTU122[0.1]
1180	Prepare Tools	76 w	6/3/96	12/9/97		Start	1.2.2.2	PhysU122[0.1],MEU122[0.2],MTU122[0.3],k\$[0.2],k\$c[0.02]
1181	Setup Teststands	40 w	9/3/96	6/24/97		Start	1.2.2.2	PhysU122[0.2],MTU122[0.2],MTF122[0.1],k\$[0.05],k\$c[0.01]
1182	First Prototypes	87.8 w	5/17/96	3/1/98		As S		
1183	Tile Prototype	87.8 w	5/17/96	2/27/98	1172	Finis		PhysU122[0.2]
1184	First Prototype tested	0 w	3/1/98	3/1/98	1183	As S		
1185	Second Prototypes	116 w	10/11/96	2/24/99		As S		
1186	Final Module Prototype	15 w	6/25/97	10/9/97	1172,1181	As Sc	1.2.2.1	PhysU122[0.2],MTF122[0.1],MTU122[0.1],k\$[0.01]
1187	Fiber System Prototype	22 w	5/27/97	10/29/97	1174	As Sc	1.2.2.1	PhysU122[0.1],MTU122[0.2],k\$[0.01]
1188	Calibration Prototype	44 w	4/2/98	2/24/99	1176	As Sc		
1189	Drawer Prototype	24 w	10/11/96	4/10/97	1173	As Sc	1.2.2.1	PhysU122[0.1],MTU122[0.2],k\$[0.01]
1190	Electronics Prototype	52.4 w	4/11/97	5/1/98	1189	As Sc		PhysU122[0.2],MTU122[0.2]
1191	Full Prototype Test	56 w	8/26/97	10/12/98	1186SS+50 %,1190SS+50 %	As Sc	1.2.2.1	PhysU122[0.2],MTU122[0.5],k\$[0.01]
1192	M3-ICD Full Prototype Tested	0 w	10/12/98	10/12/98	1191	As S		
1193	PMT Testing	119.8 w	11/2/97	4/14/00		As S		
1194	Test Run I Boxes	14.8 w	11/2/97	2/27/98		Start		PhysU122[0.3],MTU122
1195	Build PMT Teststand	18 w	3/2/98	7/7/98	1194	As Sc	1.2.2.6	PhysU122[0.2],MTU122[0.4],k\$[0.05],k\$c[0.01]
1196	Test PMTs	21.6 w	11/1/99	4/14/00	1194,1195	Start		PhysU122[0.1],Song[0.1]
1197	Tile Module Fabrication	122.2 w	9/18/97	3/17/00		As S		
1198	FY97 MOU-UTA	4 w	9/18/97	10/15/97		Start	1.2.2.2	k\$[0.2],k\$c[0.06]
1199	FY98 MOU-UTA	0.2 w	3/30/98	3/30/98		Start	1.2.2.2	k\$[0.61],k\$c[0.08]
1200	Procure Materials (Tile Modules)	13 w	9/15/98	12/16/98	1192FS-4 w	As Sc		
1201	Start Tile Module Fabrication	0 w	4/30/99	4/30/99	1180SS+50 %,1200SS+8 w	Start		
1202	Assemble Tiles/Fibers	21.4 w	4/30/99	9/30/99	1201	As Sc		MTF122[0.3],PhysU122[0.2]
1203	Test 20% Tiles, Fibers	22.8 w	5/21/99	11/1/99	1202SS+3 w	As Sc		MTF122[0.2],PhysU122[0.1]
1204	Build Aluminum Boxes	25.8 w	4/1/99	10/1/99		Start		
1205	Assemble Tile Modules	8 w	10/4/99	11/30/99	1203SS+3 w,1204	As Sc	1.2.2.2	PhysU122[0.1],MTU122[0.3],k\$[0.06],k\$c[0.01]
1206	Tile Modules Assembled	0 w	11/30/99	11/30/99	1205	As S		

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1207	Cosmic Ray Test	15 w	11/18/99	3/17/00	1205SS+2 w	As Sc		PhysU122[0.1],Sosebee[0.1]
1208	M3-20% ICD Tile Modules Tested	0 w	11/29/99	11/29/99	1207SS+25 %	As Sc		
1209	M3-ICD Tile Modules Ready	0 w	3/17/00	3/17/00	1207	As Sc		
1210	Ship ICD North Modules to FNAL	1 w	3/20/00	3/24/00	1207	Start	1.2.2.5	k\$[0.02]
1211	Ship ICD South Modules to FNAL	1 w	3/20/00	3/24/00	1207	As Sc		
1212	M2-ICD Modules Arrive at Fermilab	0 w	3/24/00	3/24/00	1211	As Sc		
1213	Fiber Cables/Connectors	77.8 w	11/10/98	6/14/00		As Sc		
1214	Procure Connectors	8 w	11/10/98	1/20/99	1192FS+4 w	As Sc		
1215	Procure Fibers	13 w	11/8/99	2/22/00		Start		
1216	Assemble and Test Prototype Fiber Cable	4 w	2/23/00	3/21/00	1215	As Sc		
1217	Assemble Fiber Cables	9 w	3/29/00	5/31/00	1214SS+4 w,1216FS+1 w	Start		PhysU122[0.1],MTU122[0.3]
1218	Test Cables	9 w	4/12/00	6/14/00	1217SS+2 w	As Sc		PhysU122[0.1],MTU122[0.3],Sosebee[0.1],Xiao[0.3]
1219	25% Cables Tested	0 w	4/27/00	4/27/00	1218SS+25 %	As Sc		
1220	Fiber Cables Completed	0 w	6/14/00	6/14/00	1218	As Sc		
1221	Fiber Backplanes/Crates Fabrication	87.8 w	9/15/98	6/28/00		As Sc		
1222	Procure Materials (Crates/Backplanes)	8 w	9/15/98	11/9/98	1176,1192FS-4 w	As Sc	1.2.2.3	k\$[0.23],k\$c[0.03]
1223	Assemble Backplanes/Crates	12 w	11/10/98	2/17/99	1222	As Sc		PhysU122[0.1],MTU122[0.3]
1224	Procure Clear Fiber	6 w	11/8/99	1/4/00		Start		
1225	Cut Fibers	2 w	1/5/00	1/18/00	1224	As Sc		MTU122[0.3],Xiao[0.3]
1226	Polish fibers at FNAL	5 w	1/19/00	2/22/00	1225	As Sc		MTF122[0.2]
1227	Fabricate Backplane Pigtails	6 w	2/23/00	4/4/00	1226	As Sc		MTU122[0.5],Xiao[0.5]
1228	Install and Test Pigtails	4 w	3/22/00	4/18/00	1227SS+4 w	As Sc		MTU122[0.2],Xiao[0.2],PhysU122[0.2],WhiteA[0.2]
1229	Test Fiber Backplanes/Crates	8 w	4/19/00	6/14/00	1223,1228SS+4 w	As Sc		PhysU122[0.1],MTU122[0.3],WhiteA[0.1],Xiao[0.3]
1230	Fiber Backplanes/Crates Ready	0 w	6/14/00	6/14/00	1229,1256	As Sc		
1231	Ship Backplanes/Crates to FNAL	2 w	6/15/00	6/28/00	1230	As Sc	1.2.2.5	k\$[0.02]
1232	Install Supports for Backplanes/Crates	1 w	6/22/00	6/28/00	1231FS-1 w	As Sc		MTF122[0.25],Platform[0.3]
1233	Install Backplanes/Crates	1 w	6/29/00	7/6/00	1231,1232	As Sc		MTF122[0.3],UnknownMTF122[0.3],Platform[0.3]
1234	PMT Drawer Fabrication	179.6 w	10/1/96	5/24/00		As Sc		
1235	FY97 MOU-LT	0.2 w	10/1/96	10/1/96		Start	1.2.2.3	k\$[0.15],k\$c[0.02]
1236	FY98 MOU-LT	0.2 w	10/1/97	10/1/97		Start	1.2.2.3	k\$[0.37],k\$c[0.05]
1237	Procure Materials (PMT Drawers)	8 w	8/17/98	10/12/98	1175,1192FS-8 w	As Sc	1.2.2.4	k\$[0.12],k\$c[0.02]
1238	Start Drawer Fabrication	0 w	9/4/98	9/4/98	1237SS+3 w	As Sc		
1239	Build Drawers	39.8 w	9/8/98	6/30/99	1238	As Sc	1.2.2.4	MTU122[0.2],k\$[0.23],k\$c[0.05]
1240	Fabricate HV Bases	68 w	10/13/98	3/8/00	1237	As Sc		PhysU122[0.1],Shuri[0.1]
1241	Test HV Bases	68 w	11/10/98	4/5/00	1240SS+4 w	As Sc		PhysU122[0.25],Shuri[0.25]
1242	Fabricate Electronic Boards	67 w	10/13/98	3/1/00	1237	As Sc		ETU122[0.1],HiID[0.1]
1243	Test Electronic Boards	67 w	11/10/98	3/29/00	1242SS+4 w	As Sc		PhysU122[0.1],Sawyer[0.1],ETU122[0.2],HiID[0.2]
1244	Begin Testing Boards	0 w	11/10/98	11/10/98	1243SS	As Sc		
1245	Preamps Available	0 w	1/14/00	1/14/00		Start		
1246	Assemble Readout	4 w	4/6/00	5/3/00	1196FF+2 w,1239SS+25 %,1241SS+25 %,1	As Sc		PhysU122[0.1],Sawyer[0.1],ETU122[0.3],HiID[0.3]
1247	Test Readout	4 w	4/13/00	5/10/00	1246SS+1 w	As Sc		PhysU122[0.1],Sawyer[0.1],ETU122[0.3],HiID[0.3]
1248	20% Readout Tested	0 w	4/19/00	4/19/00	1247SS+25 %	As Sc		
1249	Drawers Ready	0 w	5/10/00	5/10/00	1247	As Sc		
1250	Ship Drawers to FNAL	2 w	5/11/00	5/24/00	1249	As Sc	1.2.2.5	k\$[0.02]
1251	Install Drawers	2 w	7/7/00	7/20/00	1233,1250	As Sc	1.2.2.1	k\$[0.02],PhysU122[0.5],StoneA[0.5],CF_Wikway_E[0.5],CF_Wikway_W[0.5]
1252	LED Calib Fab	26 w	12/1/99	6/14/00		As Sc		
1253	LMBs Available	0 w	12/1/99	12/1/99		Start		
1254	Assemble LED/Fiber for Calibration	10 w	12/1/99	2/22/00	1253	As Sc		PhysU122[0.1],MTU122[0.3],UnknownPhysU122[0.1],Xiao[0.3]
1255	Install LMBs in Backplanes	4 w	3/22/00	4/18/00	1228SS,1254	As Sc		MTU122[0.2],Li[0.2]
1256	Test LED Calibration	8 w	4/19/00	6/14/00	1255	As Sc	1.2.2.7	PhysU122[0.1],MTU122[0.3],k\$[0.05],k\$c[0.01],WhiteA[0.1],Xiao[0.3]
1257	Platform/Cable Routing	71.6 w	10/13/98	4/3/00		As Sc		
1258	Platform Electronics Design	22 w	10/13/98	3/31/99	1175,1192	As Sc		EEF122[0.1],PhysU122[0.1]
1259	Build/Assemble Platform Electronics	35.8 w	7/1/99	3/27/00		As Sc	1.2.2.8	PhysU122[0.1],k\$[0.16],k\$c[0.03],ETU122[0.3],HiID[0.3],StoneA[0.1]
1260	Build Pulser	8 w	9/1/99	10/27/99		Start		
1261	Assemble Modified Maryland Boxes	34 w	7/1/99	3/14/00		Start		MTF122[0.05],Fogelsong[0.05]
1262	Build LV Power Supplies	23 w	10/1/99	3/27/00		Start		ETU122[0.25],Maxy[0.25]
1263	Install Platform Electronics	1 w	3/28/00	4/3/00	1259	As Sc		ETF122[0.5],UnknownETF122[0.5],Platform[0.3]
1264	Install ICD North	1 w	5/1/00	5/5/00	1210,1329	As Sc		MTF122[3],PhysU122[3],MTU122,Welder_Day,Crane_Day[0.1],ICR_North[0.5]
1265	Install ICD South	1 w	4/24/00	4/28/00	1212,1327	As Sc	1.2.2.1	MTF122[3],PhysU122[3],MTU122,k\$[0.02],Welder_Day,Crane_Day[0.1],ICR_So
1266	M3-InterCryostat Detectors Installed	0 w	5/5/00	5/5/00	1264,1265	As Sc		
1267	Hookup ICD-North	2 w	5/12/00	5/26/00	1264,1218SS+50 %	As Sc		MTF122[3],PhysU122[3],MTU122,ICR_North[0.5],CF_Wikway_E[0.3],CF_Wikw
1268	Hookup ICD-South	1 w	9/6/00	9/12/00	1267,1218,2043,946	As Sc		MTF122[3],PhysU122[3],MTU122,ICR_South[0.5],CF_Wikway_E[0.3],CF_Wikw
1269	Commission ICD	30 w	5/26/00	1/4/01	1267	As Sc	1.2.2.1	PhysU122[2],k\$[0.05],ICR_North[0.1],ICR_South[0.1],CF_Wikway_E[0.1],CF_W
1270								
1271	FORWARD PRESHOWER FABRICATION	201 w	4/4/96	4/28/00		As Sc		
1272	Conceptual Design	21 w	4/4/96	8/30/96		Start		PhysU114,PhysF114
1273	M3-Forward Preshower TDR Submitted	0 w	2/2/98	2/2/98		Start		
1274	Engineering Design	69 w	9/3/96	1/30/98	1272	As Sc		MEU114[0.1],DesU114[0.7]
1275	Design Complete	0 w	1/30/98	1/30/98	1274	As Sc		
1276	Detector R&D	28 w	10/29/96	5/27/97	1274SS+8 w	As Sc		MTU114,PhysU114[1.5]
1277	Prototype Beam Test	13 w	6/2/97	9/2/97	1276	As Sc		MTF114,PhysU114[3]

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1278	PREPARE FIBERS/CONNECTORS	139.8 w	6/26/97	4/28/00		As S		
1279	Procure Fibers	22 w	6/26/97	12/2/97		Start	1.1.4.4	k\$[2.18],k\$c[0.2]
1280	Cut/Sort/Polish WLS Fibers	7.4 w	6/23/98	8/13/98	1301SS	As Sc	1.1.4.4	MTF114[0.5],k\$[0.02]
1281	Aluminize WLS Fiber Ends	6.4 w	7/8/98	8/20/98	1280SS+2 w	As Sc	1.1.4.4	MTF114[0.5],k\$[0.03]
1282	Test Prepared WLS Fibers	4 w	7/24/98	8/20/98	1281FS-4 w	As Sc		MTF114[0.5]
1283	Procure Connectors - (both detector ends) (UIC MOU)	0.2 w	9/16/97	9/16/97		Start	1.1.4.4	k\$[0.28],k\$c[0.06]
1284	Manufacture Connectors (both detector ends)	45 w	3/2/98	1/29/99		Start	1.1.4.4	PhysU114[0.5],ETU114[0.5],k\$[0.05],k\$c[0.01]
1285	Assemble/Polish Connectors (Wavelength shifter side)	52 w	2/15/99	3/3/00	1282FS-2 w,1284FS+2 w	As S	1.1.4.4	MTF114[0.5],k\$[0.01]
1286	Begin Connector Assembly - WLS Side	0 w	2/15/99	2/15/99	1285SS	As S		
1287	Connector Assemblies Complete - WLS Side	0 w	3/3/00	3/3/00	1285	As S		
1288	Manufacture Connectors (VLPC end)	4 w	1/7/00	2/4/00	122FS-4 w	As Sc	1.1.4.4	ETU114[0.5],k\$[0.13],k\$c[0.03]
1289	Fabricate Clear Fiber Bundles	17 w	1/3/00	4/28/00		Start	1.1.4.4	MTU114,MTF114,k\$[0.53],k\$c[0.11]
1290	Clear Fiber Bundles Complete	0 w	4/28/00	4/28/00	1289	As S		
1291	PREPARE SCINTILLATOR	89.6 w	8/6/97	6/2/99		As S		
1292	Procure Extrusions FY97	4 w	8/6/97	9/3/97		Start	1.1.4.4	k\$[0.15]
1293	Procure Extrusions FY98	24.4 w	3/2/98	8/20/98		Start	1.1.4.4	MTF114[0.3],k\$[0.31]
1294	Scintillator Procurement Complete	0 w	8/20/98	8/20/98	1293	As S		
1295	Inspect/Test Scintillator	2 w	8/21/98	9/3/98	1294	As Sc		MTF114
1296	Wrap Scintillator	38 w	8/21/98	6/2/99	1294	As Sc	1.1.4.3	MTF114[0.25],k\$[0.04],k\$c[0.01]
1297	MODULE ASSEMBLY	84.6 w	7/10/98	3/31/00		As S		
1298	Procure Materials	6 w	7/10/98	8/20/98	1293FS-6 w	Start	1.1.4.4	k\$[0.13],k\$c[0.03]
1299	Fab Assembly/Align Fixt	8 w	7/24/98	9/18/98	1293FS-4 w	As Sc	1.1.4.4	MTU114[0.5],k\$[0.3],k\$c[0.06]
1300	Fab Storage Containers	8 w	8/21/98	10/16/98	1298	As Sc		MTU114[0.3]
1301	Prepare Components	9 w	8/21/98	10/23/98	1298	As Sc		MTU114[0.5]
1302	Fabricate Modules	49.4 w	10/26/98	10/26/99	1301	As Sc	1.1.4.4	MTU114[1.5],k\$[0.07],k\$c[0.01]
1303	M2-Forward Preshower Module Fabrication Begun	0 w	11/4/98	11/4/98	1296SS+20 %,1302SS	As S		
1304	1st Module Complete	0 w	11/24/98	11/24/98	1303SS+3 w	As S		
1305	Cable Modules	52 w	3/1/99	3/17/00	1286SS+2 w,1304	As Sc		MTU114[0.5]
1306	Install Calibration System	52 w	3/8/99	3/24/00	1305SS,1312SS+1 w	As Sc		MTU114[0.3]
1307	Inspect/Test Modules	52 w	3/15/99	3/31/00	1306SS+1 w	As Sc		MTU114[0.3]
1308	M3-Forward Preshower Modules 50% Complete	0 w	9/20/99	9/20/99	1307SS+70 %	As S		
1309	Module Fabrication and Testing Complete	0 w	3/31/00	3/31/00	1307	As S		
1310	Calibration System	81 w	5/4/98	12/17/99		As S		
1311	R&D	40 w	5/4/98	2/26/99	1274	Start	1.1.4.4	MTU114[0.5],k\$[0.13],k\$c[0.01]
1312	Fabricate Production Parts	41 w	3/1/99	12/17/99	1311	As Sc	1.1.4.4	MTU114[0.5],k\$[0.29],k\$c[0.03]
1313	Calibration System Ready	0 w	12/17/99	12/17/99	1312	As S		
1314	DETECTOR ASSEMBLY	94 w	5/18/98	4/14/00		As S		
1315	Fabricate Support Components	20 w	5/18/98	10/7/98		Start	1.1.4.4	k\$[0.7],k\$c[0.11]
1316	Prepare Components	4 w	5/18/98	6/15/98	1315SS	As Sc		MTU114[0.5]
1317	Fabricate Lead Absorber	24 w	9/13/99	3/14/00		Start		MTU114[0.25]
1318	Assemble Support Structures	33 w	7/19/99	3/22/00	1316SS+14 w	As Sc		MTU114[0.5]
1319	Insert Modules in Supports-South	1 w	2/18/00	2/24/00	1307SS+85 %,1317SS+85 %,1318SS+85 %	As Sc		MTU114[0.2]
1320	Inspect/Align Modules/Detectors-South	1 w	2/18/00	2/24/00	1319SS	As Sc		MTU114[0.3],PhysU114[0.3]
1321	M3-1st Forward Preshower Detector Complete	0 w	2/24/00	2/24/00	1320	As S		
1322	Ship First Detector to FNAL	1 w	4/10/00	4/14/00	1321,1326SS	As Sc	1.1.4.4	MTU114[0.5],k\$[0.18],k\$c[0.03]
1323	Insert Modules in Supports-North	1 w	4/3/00	4/7/00	1307,1317,1318	As Sc		
1324	Inspect/Align Modules/Detectors-North	1 w	4/3/00	4/7/00	1323SS	As Sc		
1325	M3-2nd Forward Preshower Detector Complete	0 w	4/7/00	4/7/00	1324	As S		
1326	Ship Second Detector to FNAL	1 w	4/10/00	4/14/00	1325	As Sc		MTU114[0.5]
1327	Install FPS-South	1 w	4/17/00	4/21/00	1322	As Sc		MTF114[2],PhysU114[2],Welder_Day,Crane_Day[0.1],ICR_South
1328	M3-Forward Preshower-South Installed	0 w	4/21/00	4/21/00	1327	As S		
1329	Install FPS-North	1 w	4/24/00	4/28/00	1326,1327	As Sc		MTF114[2],PhysU114[2],Welder_Day,Crane_Day[0.1],ICR_North
1330	Hookup FPS-North	3 w	5/1/00	5/19/00	1289SS+50 %,1329	As Sc		MTF114[2],PhysU114[2],ICR_North,Platform[0.5]
1331	Hookup FPS-South	3 w	9/6/00	9/26/00	1330,1289,2043,946	As Sc		MTF114[2],PhysU114[2],ICR_South,Platform[0.5]
1332	Commission FPS	32 w	5/22/00	1/11/01	1330	As Sc		PhysU114[2],ICR_North[0.1],ICR_South[0.1],Platform[0.1]
1333								
1334	LEVEL 0 FABRICATION	178.6 w	4/2/97	11/7/00		Start		
1335	Brown University MOU - FY98	0.2 w	2/24/98	2/24/98		Start	1.4.2.1	k\$[0.85],k\$c[0.04]
1336	Luminosity Monitor Detectors	137.4 w	4/2/97	1/19/00		As S		
1337	Design counter and test prototype	26 w	4/2/97	10/3/97		As Sc		PhysU142[0.5]
1338	Design mechanical fixtures and enclosures	74.6 w	10/6/97	4/15/99	1337	As Sc		PhysU142[0.2],MTU142[0.15]
1339	Order scintillator and mesh PMTs	0.21 w	4/1/98	4/2/98		Start		
1340	Fabricate mechanical fixtures and enclosures	17 w	4/16/99	8/16/99	1338	As Sc		PhysU142[0.1],MTU142[0.1]
1341	Test mesh PMTs	5 w	6/5/98	7/10/98	1339FS+9 w	As Sc		PhysU142[0.1],MTU142[0.2]
1342	Fabricate scintillator	3 w	5/21/98	6/11/98	1339FS+7 w	As Sc		PhysU142[0.1],MTF142[0.2]
1343	Assemble and test counters	26 w	7/20/98	2/3/99	1341FS+1 w,1342	As Sc		PhysU142[0.1],MTU142[0.1]
1344	Design and Fabricate PMT Preamp Boards	44 w	2/18/99	1/12/00	1343FS+2 w	As Sc	1.4.2.4	PhysU142[0.3],k\$[0.02]
1345	Detector Assembly	1 w	1/13/00	1/19/00	1340,1343,1344	As Sc		
1346	Detectors ready	0 w	1/19/00	1/19/00	1345	As S		
1347	Luminosity Monitor Electronics	178.6 w	4/2/97	11/7/00		As S		
1348	Evaluate usability of present electronics	26 w	4/2/97	10/3/97		As Sc		PhysU142[0.3]

DO Upgrade Schedule
Split Silicon Option - Draft

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1349	Design Digitization Board	110 w	1/2/98	3/23/00		Start		PhysU142
1350	Procure CAFÉ Cards for Digitization Boards	77 w	11/2/98	5/31/00		Start	1.4.2.4	k\$(0.14),k\$(0.03)
1351	Fabricate and Test Digitization Boards	24 w	3/24/00	9/12/00	1349,1350FF+4 w	As Sc	1.4.2.4	PhysU142,MTU142[0.5],k\$(0.14),k\$(0.03)
1352	Design MI Boards	12 w	3/24/00	6/16/00	1349	As Sc		PhysU142
1353	Fabricate and Test MI Board	20 w	6/19/00	11/7/00	1352	As Sc	1.4.2.4	PhysU142[0.5],MTU142[0.3],k\$(0.1),k\$(0.02)
1354	Procure Cables Between Detector and Electronics	8 w	4/3/00	5/26/00		Start	1.4.2.4	k\$(0.12),k\$(0.01)
1355	Install Cables Between Detector and Electronics	4 w	5/30/00	6/26/00	1354	As Sc		MTF142[0.5]
1356	Develop Software for Downloading Electronics	8 w	8/1/00	9/26/00		Start		PhysU142[0.1]
1357	Luminosity Monitor Electronics Ready	0 w	11/7/00	11/7/00	1347	As S		
1358	Monitoring, Calibration, Database, and Accelerator Interface	122.6 w	4/1/98	9/20/00		As S		
1359	Procure hardware for fast readout path	17 w	4/1/98	7/30/98		Start		
1360	Accelerator interface	8 w	4/3/00	5/26/00		Start		PhysU142[0.4]
1361	Luminosity database	8 w	5/30/00	7/25/00	1360	As Sc		
1362	Develop fast readout path for calib. and monitoring	8 w	7/26/00	9/20/00	1361	As Sc		PhysU142[0.1]
1363	Install Level Ø-South	1 w	4/24/00	4/28/00	1327,1336	As Sc		MTF142[3],PhysU142[2],ICR_South[0.2]
1364	Install Level Ø-North	1 w	5/1/00	5/5/00	1329,1336	As Sc		MTF142[3],PhysU142[2],ICR_North[0.2]
1365	M3-Level Ø-South Installed	0 w	4/28/00	4/28/00	1363	As S		
1366	Hookup Level Ø-North	1 w	5/22/00	5/26/00	1330,1364	As Sc		MTF142[3],PhysU142[2],ICR_North[0.2],Platform[0.2]
1367	Hookup Level Ø-South	1 w	9/27/00	10/3/00	1331,1363,2043,946	As Sc		MTF142[3],PhysU142[2],ICR_South[0.2],Platform[0.2]
1368	Commission Level Ø	31 w	5/30/00	1/11/01	1366	As Sc		PhysU142[2],ICR_North[0.1],ICR_South[0.1],Platform[0.1]
1369								
1370	MUON CENTRAL DETECTOR UPGRADE	238.2 w	11/27/95	9/13/00		As S		
1371	M3-Muon Central Detector TDR Submitted	0 w	3/24/97	3/24/97		Start		
1372	WAMUS CHAMBER MODIFICATION/COMMISSIONING	215.6 w	4/1/96	8/8/00		As S		
1373	Remove Old Electronics	26 w	4/1/96	10/2/96		Start		ETF132[0.1]
1374	Prototype Shortened 3-deck PDT	20 w	9/3/96	2/3/97		Start		MTF132[0.2],PhysU132[0.25],PhysF132[0.25]
1375	Design Mechanical Refurbishing	52 w	12/2/96	12/17/97		Start		DesF132[0.1]
1376	Cut/machine 3-deck PDT's	14 w	3/4/97	6/10/97	1374FS+4 w	As Sc		MTF132[2]
1377	Assemble 3-deck PDT's	18 w	6/11/97	10/16/97	1376	As Sc		MTF132,PhysU132[0.25],PhysF132[0.25]
1378	Test 3-deck PDT's	52 w	7/2/97	7/21/98	1377SS+3 w	As Sc		PhysU132[0.25],PhysF132[0.25]
1379	3-Deck PDT's Modified	0 w	7/21/98	7/21/98	1378	As S		
1380	Cut/machine second set of PDT's	8 w	9/12/97	11/6/97	1376FS+13 w	As Sc		MTF132
1381	Assemble second set of PDT's	30 w	12/1/97	7/13/98	1377	Start		MTF132[3]
1382	Test second set of PDT's	30 w	1/2/98	8/3/98	1381SS+3 w	As Sc		PhysF132[0.5],PhysU132[0.5]
1383	Remove 4-deck PDTs	4 w	1/5/98	1/30/98		Start		MTF132[0.2]
1384	Install 3-deck A PDT's	2.8 w	12/1/98	12/23/98	1378,1383,1445	As Sc		MTF132[0.5]
1385	Install 4-deck A PDT's	1.6 w	12/9/98	12/18/98	1382,1445	As Sc		MTF132[3]
1386	Prepare EFB Bottom	8 d	1/11/99	1/20/99		Start		MTF132[1.5]
1387	Prepare CFB Bottom	3 d	1/21/99	1/25/99	1386	As Sc		MTF132[1.5]
1388	Prepare CFC Bottom (includes welding)	4 w	1/18/99	2/12/99	1386FS-3 d	As Sc		MTF132,Welder_Day
1389	Phase 1 Survey EFB Bottom	1 w	1/21/99	1/27/99	1386	As Sc		
1390	Phase 1 Survey CFB Bottom West	1 w	1/28/99	2/3/99	1387,1389	As Sc		
1391	Phase 1 Survey CFC Bottom West	3 d	2/15/99	2/17/99	1388,1390	As Sc		
1392	Phase 1 Survey CFC East and CFB East	1 w	2/18/99	2/24/99	1387,1391	As Sc		
1393	Remove CFC Bottom West	2 d	1/13/99	1/14/99		Start		MTF132[3]
1394	Install EFB Bottom	1 w	3/25/99	3/31/99	1389FS+8 w	As Sc		MTF132[2]
1395	Install CFB Bottom	1 w	2/4/99	2/10/99	1390	As Sc		MTF132[2]
1396	Install CFC Bottom	1 w	2/18/99	2/24/99	1391	As Sc		ETF132[2]
1397	Modify/Test Counting House HV	25.4 w	5/17/99	11/12/99		Start		MTF132[0.5],PhysU132[0.25]
1398	Fabricate/Test Service Cards and Delay Boards	90 w	9/2/97	6/30/99		Start		PhysU132
1399	Install Service Cards/Delay Boards	72.2 w	2/4/98	7/16/99	1398SS+20 w	As Sc		PhysU132[0.1]
1400	Clean PDT's and Test HV	88.2 w	2/18/98	11/22/99	1399SS+2 w	As Sc		PhysU132[0.1],PhysF132[0.1]
1401	PDT HV Testing Complete	0 w	11/22/99	11/22/99	1400	As S		
1402	Relocate B-Layer Bottom Cable Trays	8 w	9/15/97	11/7/97		Start		MTF132
1403	Fab/Install Gas Blocks	107 w	9/15/97	11/11/99		Start		PhysU132[0.1],PhysF132[0.1]
1404	Leak Test PDTs	49 w	6/7/99	6/2/00		Start		MTF132,PhysU132[0.1]
1405	Modify EF Vertical Trusses	40.8 w	5/3/99	3/2/00		Start		MTF132[0.5],Welder_Day[0.2]
1406	Design/Fabricate Electronics Mounting Hardware	24 w	10/1/98	4/2/99		Start		PhysF132
1407	Prepare PDT's for Electronics Mounts	16 w	12/14/98	4/16/99	1406FS-14 w	As Sc	1.3.2.4	MTF132[0.25],PhysF132[0.25],k\$(0.15),k\$(0.02)
1408	Install electronics mounts	24 w	8/16/99	2/16/00	1407	Start		MTF132[0.25]
1409	Design On-Detector Gas System Hardware	19 w	7/6/99	11/16/99		Start		MEF132[0.5]
1410	Install On-Detector Gas System Hardware	13 w	11/17/99	3/2/00	1409	As Sc		MTF132[0.5]
1411	Design gas room hardware - Stage 1	4 w	1/14/00	2/10/00	1409FS+6 w	As Sc		MEF132[0.25]
1412	Install new WAMUS gas room hardware - Stage 1	4 w	2/11/00	3/9/00	1411	As Sc	1.3.2.4	MTF132[0.75]
1413	Design gas room hardware -Stage 2 (recirculator)	4 w	5/30/00	6/26/00	1411	Start		MEF132[0.5],Krempetz[0.5]
1414	Install recirculating system	2 w	7/26/00	8/8/00	1413FS+4 w,1412	As Sc		MTF132,Barger
1415	Begin/Check PDT Gas Flow	2 w	3/3/00	3/16/00	1410	As Sc		PhysF132[0.25]
1416	Connect to gas room hardware and check flow	1 w	3/17/00	3/23/00	1412,1415	As Sc		MTF132[0.5]
1417	Fabricate 10% Front End Cables	2 w	3/15/99	3/26/99		Start		MTF132[0.5]
1418	Fabricate 90% Front End Cables	20 w	6/14/99	11/2/99	1417	Start		MTF132[0.5]
1419	Test and connect cable plant	24 w	9/7/99	3/8/00		Start		PhysU132[0.1],PhysF132[0.1],MTF132

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1420	Dress/Cleanup LVPS on Truss	2 w	1/4/99	1/15/99		Start		ETF132
1421	Build 2 LVPS Prototypes	4 w	1/18/99	2/12/99	1420	As Sc		ETF132[0.5]
1422	Specify/Procure WAMUS power supplies	4 w	9/3/98	10/1/98	1812	As Sc	1.3.2.4	ETF135[0.5],k\$(0.11),k\$c[0.01]
1423	Modify LVPS	16 w	2/15/99	6/7/99	1421,1422	As Sc	1.3.2.4	ETF132,k\$(0.23),k\$c[0.02]
1424	Install modified LVPS-CF Truss	12 w	6/8/99	8/31/99	1423	As Sc		ETF132[0.5],PhysF132[0.1]
1425	Install modified LVPS-EF Trusses	3 w	9/13/99	10/1/99	1424	Start		
1426	Modify MCH3 Crates	10 w	6/14/99	8/23/99		Start		ETF132[0.25]
1427	Commission 2% of PDT's	9.4 w	8/24/99	10/28/99	1426,1823SS	As Sc		PhysU132,PhysF132
1428	M3-2% of Muon PDTs Commissioned	0 w	10/28/99	10/28/99	1427	As S		
1429	Relocate East C-layer Vertical PDT's	2 w	5/20/98	6/3/98	1572	As Sc		MTF132
1430	West Side PDT Phase 2 Alignment - Part 1	1 w	10/11/99	10/15/99	1384,1385	Start		PhysF132,MTF132[0.25],Welder_Day[0.25]
1431	West Side PDT Phase 2 Alignment - Part 2	3 w	11/8/99	11/30/99	1430	Start		MTF132[2],PhysF132
1432	East Side PDT Phase 2 Alignment	4 w	2/14/00	3/10/00	1431	Start		PhysF132
1433	Modify EFB PDT Bottom Mounts	1 w	2/7/00	2/11/00		Start		MTF132[2]
1434	Modify PDT 247 mounting hardware	1 w	2/14/00	2/18/00	1433	As Sc		MTF132,Welder_Day[0.5]
1435	North PDT Phase 2 Alignment	3 w	3/13/00	3/31/00	1432,1433	As Sc		PhysF132
1436	South PDT Phase 2 alignment	3 w	4/3/00	4/21/00	1434,1435	As Sc		
1437	Refurbish Cable Plant-FY98	8 w	8/3/98	9/28/98		Start	1.3.2.4	MTF135,PhysF132[0.2],k\$(0.52),k\$c[0.05]
1438	Refurbish Cable Plant-FY99	49 w	10/1/98	9/29/99		Start	1.3.2.4	MTF132[0.25],PhysF132[0.1],k\$(0.42),k\$c[0.08]
1439	Install LVPS Harness and Hookups	18 w	10/4/99	2/22/00	1424,1425	Start		EEF135[0.1],ETF132[0.5],PhysF132[0.1]
1440	Commission Remainder of PDT's	20 w	3/17/00	8/7/00	1415,1426,1439,1829SS	As Sc		PhysU132[2],PhysF132[2],MTF132[2],ETF132
1441	PDT Commissioning Complete	0 w	8/7/00	8/7/00	1440	As S		
1442	A-LAYER SCINTILLATION COUNTERS	199 w	9/3/96	9/13/00		As S		
1443	Design Counters	9 w	9/9/96	11/8/96		Start		DesF132,MEF132[0.2],PhysF132[0.1],MTF132[0.15]
1444	Design Counter Frame, Mounts, and Cases	16 w	11/11/96	3/14/97	1443	As Sc		MEF132[0.2],DesF132[0.5],PhysU132[0.1],PhysF132[0.1],MTF132[0.25]
1445	Produce Detail Drawings	56 w	6/10/97	7/27/98	1444FS+12 w	As Sc		DesF132[0.5],MEF132[0.1]
1446	Procure Scintillator, Fibers	28 w	9/16/96	4/11/97	1443SS+5 d	As Sc	1.3.2.2	k\$(1.48)
1447	Procure Detector Cases	26 w	3/17/97	9/17/97	1444	As Sc	1.3.2.2	k\$(0.48)
1448	Production of APhi Counters at NIU	105.8 w	9/3/96	10/20/98		As S		
1449	Procure PMTs	24 w	9/3/96	3/3/97		Start	1.3.2.2	k\$(0.39)
1450	Procure Tube Base Parts	12 w	11/11/96	2/14/97	1443	As Sc	1.3.2.2	k\$(0.17)
1451	Procure Magnetic Shields	12 w	11/11/96	2/14/97	1443	As Sc	1.3.2.2	k\$(0.28)
1452	Fabricate Fixtures/Jigs	16 w	3/17/97	7/8/97	1444	As Sc		PhysU132
1453	Fabricate Cookies and Cut Fibers	12 w	4/28/97	7/22/97	1445SS+6 w,1446	As Sc		PhysU132
1454	Machine Scintillator	12 w	4/28/97	7/22/97	1453SS	As Sc	1.3.2.2	MTU132,k\$(0.21)
1455	Assemble Counters	52 w	9/18/97	10/6/98	1447	As Sc		PhysU132[2]
1456	M3-First NIU APhi Counter Assembled	0 w	10/1/97	10/1/97	1455SS+2 w	As S		
1457	Test Counters	52 w	10/2/97	10/20/98	1455SS+2 w	As Sc		PhysU132[0.25]
1458	10% of NIU APhi Counters Assembled	0 w	12/19/97	12/19/97	1455SS+25 %	As S		
1459	50% of NIU APhi Counters Assembled	0 w	4/21/98	4/21/98	1455SS+55 %	As S		
1460	Production of APhi Counters at ITEP	77.4 w	9/15/97	4/14/99		As S		
1461	Allocate Assembly Costs to ITEP	1.55 w	9/15/97	9/24/97		Start	1.3.2.2	k\$(0.1)
1462	Ship Scintillator to ITEP	12 w	1/15/98	4/8/98		Start		
1463	Machine Scintillator, Fabricate Cookies and Cut Fibers	24.6 w	4/9/98	10/1/98	1462	As Sc		MTU132
1464	Assemble Counters	35.4 w	4/23/98	1/15/99	1463SS+2 w	As Sc		PhysU132,MTU132[2]
1465	First ITEP APhi Counter Assembled	0 w	4/23/98	4/23/98	1464SS	As S		
1466	10% of ITEP APhi Counters Assembled	0 w	6/25/98	6/25/98	1464SS+25 %	As S		
1467	M3-50% of ITEP APhi Counters Assembled	0 w	9/10/98	9/10/98	1464SS+55 %	Start		
1468	Test Counters	33.4 w	5/7/98	1/15/99	1464SS+2 w	As Sc		PhysU132[0.25]
1469	All ITEP APhi Counters Assembled and Tested	0 w	1/15/99	1/15/99	1468	Start		
1470	Ship Counters to Fermilab	34 w	8/3/98	4/14/99	1468SS+12 w	As Sc	1.3.2.2	k\$(0.15),k\$c[0.03]
1471	CFA Installation	160.6 w	9/16/96	12/14/99		As S		
1472	Design Access Platforms	18 w	1/4/99	5/7/99		Start		DesF132[0.3],MEF132[0.2]
1473	Modify Access Platforms	3 w	5/10/99	5/31/99	1472	As Sc		MTF132[2]
1474	Procure Mounting Materials	21.8 w	6/1/98	11/2/98	1444,1445FS-8 w	As Sc	1.3.2.2	k\$(0.48),k\$c[0.1]
1475	Procure HV Cable and Connectors	8 w	9/16/96	11/8/96	1443SS+1 w	As Sc	1.3.2.2	k\$(0.13)
1476	Procure Signal Cables and Connectors	8 w	1/27/97	3/21/97	1443SS+18 w	As Sc	1.3.2.2	k\$(0.11)
1477	Procure HV Supplies	0.2 w	9/2/97	9/2/97		Start	1.3.2.2	k\$(0.22)
1478	Terminate HV and Signal Cables-One end	36 w	10/1/97	6/25/98		Start		MTF132[0.25]
1479	Procure HV Fanout Parts	8 w	5/1/98	6/26/98		Start	1.3.2.2	k\$(0.18),k\$c[0.01]
1480	Assemble HV fanouts	4 w	6/29/98	7/27/98	1479	As Sc		MTF132[0.5]
1481	Install HV Fanouts	4 w	5/3/99	5/31/99		Start		MTF132[0.5]
1482	Install PMTs into NIU Counters	9 w	1/15/99	3/18/99	1457FS+10 w	As Sc		PhysU132[0.3]
1483	Install PMTs into ITEP Counters	4 w	4/15/99	5/12/99	1470	As Sc		PhysU132
1484	Install A Layer Top Mounts	2 w	3/1/99	3/12/99	1474	Start		MTF132[3],PhysF132[0.1]
1485	Install A Layer Top 1 Row	1 w	3/15/99	3/19/99	1458,1470SS+10 %,1484	As Sc		MTF132,PhysF132[0.25]
1486	Install A Layer Top Remainder	2 w	5/13/99	5/27/99	1470,1482,1483,1485	As Sc		MTF132[2],PhysU132[0.5]
1487	Install A Layer Side Mounts-10%	1 w	1/6/99	1/12/99	1474	As Sc		MTF132
1488	Install A Layer Side Counters-10%	4 w	1/6/99	2/3/99	1487SS+10 %	As Sc		MTF132[0.5]
1489	Install A-Layer Side Mounts-Remainder	3 w	3/22/99	4/9/99	1485	As Sc		MTF132,PhysF132[0.25]
1490	Install A Layer Side Counters Remainder	4 w	5/28/99	6/24/99	1470,1486,1489	As Sc		MTF132[2],PhysU132[0.5]

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1491	Design, Procure A Layer Floor	36 w	2/1/99	10/13/99		Start		DesF132,MEF132,PhysF132[0.1]
1492	Install A-Layer floor	4.4 w	10/14/99	11/12/99	1491	As Sc		MTF132[2]
1493	Install A Layer Bottom Mounts	2.2 w	11/15/99	12/1/99	1474,1487,1492	As Sc		MTF132
1494	Install A Layer Bottom Counters	1 w	12/2/99	12/8/99	1470,1493	As Sc		MTF132[2],PhysU132[0.5]
1495	Fabricate and Install 10% of Cables	2 w	6/1/99	6/14/99	1458,1470SS+10 %,1481,1524	As Sc		MTF132[2],PhysU132,ETF132
1496	Fabricate and Install Remaining Side and Top Cables	8 w	6/15/99	8/10/99	1495	As Sc		PhysU132,MTF132[4]
1497	Fabricate and Install Bottom Counter Cables	0.8 w	12/9/99	12/14/99	1494	As Sc		MTF132[2]
1498	M3-Muon CFA Installation Complete	0 w	12/14/99	12/14/99	1496,1497	As S		
1499	CALIBRATION SYSTEM	123.8 w	8/1/97	2/11/00		As S		
1500	Procure Calibration System Parts FY97	12 w	8/1/97	10/24/97		Start	1.3.2.2	k\$[0.03]
1501	Procure Calibration System Parts FY98	20 w	5/1/98	9/22/98	1457SS+8 w,1500	Start	1.3.2.2	k\$[0.04]
1502	Procure Calibration System Parts FY99	17 w	4/1/99	7/30/99	1501	Start	1.3.2.2	k\$[0.15],k\$c[0.01]
1503	Fabricate Calibration System	33.4 w	4/29/99	1/7/00	1502SS+4 w	As Sc		MTF132[0.25],PhysU132[0.5]
1504	Install Calibration System	5 w	1/10/00	2/11/00	1503	As Sc		MTF132[0.25],PhysU132[0.25]
1505	COMMISSION A-LAYER SCINTILLATION COUNTERS	28 w	2/28/00	9/13/00		As S		
1506	Commission 10% of A-Layer Counters	8 w	2/28/00	4/21/00	1495,1888SS+8 w	Start	1.3.2.2	PhysU132[2],k\$[0.03]
1507	10% of CFA Commissioned	0 w	4/21/00	4/21/00	1506	As S		
1508	Commission 90% of A-Layer Counters	20 w	4/24/00	9/13/00	1498,1504,1909SS,1506	As Sc		PhysU132[3],MTF132[0.25],ETF132[0.25]
1509	CFA Commissioning Complete	0 w	9/13/00	9/13/00	1508	As S		
1510	B- AND C-LAYER SCINTILLATION COUNTERS	226.4 w	11/27/95	6/20/00		As S		
1511	BOTTOM COUNTERS	211.2 w	11/27/95	3/3/00		As S		
1512	CFB Counters	169.4 w	11/27/95	4/26/99		As S		
1513	Groove CFB Scint. and Partially Assemble	60.4 w	2/16/96	5/1/97		Start	1.3.2.3	MTU132[2],PhysU132,k\$[0.26]
1514	Ship Counters to Fermilab	4 w	5/2/97	5/30/97	1513	As Sc	1.3.2.3	k\$[0.15]
1515	CFB Counters at Fermilab	0 w	5/30/97	5/30/97	1514	As S		
1516	Choose Optical Fibers	42 w	11/27/95	9/20/96		Start		DesF132[0.1],PhysF132[0.1]
1517	Procure CFB Counter Frames	20 w	11/27/95	4/16/96		Start	1.3.2.3	k\$[0.16]
1518	Assemble CFB Counters in Frames	40 w	6/2/97	3/25/98	1514,1516,1517	As Sc		MTF132[0.25]
1519	Test CFB Counters	12 w	6/1/98	8/24/98	1518	Start		PhysU132[0.5],PhysF132[0.25]
1520	Install West CFB Counters	1 w	3/1/99	3/5/99	1395,1519FS+8 w	Start		MTF132[2]
1521	Install East CFB Counters	1 w	3/8/99	3/12/99	1395,1520	As Sc		MTF132[2]
1522	Receive Front End Crates	0 w	1/26/99	1/26/99		Start		
1523	Prepare 6 Front End Crates	2 w	3/16/99	3/29/99	1522FS+7 w	As Sc		ETF132
1524	Install 6 Front End Crates	2 w	3/30/99	4/12/99	1523	As Sc		MTF132
1525	Install CFB Cables	2 w	4/13/99	4/26/99	1520,1524	As Sc		MTF132,ETF132
1526	EFB and CFC Counters	157.6 w	8/1/96	10/7/99		As S		
1527	Finalize EFB and CFC Counter Design	44 w	8/1/96	6/20/97		Start		DesF132[0.75],PhysF132[0.25],MTF132[0.2]
1528	Design Work Finished	0 w	6/20/97	6/20/97	1527	As S		
1529	Procure Scint and Fiber	20 w	1/31/97	6/20/97	1527FF	Start	1.3.2.3	k\$[1.04]
1530	Cut and Groove Scintillator	4 w	2/1/97	2/28/97	1528SS+14 w	As Sc	1.3.2.3	MTF132,k\$[0.02]
1531	Ship Scintillator to TIFR	7 w	3/3/97	4/18/97	1530	As Sc	1.3.2.3	k\$[0.05]
1532	Cut Fibers and Cookies	8 w	4/21/97	6/16/97	1531	As Sc		MTU132[0.5]
1533	Procure HV Cable and Fanout Connectors	8 w	9/13/96	11/7/96	1527SS+6 w	As Sc	1.3.2.3	k\$[0.02]
1534	Procure Signal Cables and Connectors	12 w	9/13/96	12/9/96	1527SS+6 w	As Sc	1.3.2.3	k\$[0.1]
1535	Terminate HV and Signal Cables	16 w	6/15/98	10/6/98		Start		MTF132[0.1]
1536	Assemble HV Fanout Crates	2 w	5/22/98	6/5/98		Start	1.3.2.3	MTF132[0.5],k\$[0.04]
1537	Procure Calibration System Parts FY97	12 w	6/23/97	9/16/97	1527	As Sc	1.3.2.3	k\$[0.06]
1538	Procure Calibration System Parts FY98	12 w	6/23/98	9/16/98		Start	1.3.2.3	k\$[0.01]
1539	Procure Calibration System Parts FY99	21 w	4/1/99	8/27/99		Start	1.3.2.3	k\$[0.17],k\$c[0.01]
1540	Procure Calibration System Parts FY00	1 w	10/1/99	10/7/99		Start	1.3.2.3	
1541	Procure PMTs	16 w	8/29/96	1/2/97	1527SS+4 w	As Sc	1.3.2.3	k\$[0.1]
1542	Procure Tube Base Parts	12 w	1/17/97	4/10/97	1527SS+22 w	As Sc	1.3.2.3	k\$[0.05]
1543	Procure Magnetic Shields	4 w	1/17/97	2/13/97	1527SS+22 w	As Sc	1.3.2.3	k\$[0.07]
1544	Test Bases and PMTs	16 w	2/14/97	6/6/97	1543	As Sc		PhysU132[0.25]
1545	Partially Assemble Counters at TIFR	26 w	6/17/97	12/19/97	1532	As Sc		MTU132[2],PhysU132
1546	Ship Counters to FNAL	18 w	1/2/98	5/7/98	1545	As Sc		
1547	Assembly & Test At TIFR Complete	0 w	5/7/98	5/7/98	1546	As S		
1548	Perform Final Assembly of EFB and CFC Counters	8 w	7/21/98	9/15/98	1546FS+10 w	As Sc	1.3.2.3	MTF132[2],k\$[0.19]
1549	Test EFB/CFC Counters	12 w	7/28/98	10/20/98	1548SS+1 w	As Sc		PhysU132[0.5],PhysF132[0.25]
1550	Install EFB Counters	1 w	4/1/99	4/7/99	1394,1519,1549	As Sc		MTF132[2]
1551	Install Cables	2 w	4/13/99	4/26/99	1524,1550	As Sc		MTF132,ETF132
1552	Side B Counters	102.4 w	2/5/98	3/3/00		As S		
1553	Design Side B Counters	18 w	2/5/98	6/11/98		Start		DesF132[0.25],PhysF132[0.25]
1554	Procure Scintillator and Fiber	12 w	3/19/98	6/11/98	1553FS-12 w	As Sc	1.3.2.3	k\$[0.34],k\$c[0.03]
1555	Cut and Groove Scintillator	7 w	5/21/98	7/10/98	1554SS+9 w	As Sc	1.3.2.3	MTF132,k\$[0.02]
1556	Assemble Counters at FNAL	28 w	7/13/98	2/10/99	1555	As Sc	1.3.2.3	MTF132[0.25],k\$[0.15],k\$c[0.01]
1557	Test Side B Counters	2 w	3/4/99	3/17/99	1556FS+3 w	As Sc		PhysU132[0.5],PhysF132[0.25]
1558	Modify Truss for Side B Counters	6 d	1/15/99	1/22/99		Start		MTF132
1559	Install 90% of Side B Counters	2 w	3/18/99	3/31/99	1557,1558	As Sc		MTF132[0.4]
1560	Install 90% of Side B Cables	1 w	10/18/99	10/22/99	1524,1559	As Sc		MTF132,ETF132
1561	Install Remaining 10% of Side B Counters and Cables	0.2 w	3/3/00	3/3/00	1405	As Sc		

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1562	Hole Counters	18 w	2/22/99	6/28/99		As S		
1563	Design Hole Counters	3 w	2/22/99	3/12/99		Start		DesF132[0.25],PhysF132[0.25]
1564	Modify Hole Counter Case Parts	12 w	3/15/99	6/7/99	1563	As Sc		MTF132[0.25]
1565	Repolish Hole Counter Ends	2 w	3/15/99	3/26/99	1563	As Sc		MTF132[0.25]
1566	Assemble Hole Counters	1 w	6/8/99	6/14/99	1564,1565	As Sc		MTF132[0.25],PhysF132[0.25]
1567	Test Hole Counters	1 w	6/15/99	6/21/99	1566	As Sc		PhysF132[0.5]
1568	Install Hole Counters and Cables	1 w	6/22/99	6/28/99	1567	As Sc		MTF132[0.25],PhysF132[0.25]
1569	B- AND C- LAYER CALIBRATION SYSTEM	167 w	10/1/96	2/25/00		As S		
1570	Design/Prototype Calibration System	36 w	10/1/96	6/24/97		Start		PhysU132[0.5],MTF132[0.1]
1571	Modify Existing West and Top Counters for Calib System	46 w	6/25/97	6/1/98	1570	As Sc		MTF132[0.5],PhysU132[0.5]
1572	Remove Existing East Vertical Counters	4 w	4/22/98	5/19/98	1571	As Sc		MTF132[3]
1573	Modify Existing East Vertical Counters	4 w	4/29/98	5/27/98	1572SS+1 w	As Sc		PhysU132
1574	Fab/Test/Install Calibration System	40 w	5/3/99	2/25/00	1573	Start		MTF132[0.75],PhysU132[1.25]
1575	M3- Muon B/C Layer Calibration System Complete	0 w	2/25/00	2/25/00	1574	As S		
1576	Install counters and cables for PDT 247	0.2 w	6/15/00	6/15/00	1434,2043	As Sc		MTF132,PhysF132
1577	Commission B/C Counters	12 w	3/28/00	6/20/00	1888FS+8 w,1909SS	As Sc		PhysU132[2],PhysF132,MTF132,ETF132[0.5]
1578								
1579	MUON FORWARD TRACKING DETECTORS	211.2 w	8/1/96	11/7/00		As S		
1580	M3-Muon Forward Tracker TDR Submitted	0 w	12/2/97	12/2/97		Start		
1581	Develop System Layout	135 w	8/1/96	4/28/99		Start	1.3.4.1	MEF134[0.15],DesF134[0.05],PhysF134[0.5]
1582	FABRICATION OF MDT MODULES	182 w	8/1/96	4/12/00		As S		
1583	Prototype MDT's	69 w	8/1/96	12/18/97	1581SS	As Sc	1.3.4.2	PhysF134[0.1],PhysU134[3],k\$[0.57],k\$c[0.04]
1584	Design MDT 8-cell Tube Module	42 w	8/1/96	6/6/97	1581SS	As Sc		PhysU134,MEU134[0.25],DesU134[0.5],PhysF134[0.25]
1585	Procure Materials for MDT Production FY 97, FY98	75 w	7/22/97	2/3/99	1584FS+6 w	As Sc	1.3.4.2	PhysU134[0.25],k\$[5.13],k\$c[0.35]
1586	Assemble MDT Modules at Dubna	48 w	1/4/99	12/10/99		Start		MTU134[8],MEU134
1587	Start Full Scale Assembly of MDTs	0 w	1/4/99	1/4/99	1586SS	Start		
1588	Test for Gas Leaks	48 w	1/11/99	12/29/99	1586SS+1 w	As Sc		MTU134,PhysU134
1589	Test High Voltage	48 w	1/11/99	12/29/99	1586SS+1 w	As Sc		PhysU134[2]
1590	M2-Muon Forward Tracker MDT Assembly 10% Complete	0 w	1/29/99	1/29/99	1586SS+20 %	As S		
1591	M3-Muon Forward Tracker MDT Assembly 50% Complete	0 w	9/17/99	9/17/99	1586SS+70 %	As S		
1592	Obligate shipping funds for Dubna	0.2 w	7/22/97	7/22/97	1585SS	Start	1.3.4.7	k\$[0.22],k\$c[0.05]
1593	Ship A-Layer Modules to FNAL	6 w	6/24/99	8/5/99	1589SS+45 %	As Sc		MTU134,PhysU134,PhysF134[0.25]
1594	Arrival Of A-Layer MDT Modules At FNAL	0 w	8/5/99	8/5/99	1593	As S		
1595	Ship C-Layer Modules to FNAL	4.6 w	10/4/99	11/3/99	1589SS+66 %	As Sc		
1596	Arrival Of C-Layer MDT Modules At FNAL	0 w	11/3/99	11/3/99	1595	As S		
1597	Ship B-Layer Modules to FNAL	6 w	2/3/00	3/15/00	1589	Start		
1598	Arrival Of B-Layer MDT Modules At FNAL	0 w	3/15/00	3/15/00	1597	As S		
1599	M2-All Muon Forward Tracker MDT Modules At Fermilab	0 w	3/15/00	3/15/00	1598	As S		
1600	Test MDT Modules at FNAL	30.6 w	8/25/99	4/12/00	1594SS+2 w,1599FF+4 w	As Sc	1.3.4.7	PhysU134,PhysF134[0.25],k\$[0.15],k\$c[0.02]
1601	FABRICATION OF MDT OCTANTS	154 w	6/2/97	7/14/00		As S		
1602	Prepare Engineering Drawings for Prototype Octant and Supports	42 w	8/5/97	6/11/98	1581SS+50 w	As Sc		MEF134[0.5],DesF134,PhysF134[0.25]
1603	Procure Materials for Prototype Octant Frame	10 w	8/17/98	10/26/98		Start		
1604	Assemble Octant Frame	1 w	10/27/98	11/2/98	1602FS-2 w,1603	As Sc		MTF134[2],MEF134[0.1]
1605	Assemble and Evaluate Prototype Octant Frame	6 w	11/3/98	12/16/98	1604	As Sc		MTF134[0.5],PhysU134[2]
1606	Prototype MDT Octant Assembled	0 w	12/16/98	12/16/98	1605	As S		
1607	Develop Frame and Test	28 w	8/3/98	3/3/99		Start		MEF134[0.5],PhysF134[0.25],MTF134
1608	Design and Prepare Drawings for Final Prototype Octant	4 w	12/17/98	1/27/99	1605	Start		MEF134[0.25],DesF134[0.5]
1609	Fabricate and Evaluate Final Prototype Octant Frame	7.6 w	1/28/99	3/22/99	1608	As Sc		MTF134[1.5]
1610	Design and Prepare Drawings for MDT Holders	26 w	9/1/98	3/18/99		Start		MEF134[0.13]
1611	Procure MDT Holders	26 w	2/9/99	8/11/99		Start	1.3.4.3	k\$[0.4],k\$c[0.04]
1612	Design and Prepare Drawings for Hole-Drilling Fixture	8 w	1/25/99	3/19/99		Start		MEF134[0.25],DesF134[0.5]
1613	Procure Hole-Drilling Fixture	22 w	3/22/99	8/24/99	1612	As Sc	1.3.4.3	k\$[0.13],k\$c[0.01]
1614	Design and Prepare Drawings for A-Layer Octant Frames	31.2 w	2/11/99	9/21/99	1608FS+2 w	As Sc		MEF134,DesF134[1.5]
1615	Safety Review	4 w	2/1/00	2/28/00	1614FS-4 w	Start		
1616	Procure Materials for A- Layer Octant Frames	16 w	6/11/99	10/4/99	1614SS+50 %	As Sc	1.3.4.3	k\$[0.46],k\$c[0.09]
1617	Design and Prepare Drawings for C-Layer Octant Frames	17.2 w	9/22/99	2/4/00	1614	As Sc		MEF134,DesF134[1.5]
1618	Procure Materials for C-Layer Octant Frames	12 w	1/11/00	4/4/00	1617SS+75 %	As Sc	1.3.4.3	k\$[0.46],k\$c[0.09]
1619	Design and Prepare Drawings for B-Layer Octant Frames	6 w	2/7/00	3/17/00	1617	As Sc		MEF134,DesF134[1.5]
1620	Procure Materials for B-Layer Octant Frames	16 w	3/8/00	6/29/00	1619SS+75 %	As Sc	1.3.4.3	k\$[0.47],k\$c[0.09]
1621	Design and prepare drawings for A- Layer octant supports	16 w	9/22/99	1/27/00	1605,1614	As Sc		MEF134,DesF134[0.75]
1622	Fabricate A-layer octant supports	2.6 w	1/28/00	2/15/00	1621	As Sc	1.3.4.3	MEF134[0.25],k\$[0.66],k\$c[0.13]
1623	Design and prepare drawings for C-Layer octant supports	8 w	1/28/00	3/23/00	1621	As Sc		MEF134,DesF134[0.75]
1624	Fabricate C-layer octant supports	8 w	3/24/00	5/18/00	1623	As Sc	1.3.4.3	k\$[0.32],k\$c[0.06],MEF134[0.25]
1625	Design and prepare drawings for B-layer MDT octant supports	8 w	3/24/00	5/18/00	1623	As Sc		
1626	Fabricate B-layer octant supports	6 w	5/19/00	6/30/00	1625	As Sc		
1627	Procure Signal Cables FY97	26 w	9/2/97	3/17/98		Start	1.3.4.4	k\$[0.69],k\$c[0.1]
1628	Procure Signal Cables FY98	26 w	1/22/98	7/24/98		Start	1.3.4.4	k\$[0.36],k\$c[0.04]
1629	Obligate HV Distribution Funds to Dubna	2 w	6/2/97	6/13/97		Start	1.3.4.4	k\$[0.65],k\$c[0.1]
1630	Procure HV Distribution Boards	6.8 w	9/22/99	11/8/99	1614	As Sc		
1631	Procure HV Cables and Connectors	19.2 w	9/22/99	2/18/00	1614	As Sc	1.3.4.4	k\$[0.97],k\$c[0.15]
1632	Assemble/Test Signal Cables	21 w	11/22/99	5/2/00	1614	Start		MTF134[0.25],PhysU134[0.25]

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1633	Assemble MDT Octants	36 w	10/12/99	7/7/00	1600SS+2 w,1611,1613,1616FS+1 w	As Sc		MTF134[7],PhysU134,MEF134,DesF134
1634	M3-Muon Forward Tracker Octant Assembly Begun	0 w	10/12/99	10/12/99	1633SS	As S		
1635	Connect Gas System and Test	36 w	10/19/99	7/14/00	1634SS+1 w	As Sc	1.3.4.4	MTF134[0.3],PhysU134[0.5],MEF134[0.25],k\$(0.51),k\$c[0.1]
1636	Connect High Voltage System and Test	36 w	10/19/99	7/14/00	1634SS+1 w	As Sc		PhysU134[0.5]
1637	Install ADB Electronics and Test Octants	36 w	10/19/99	7/14/00	1634SS+1 w	As Sc		PhysU134,PhysF134
1638	Survey Assembled Octants	36 w	10/19/99	7/14/00	1634SS+1 w	As Sc		PhysF134[0.25],Align_Day[0.3]
1639	A-Layer Octants Assembled	0 w	1/21/00	1/21/00	1638SS+33 %	As S		
1640	C-Layer Octants Assembled	0 w	5/23/00	5/23/00	1638SS+80 %	As S		
1641	B-Layer Octants Assembled	0 w	7/14/00	7/14/00	1638	As S		
1642	All MDT Octants Assembled	0 w	7/14/00	7/14/00	1638	As S		
1643	INSTALLATION AND HOOKUP	56 w	9/22/99	11/7/00		As S		
1644	Design and Prepare Drawings for Octant Installation Fixtures	20 w	9/22/99	2/24/00	1614	As Sc		MEF134[0.5],DesF134[0.75]
1645	Fabricate and Test Installation Fixtures	6 w	2/25/00	4/6/00	1644	As Sc		MTF134
1646	Install Gas System	26 w	3/13/00	9/13/00	1635SS+12 w	Start		MTF134[0.5],DAB_Gas_Plumbing[0.5]
1647	Mount A-Layer North MDT Octants Onto Supports	2 w	4/7/00	4/20/00	1622SS+50 %,1637SS+16 %,1645	As Sc		MTF134[2],PhysU134[0.25],MEF134,DesF134[0.5],Crane_Day,DAB_Pit
1648	Connect to HV System	2 w	4/14/00	4/27/00	1630,1631,1647SS+1 w	As Sc		PhysU134[0.25],MTF134[0.4],DAB_Pit
1649	Connect to Front End Electronics	2 w	4/14/00	4/27/00	1628,1647SS+1 w	As Sc		PhysU134[0.25],MTF134[0.4]
1650	Survey A-Layer North MDT Planes	2 w	4/14/00	4/27/00	1647SS+1 w	As Sc		PhysF134[0.1],Align_Day,MEF134[0.1],DAB_Pit
1651	Mount A-Layer South MDT Octants Onto Supports	2 w	4/21/00	5/4/00	1622,1637SS+33 %,1647	As Sc		MTF134[2],PhysU134[0.25],MEF134,DesF134,Crane_Day,DAB_Pit
1652	Connect to HV System	2 w	4/28/00	5/11/00	1630,1631,1651SS+1 w	As Sc		PhysU134[0.25],MTF134[0.1]
1653	Connect to Front End Electronics	2 w	4/28/00	5/11/00	1628,1651SS+1 w	As Sc		PhysU134[0.25],MTF134[0.1]
1654	Survey A-Layer South MDT Planes	2 w	4/28/00	5/11/00	1651SS+1 w	As Sc		PhysF134[0.1],Align_Day,MEF134[0.1],DAB_Pit
1655	M3-Muon Forward Tracker A-Layer Planes Installed	0 w	5/11/00	5/11/00	1650,1654	As S		
1656	Mount C-Layer South MDT Octants Onto Supports	2 w	5/5/00	5/18/00	1637SS+50 %,1651,2024	As Sc		MTF134[2],PhysU134[0.25],MEF134,DesF134,Crane_Day,DAB_HiBay[0.5]
1657	Connect to HV system	1 w	5/12/00	5/18/00	1656SS+1 w	As Sc		PhysU134[0.25],MTF134[0.1]
1658	Connect to Front End Electronics	1 w	5/12/00	5/18/00	1656SS+1 w	As Sc		PhysU134[0.25],MTF134[0.1]
1659	Survey C-Layer South MDT Planes	2 w	5/12/00	5/25/00	1656SS+1 w	As Sc		PhysF134[0.1],Align_Day,MEF134[0.1],DAB_HiBay[0.5]
1660	Mount C-Layer North MDT Octants Onto Supports	2 w	7/12/00	7/25/00	1637SS+67 %,2050,1656	As Sc		MTF134[2],PhysU134[0.25],MEF134,DesF134,Crane_Day,DAB_Pit,Sidewalk_N
1661	Connect to HV system	1 w	7/19/00	7/25/00	1660SS+1 w	As Sc		PhysU134[0.25],MTF134[0.1]
1662	Connect to Front End Electronics	1 w	7/19/00	7/25/00	1660SS+1 w	As Sc		PhysU134[0.25],MTF134[0.1]
1663	Survey C-Layer North MDT Planes	2 w	7/19/00	8/1/00	1660SS+1 w	As Sc		PhysF134[0.1],Align_Day,MEF134[0.1],DAB_Pit,Sidewalk_North
1664	M3-Muon Forward Tracker C-Layer Planes Installed	0 w	8/1/00	8/1/00	1663,1659	As S		
1665	Mount B-Layer South MDT Octants Onto Supports	2 w	9/6/00	9/19/00	1637SS+83 %,1626SS+50 %,2047,1660,941	Start		MTF134[2],PhysU134[0.25],MEF134,DesF134,Crane_Day,Sidewalk_South
1666	Connect to HV system	1 w	9/13/00	9/19/00	1665SS+1 w	As Sc		PhysU134[0.25],MTF134[0.1]
1667	Connect to Front End Electronics	1 w	9/13/00	9/19/00	1665SS+1 w	As Sc		PhysU134[0.25],MTF134[0.1]
1668	Survey B-Layer South MDT Planes	2 w	9/13/00	9/26/00	1665SS+1 w	As Sc		PhysF134[0.1],Align_Day,MEF134[0.1],Sidewalk_South
1669	Mount B-Layer North MDT Octants Onto Supports	2 w	9/20/00	10/3/00	1637,1626,1665	As Sc		MTF134[2],PhysU134[0.25],MEF134,DesF134,Crane_Day,Sidewalk_North
1670	Connect to HV system	1 w	9/27/00	10/3/00	1669SS+1 w	As Sc		PhysU134[0.25],MTF134[0.1]
1671	Connect to Front End Electronics	1 w	9/27/00	10/3/00	1669SS+1 w	As Sc		PhysU134[0.25],MTF134[0.1]
1672	Survey B-Layer North MDT Planes	2 w	9/27/00	10/10/00	1669SS+1 w	As Sc		PhysF134[0.1],Align_Day[3],MEF134[0.1],Sidewalk_North
1673	Muon Forward Tracker B-Layer Planes Installed	0 w	10/10/00	10/10/00	1672,1668	As S		
1674	All MDT Planes Installed	0 w	10/10/00	10/10/00	1655,1673,1664	As S		
1675	Commission using cosmic rays	14 w	8/1/00	11/7/00	1655,1674FF+4 w	As Sc		PhysU134[2],PhysF134
1676	MDT Commissioning Complete	0 w	11/7/00	11/7/00	1675	As S		
1677	SOFTWARE DEVELOPMENT	78 w	12/7/98	7/11/00		As S		
1678	Develop On-line Software	78 w	12/7/98	7/11/00		Start		PhysU134[0.5]
1679	Create Databases	78 w	12/7/98	7/11/00	1678SS	As Sc		PhysU134[0.25],EEU134[0.1]
1680	Develop Slow Control System	78 w	12/7/98	7/11/00	1678SS	As Sc		PhysU134[0.5]
1681								
1682	MUON FORWARD TRIGGER DETECTORS	214.2 w	8/1/96	11/30/00		As S		
1683	M3-Muon Forward Trigger Detector TDR Submitted	0 w	12/2/97	12/2/97		Start		
1684	Develop Layout of the System and System Integration	135 w	8/1/96	4/28/99		Start	1.3.3.1	MEF133[0.2],DesF133[0.05]
1685	Specify Layout for Bar Counters	50 w	2/12/98	2/17/99		Start		MEF133[0.5],DesF133[0.5]
1686	FABRICATE COUNTERS	170.2 w	9/3/96	2/21/00		As S		
1687	Design Counters	17 w	11/1/96	3/13/97	1684SS+13 w	As Sc		MEU133[0.25],DesU133[0.75]
1688	Design Calibration System	79 w	11/1/96	6/11/98	1684SS+13 w	As Sc		PhysU133,EEF133[0.5]
1689	Procure Scintillator	52 w	9/16/96	10/1/97		Start	1.3.3.2	k\$(4.3)
1690	Procure PMTs	32 w	9/3/96	4/28/97		Start	1.3.3.4	k\$(2.82)
1691	Procure WLS	18 w	9/30/97	2/17/98		Start	1.3.3.3	k\$(0.73),k\$c[0.15]
1692	Procure PMT Base Parts FY96	18 w	9/3/96	1/20/97	1690SS	As Sc	1.3.3.4	k\$(0.12)
1693	Procure PMT Base Parts FY97	24 w	4/11/97	9/30/97	1687FS+4 w	As Sc	1.3.3.4	k\$(0.99)
1694	Procure PMT Base Parts FY99	0.2 w	6/1/99	6/1/99		Start	1.3.3.4	k\$(0.12)
1695	Procure Magnetic Shield Parts FY96	18 w	9/3/96	1/20/97	1690SS	As Sc	1.3.3.4	k\$(0.2)
1696	Procure Magnetic Shield Parts FY97	24 w	4/11/97	9/30/97	1687FS+4 w	As Sc	1.3.3.4	k\$(1.58)
1697	Procure Magnetic Shield Parts FY99	0.2 w	6/1/99	6/1/99		Start	1.3.3.4	k\$(0.2)
1698	Procure Counter Case Materials FY97,FY98	24 w	4/11/97	9/30/97	1687FS+4 w	As Sc	1.3.3.5	k\$(1.46),k\$c[0.29]
1699	Procure Counter Case Materials FY98	0.2 w	10/1/97	10/1/97		Start		
1700	Machine Scintillator	52 w	7/1/98	7/21/99		Start		MTU133[4]
1701	Machine Magnetic Shielding Parts	52 w	4/15/97	5/1/98	1695SS+4 w	As Sc		MTU133[2]
1702	Fabricate and Test PMT Bases	52 w	4/15/97	5/1/98	1692SS+4 w	As Sc		ETU133[3]
1703	Fabricate Counter Cases	52 w	7/1/98	7/21/99	1700SS	As Sc		MTU133[3]

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1704	Assemble Counters	52 w	7/30/98	8/18/99	1691SS+13 w,1700SS+4 w,1703SS+4 w	As Sc		MTU133[5],PhysU133[2]
1705	Begin Counter Assembly	0 w	7/30/98	7/30/98	1704SS	As S		
1706	M2-Muon Forward Trigger Counter Assembly 10% Complete	0 w	10/12/98	10/12/98	1704SS+20 %	As S		
1707	Assembly Of 50% Of Counters Complete	0 w	3/4/99	3/4/99	1704SS+55 %	As S		
1708	Test Counters	52 w	8/13/98	9/1/99	1704SS+2 w	As Sc	1.3.3.1	PhysU133[3],MTU133[3],k\$[0.05],k\$c[0.01]
1709	Shipping costs (MOU)	1.55 w	9/10/97	9/19/97		Start	1.3.3.1	k\$[0.2],k\$c[0.02]
1710	Ship Counters to FNAL	44 w	9/25/98	8/18/99	1708SS+6 w	Start	1.3.3.1	MTU133[2],k\$[0.16],k\$c[0.02]
1711	Arrival of A-Layer Pixel Counters at FNAL	0 w	2/1/99	2/1/99	1710SS+33 %	As S		
1712	Arrival of C-Layer Pixel Counters at FNAL	0 w	6/10/99	6/10/99	1710SS+66 %	As S		
1713	M3-All Muon Forward Trigger Detector Counters at Fermilab	0 w	8/18/99	8/18/99	1710	As S		
1714	Specify Fiber Readout Counters	4 w	7/19/99	8/13/99		Start		MEF133[0.25]
1715	Design and Prepare Drawings for Fiber Readout Counters	2 w	8/16/99	8/27/99	1714	As Sc		MEU133[0.5],DesU133[0.75]
1716	Fabricate and Test Fiber Readout Counters	10 w	8/23/99	11/1/99	1715SS+50 %	As Sc		MTU133[0.5]
1717	Test Counters at FNAL	66 w	10/9/98	2/21/00	1710SS+2 w	As Sc	1.3.3.1	PhysU133,PhysF133[0.5],MTF133[0.1],k\$[0.1],k\$c[0.01]
1718	FABRICATE COUNTER PLANES	191.4 w	8/1/96	6/19/00		As S		
1719	Procure HV Cables	26 w	8/1/96	2/13/97		As Sc	1.3.3.6	k\$[0.7],k\$c[0.01]
1720	Procure RG58 Signal Cables	26 w	8/1/96	2/13/97		As Sc	1.3.3.7	k\$[0.59]
1721	Assemble/Test HV and Signal Cables	35.6 w	2/26/99	11/5/99	1719FS+50 w,1720FS+50 w	Start		MTF133[0.5],PhysU133[0.25]
1722	Design and Prepare Drawings for First Pixel Octant	66 w	7/8/97	11/2/98	1687FS+16 w	As Sc		MEF133[0.5],MEU133,DesF133,PhysF133[0.25]
1723	Design and Prepare Drawings for First Pixel Holders	22 w	6/1/98	11/3/98		Start		MEF133[0.5],DesF133[0.5]
1724	Procure Materials for First Octant	6 w	11/4/98	12/17/98	1722,1723	As Sc	1.3.3.6	k\$[0.11],k\$c[0.01]
1725	Design and Prepare Drawings for Hole Drilling Fixture	13 w	11/16/98	3/2/99		Start		MEF133[0.1],DesF133[0.6]
1726	Assemble and Evaluate First Octant	2 w	12/18/98	1/14/99	1724,1725SS+4 w	As Sc		MTF133[2],PhysU133,PhysF133[0.25]
1727	First Pixel Octant Assembled	0 w	1/14/99	1/14/99	1726	As S		
1728	Produce Drawings for A Layer Octant Frames	18 w	11/3/98	3/24/99	1722	Start		MEF133[0.15],DesF133[0.75]
1729	Procure A-Layer Octant Frames	17 w	1/28/99	5/27/99	1728SS+10 w	As Sc	1.3.3.6	k\$[0.65],k\$c[0.03]
1730	Produce Drawings for C-Layer Octant Frames	13 w	3/25/99	6/24/99	1728	As Sc		MEF133[0.25],DesF133[1.5]
1731	Procure C-Layer Octant Frames	22 w	6/25/99	12/1/99	1730	As Sc	1.3.3.6	k\$[0.71],k\$c[0.03],MEF133[0.25],DesF133[0.25]
1732	Produce Drawings for B-Layer Octant Frames	8 w	6/25/99	8/20/99	1730	As Sc		DesF133[1.7],MEF133
1733	Procure B-Layer Octant Frames	3 w	12/2/99	1/5/00	1731,1732	As Sc	1.3.3.6	k\$[0.71],k\$c[0.03],MEF133[0.25],DesF133[0.25]
1734	Design and Prepare Drawings for B and C Layer Pixel Holders	16 w	3/25/99	7/16/99	1728	As Sc		MEF133,DesF133[0.25]
1735	Produce Pixel Holders at IHCP	44 w	1/15/99	11/23/99	1726	As Sc	1.3.3.6	k\$[0.62],k\$c[0.12]
1736	Fabricate A-layer Hole Drilling Fixture	12 w	3/3/99	5/26/99	1725	As Sc		
1737	Assemble Octants	36.2 w	5/27/99	2/23/00	1717SS,1729SS+10 %,1736	As Sc		MTF133[3],PhysU133,PhysF133[0.25],MEF133,DesF133
1738	M3-Muon Forward Trigger Detector Octant Assembly Begun	0 w	5/27/99	5/27/99	1737SS	As S		
1739	A-Layer Pixel Octants Assembled	0 w	9/2/99	9/2/99	1737SS+33 %	As S		
1740	C-Layer Pixel Octants Assembled	0 w	12/13/99	12/13/99	1737SS+66 %	As S		
1741	B-Layer Pixel Octants Assembled	0 w	2/23/00	2/23/00	1737	As S		
1742	All Pixel Octants Assembled	0 w	2/23/00	2/23/00	1739,1740,1741	As S		
1743	Test Assembled Octants	36 w	6/10/99	3/7/00	1737SS+2 w	As Sc		PhysU133[0.5],PhysF133[0.25]
1744	Design A-layer octant supports	9 w	1/17/00	3/17/00	1734FS+8 w	Start		MEF133,DesF133[0.5]
1745	Fabricate A-layer octant supports	3 w	3/20/00	4/7/00	1744	As Sc	1.3.3.6	k\$[0.47],k\$c[0.09],MEF133[0.25]
1746	Design C-layer octant supports	5 w	3/20/00	4/21/00	1744	As Sc		MEF133,DesF133[0.5]
1747	Fabricate C-layer octant supports	8 w	4/24/00	6/19/00	1746	As Sc	1.3.3.6	k\$[0.23],k\$c[0.05],MEF133[0.25]
1748	Design B-layer pixel octant supports	5 w	4/24/00	5/26/00	1746	As Sc		
1749	Fabricate B-layer octant supports	3 w	5/30/00	6/19/00	1748	As Sc		
1750	Conduct Safety Review	6 w	2/21/00	3/31/00	1744FS-4 w	As Sc		MEF133[0.1],PhysF133[0.05]
1751	Procure HV Fanouts	22 w	10/15/97	4/1/98		Start	1.3.3.8	PhysU133[0.5],MTU133[0.5],k\$[0.2],k\$c[0.02]
1752	Procure HV Power Supplies FY97	8 w	9/2/97	10/27/97		Start	1.3.3.8	k\$[0.26],k\$c[0.01]
1753	Procure HV Power Supplies FY98	8 w	2/2/98	3/27/98		Start	1.3.3.8	k\$[0.26],k\$c[0.01]
1754	Procure HV Power Supplies FY99	8 w	6/1/99	7/27/99		Start	1.3.3.8	k\$[0.78],k\$c[0.02]
1755	Procure Parts for Calibration System FY97	7 w	9/10/97	10/28/97	1688SS+42 w	As Sc	1.3.3.8	PhysU133[0.5],k\$[0.42],k\$c[0.08]
1756	Procure Parts for Calibration System FY98	19 w	3/5/98	7/17/98	1755FS+16 w	As Sc	1.3.3.8	PhysU133[0.5],k\$[0.12],k\$c[0.01]
1757	Procure Parts for Calibration System FY99	8 w	6/1/99	7/27/99		Start	1.3.3.8	k\$[0.28],k\$c[0.06]
1758	Fabricate Calibration System FY99	57 w	1/15/99	3/9/00	1726	As Sc	1.3.3.8	PhysU133[0.5],MTF133[0.1],k\$[0.19],k\$c[0.04]
1759	INSTALLATION AND HOOKUP	29 w	5/5/00	11/30/00		As S		
1760	Mount A-Layer North Pixel Octants Onto Supports	2 w	5/5/00	5/18/00	1743SS+16 %,1745SS+50 %,1650FS+1 w	As Sc		MTF133[2],PhysU133[0.25],MEF133,DesF133,Crane_Day,DAB_Pit
1761	Connect to HV system	2 w	5/12/00	5/25/00	1760SS+1 w	As Sc		PhysU133[0.25],MTF133[0.1]
1762	Connect to Front End Electronics	2 w	5/12/00	5/25/00	1760SS+1 w,1903SS,1899SS	As Sc		PhysU133[0.25],MTF133[0.1]
1763	Survey A-Layer North Pixel Planes	2 w	5/12/00	5/25/00	1760SS+1 w	As Sc		PhysF133[0.1],MEF133[0.1],Align_Day,DAB_Pit
1764	Mount A-Layer South Pixel Octants Onto Supports	2 w	5/19/00	6/2/00	1743SS+33 %,1745,1654FS+1 w,1760	As Sc		MTF133[2],MEF133,DesF133,PhysU133[0.25],Crane_Day,DAB_Pit
1765	Connect to HV system	2 w	5/26/00	6/9/00	1764SS+1 w	As Sc		PhysU133[0.25],MTF133[0.1]
1766	Connect to Front End Electronics	2 w	5/26/00	6/9/00	1764SS+1 w	As Sc		PhysU133[0.25],MTF133[0.1]
1767	Survey A-Layer South Pixel Planes	2 w	5/26/00	6/9/00	1764SS+1 w	As Sc		PhysF133[0.1],MEF133[0.1],Align_Day,DAB_Pit
1768	M3-Muon Forward Trigger Detector A-Layer Planes Installed	0 w	6/9/00	6/9/00	1763,1767	As S		
1769	Mount C-Layer South Pixel Octants Onto Supports	2 w	6/5/00	6/16/00	1743SS+50 %,1659FS+1 w,1747SS+50 %,1	As Sc		MTF133[2],PhysU133[0.25],MEF133,DesF133,Crane_Day,DAB_HiBay[0.5]
1770	Connect to HV system	1 w	6/12/00	6/16/00	1769SS+1 w	As Sc		PhysU133[0.25],MTF133[0.1]
1771	Connect to Front End Electronics	1 w	6/12/00	6/16/00	1769SS+1 w	As Sc		PhysU133[0.25],MTF133[0.1]
1772	Survey C-Layer South Pixel Planes	2 w	6/12/00	6/23/00	1769SS+1 w	As Sc		PhysF133[0.1],MEF133[0.1],Align_Day,DAB_HiBay[0.5]
1773	Mount C-Layer North Pixel Octants Onto Supports	2 w	8/9/00	8/22/00	1743SS+67 %,1663FS+1 w,1747,1769	As Sc		MTF133[2],PhysU133[0.25],MEF133,DesF133,Crane_Day,DAB_Pit,Sidewalk_N
1774	Connect to HV system	1 w	8/16/00	8/22/00	1773SS+1 w	As Sc		PhysU133[0.25],MTF133[0.1]

DO Upgrade Schedule
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ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1775	Connect to Front End Electronics	1 w	8/16/00	8/22/00	1773SS+1 w	As Sc		PhysU133[0.25],MTF133[0.1]
1776	Survey C-Layer North Pixel Planes	2 w	8/16/00	8/29/00	1773SS+1 w	As Sc		PhysF133[0.1],MEF133[0.1],Align_Day,DAB_Pit,Sidewalk_North
1777	M3-Muon Forward Trigger Detector C-Layer Planes Installed	0 w	8/29/00	8/29/00	1776, 1772	As S		
1778	Mount B-Layer South Pixel Octants Onto Supports	2 w	10/4/00	10/17/00	1743SS+83 %,1668FS+1 w,1749SS+50 %,	As Sc		MTF133[2],PhysU133[0.25],MEF133,DesF133,Crane_Day,Sidewalk_South
1779	Connect to HV system	1 w	10/11/00	10/17/00	1778SS+1 w	As Sc		PhysU133[0.25],MTF133[0.1]
1780	Connect to Front End Electronics	1 w	10/11/00	10/17/00	1778SS+1 w	As Sc		PhysU133[0.25],MTF133[0.1]
1781	Survey B-Layer South Pixel Planes	1 w	10/11/00	10/17/00	1778SS+1 w	As Sc		PhysF133[0.1],MEF133[0.1],Align_Day,Sidewalk_South
1782	Mount B-Layer North Pixel Octants Onto Supports	2 w	10/18/00	10/31/00	1743,1672FS+1 w,1749,1778	As Sc		MTF133[2],PhysU133[0.25],MEF133,DesF133,Crane_Day,Sidewalk_North
1783	Connect to HV system	1 w	10/25/00	10/31/00	1782SS+1 w	As Sc		PhysU133[0.25],MTF133[0.1]
1784	Connect to Front End Electronics	1 w	10/25/00	10/31/00	1782SS+1 w	As Sc		PhysU133[0.25],MTF133[0.1]
1785	Survey B-Layer North Pixel Planes	1 w	10/25/00	10/31/00	1782SS+1 w	As Sc		PhysF133[0.1],MEF133[0.1],Align_Day,Sidewalk_North
1786	M3- Muon Forward Trigger Detector B-Layer Planes Installed	0 w	10/31/00	10/31/00	1781,1785	As S		
1787	All Muon Forward Trigger Detector Planes Installed	0 w	10/31/00	10/31/00	1768,1786,1777	As S		
1788	Commission using Cosmic Rays	15 w	8/15/00	11/30/00	1768,1787FF+4 w	As Sc		PhysU133[2],PhysF133
1789	Pixel Commissioning Complete	0 w	11/30/00	11/30/00	1788	As S		
1790	SOFTWARE DEVELOPMENT	78 w	12/7/98	7/11/00		As S		
1791	Develop On-line Software	78 w	12/7/98	7/11/00		Start		PhysU133[0.5]
1792	Create Databases	78 w	12/7/98	7/11/00	1791SS	As Sc		PhysU133[0.25]
1793	Develop Slow Control and Monitoring Software	78 w	12/7/98	7/11/00	1791SS	As Sc		PhysU133[0.5]
1794								
1795	MUON ELECTRONICS	250.4 w	9/4/95	9/18/00		As S		
1796	M3-Muon Electronics TDR Submitted	0.2 w	7/22/97	7/22/97		Start		
1797	WAMUS Front End Electronics	235 w	9/4/95	5/30/00		As S		
1798	Design/Fab/Test Prototype Service Cards	72 w	9/4/95	2/11/97		As Sc		ETF135[0.2],EEF135[0.2]
1799	Design/Fab/Test Prototype Delay Boards	72 w	9/4/95	2/11/97		As Sc		ETF135[0.2],EEF135[0.2]
1800	Procure Parts for Production Service Cards FY96	10 w	9/11/96	11/19/96	1798FS-20 w	As Sc	1.3.5.1	k\$[0.32],k\$c[0.01]
1801	Procure Parts for Production Delay Boards FY96	10 w	9/11/96	11/19/96	1798FS-20 w	As Sc	1.3.5.1	k\$[0.22],k\$c[0.01]
1802	Fabricate/Test Production Service Cards	52 w	9/1/97	9/18/98	1798	As Sc	1.3.5.1	ETU135,PhysU135[0.1],k\$[0.65],k\$c[0.02]
1803	Fabricate/Test Production Delay Boards	52 w	9/1/97	9/18/98	1799	As Sc	1.3.5.1	ETU135,PhysU135[0.1],k\$[0.34],k\$c[0.01]
1804	Design prototype WAMUS FEB	71 w	9/4/95	2/4/97		As Sc		EEF135[0.5]
1805	Layout prototype FEB	20 w	2/5/97	6/25/97	1804	As Sc		ETF135
1806	Fabricate/Test FEB	19 w	8/22/97	1/19/98	1805FS+8 w	As Sc		ETF135[0.5],EEF135[0.5],PhysF135
1807	Design prototype CB	90 w	9/4/95	6/18/97		As Sc		EEF135[0.5]
1808	Layout prototype CB	8 w	8/1/97	9/26/97	1807FS+6 w	As Sc		ETF135
1809	Fabricate/Test prototype CB	9 w	11/3/97	1/19/98	1808FS+5 w	As Sc		ETF135[0.5],EEF135[0.25],PhysF135[0.25]
1810	FEB, CB Prototypes Complete	0 w	1/19/98	1/19/98	1809	As S		
1811	FEB, CB testing with PDT's	18 w	12/10/97	4/27/98	1810FS-5 w	As Sc		EEF135[0.1],PhysF135[0.2]
1812	Final FEB, CB design	18 w	4/28/98	9/2/98	1811	As Sc		EEF135
1813	Design FEB, CB testers	75 w	4/28/98	10/28/99	1811	As Sc	1.3.5.1	ETF135[0.3],EEF135[0.2],k\$[0.08],k\$c[0.02]
1814	Procure FEB Parts FY95	10 w	9/4/95	11/10/95		As Sc	1.3.5.1	k\$[0.66],k\$c[0.06]
1815	Procure FEB Parts FY96	10 w	9/11/96	11/19/96	1814SS+52 w	As Sc	1.3.5.1	k\$[0.75],k\$c[0.07]
1816	Procure 10% FEB,CB Parts FY97	12 w	9/8/97	12/2/97		Start	1.3.5.1	k\$[0.46],k\$c[0.05]
1817	Procure 100% FEB Parts FY99	8 w	11/25/98	2/4/99		Start		
1818	Procure 10% CB Parts FY98	12 w	6/10/98	9/2/98	1812FS-12 w	As Sc	1.3.5.1	ETF135[0.1],k\$[0.45],k\$c[0.05]
1819	Layout/Fabricate V2 Prototype FEB	28 w	9/3/98	4/5/99	1812	As Sc	1.3.5.1	EEF135[0.1],k\$[0.25],k\$c[0.03]
1820	Layout/Fabricate 10% CB	12 w	9/3/98	11/30/98	1812	As Sc		
1821	10% CB Electronics Fabricated	0 w	11/30/98	11/30/98	1820	As S		
1822	Bench Test V2 FEB and 10% CB	4 w	4/6/99	5/3/99	1819	As Sc		ETF135[2],EEF135[0.2]
1823	Install V2 FEB and 10% CB	12 w	6/30/99	9/23/99	1822SS+12 w	As Sc		PhysU135,EEF135[0.1],PhysF135,ETF135[0.5]
1824	FEB, CB Preproduction Installation Complete	0 w	9/23/99	9/23/99	1823	As S		
1825	Procure production FEB, CB parts	12 w	6/30/99	9/23/99	1823SS	As Sc	1.3.5.1	ETF135[0.3],k\$[4.71],k\$c[0.5]
1826	Layout/Fabricate Production FEB, CB	20 w	9/24/99	2/28/00	1825	As Sc	1.3.5.1	EEF135[0.1],k\$[3.06],k\$c[0.32],ETF135[0.3]
1827	FEB, CB Production Complete	0 w	2/28/00	2/28/00	1826	As S		
1828	Bench Test Production FEB, CB	16 w	11/30/99	4/3/00	1826SS+50 %	As Sc		ETF135[2],EEF135[0.1]
1829	Install Production FEB, CB	16 w	12/14/99	4/17/00	1828SS+2 w	As Sc		PhysU135[2],EEF135[0.1],PhysF135,ETF135[0.5]
1830	FEB, CB online software	117 w	1/20/98	5/30/00	1809	As Sc		PhysU135[0.5]
1831	MDT FRONT END ELECTRONICS	243.2 w	9/4/95	7/27/00		As S		
1832	MDT ADB	240.4 w	9/4/95	7/7/00		As S		
1833	Design/fabricate prototype MDT ADB (SS)	95 w	9/4/95	7/24/97		As Sc		EEU135[0.5],ETU135[0.5]
1834	Design/fabricate prototype MDT ADB (SMD)	73 w	9/4/95	2/18/97		As Sc		EEU135[0.5],ETU135[0.5]
1835	Test SS and SMD MDT ADB	12 w	7/25/97	10/17/97	1833,1834	As Sc		PhysU135[2],ETU135[2],EEU135[0.5]
1836	Dubna MOU-FY98	0.2 w	8/13/98	8/13/98		Start	1.3.5.2	k\$[3.95],k\$c[0.49]
1837	Design choice SS vs SMD	2 w	6/15/98	6/26/98		Start		PhysU135[0.1],EEU135[0.1]
1838	Design production MDT ADB	12 w	6/29/98	9/22/98	1837	As Sc		EEU135
1839	Design MDT ADB tester	20 w	6/26/98	11/17/98	1837	As Sc	1.3.5.2	EEU135[0.5],ETU135,k\$[0.04],k\$c[0.01]
1840	Procure 10% MDT ADB parts	8 w	8/25/98	10/20/98	1838SS+8 w	As Sc		ETU135[0.1]
1841	Procure MDT ADB Power Supplies	10 w	7/19/99	9/27/99		Start	1.3.5.2	k\$[0.35],k\$c[0.05]
1842	Fabricate 10% MDT ADB	8 w	11/18/98	1/28/99	1839,1840	As Sc		EEU135[0.1]
1843	10% MDT ADB Fabricated	0 w	1/28/99	1/28/99	1842	As S		
1844	Bench test 10% MDT ADB	6.2 w	1/29/99	3/12/99	1843	As Sc		ETU135,EEU135[0.1]
1845	Install 10% MDT ADB	8 w	2/26/99	4/22/99	1844SS+4 w	As Sc		PhysU135,EEU135[0.1],ETF135[0.5]

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1846	MDT ADB Preproduction Installation Complete	0 w	4/22/99	4/22/99	1845	As S		
1847	Procure production MDT ADB parts	12 w	3/26/99	6/18/99	1845FS-4 w	As S	1.3.5.2	ETU135[0.1],k\$[4.83],k\$c[0.6]
1848	Fabricate production MDT ADB	23 w	6/21/99	12/2/99	1847	As S		EEU135[0.1]
1849	MDT ADB Fabrication Complete	0 w	12/2/99	12/2/99	1848	As S		
1850	Bench test production MDT ADB	21.4 w	7/20/99	1/3/00	1848SS+4 w	As S		ETU135,EEU135[0.1]
1851	Install production MDT ADB	36 w	10/12/99	7/7/00	1850SS+4 w,1633SS	As S		PhysU135,EEU135[0.1],ETF135[0.5]
1852	MDT MDC/MDRC Cards	243.2 w	9/4/95	7/27/00		As S		
1853	Design prototype MDC	88 w	9/4/95	6/4/97		As S		EEU135
1854	Layout MDC	8 w	6/5/97	7/31/97	1853	As S		ETU135
1855	Fabricate/Test MDC	73 w	9/15/97	3/15/99	1854FS+6 w	As S		PhysU135,ETU135,EEU135[0.5]
1856	Design prototype MDRC	48 w	6/5/97	5/26/98	1854	As S		EEU135
1857	Layout prototype MDRC	20 w	3/31/98	8/19/98	1856FS-8 w	As S		ETU135
1858	Fabricate/Test prototype MDRC	27 w	8/20/98	3/15/99	1857	As S		PhysU135[0.5],ETU135,EEU135[0.5]
1859	MDC, MDRC Prototypes Complete	0 w	3/15/99	3/15/99	1858	As S		
1860	Design/fabricate MDC, MDRC testers	32 w	8/20/98	4/19/99	1857	As S	1.3.5.2	EEU135[0.5],ETU135[0.5],k\$[0.04],k\$c[0.01]
1861	Design production MDC, MDRC	15 w	3/16/99	6/29/99	1855,1859	As S		EEU135
1862	Procure MDC, MDRC parts FY96	8 w	8/1/96	9/26/96		Start	1.3.5.2	k\$[0.39],k\$c[0.06]
1863	Procure MDC, MDRC parts FY97	8 w	8/1/97	9/26/97		Start	1.3.5.2	k\$[0.01]
1864	Procure 10% MDC, MDRC parts	8 w	5/4/99	6/29/99	1861FS-8 w	As S	1.3.5.2	ETF135[0.1],k\$[0.55],k\$c[0.09]
1865	Fabricate 10% MDC, MDRC	9 w	6/30/99	9/1/99	1864	As S	1.3.5.2	EEF135[0.1],k\$[0.23],k\$c[0.04]
1866	10% MDC, MDRC Fabricated	0 w	9/1/99	9/1/99	1865	As S		
1867	Bench Test 10% MDC, MDRC	3 w	9/2/99	9/23/99	1865	As S	1.3.5.4	k\$[0.05],k\$c[0.01]
1868	Install 10% MDC, MDRC	4 w	9/17/99	10/14/99	1867SS+2 w	As S		PhysU135,ETU135,EEF135[0.1],ETF135[0.5]
1869	MDC, MDRC Preproduction Testing Complete	0 w	10/14/99	10/14/99	1868	As S		
1870	Procure production MDC, MDRC parts	12 w	5/4/99	7/28/99	1861FS-8 w	As S	1.3.5.2	ETF135[0.1],k\$[4.87],k\$c[0.76]
1871	Fabricate production MDC	13 w	10/15/99	1/31/00	1869,1870	As S	1.3.5.2	EEF135[0.1],k\$[1.76],k\$c[0.28]
1872	MDC Fabrication Complete	0 w	1/31/00	1/31/00	1871	As S		
1873	Bench test production MDC	16 w	2/1/00	5/22/00	1871	As S		ETU135,EEU135[0.1]
1874	Fabricate Production MDRC	5 w	3/1/00	4/4/00	1869FS+9 w	Start		
1875	MDRC Fabrication Complete	0 w	4/4/00	4/4/00	1874	As S		
1876	Bench test production MDRC	10 w	3/29/00	6/7/00	1874SS+4 w	As S		
1877	Install production MDC, MDRC	13 w	4/26/00	7/27/00	1873SS+4 w,1876SS+4 w	As S		PhysU135[2],ETU135,EEF135[0.1],PhysF135,ETF135[0.5]
1878	MDC, MDRC online software	55 w	4/20/99	5/30/00	1860	As S		PhysU135[0.5]
1879	Scintillator Electronics: SFE/SRC Cards	191.6 w	8/1/96	6/20/00		As S		
1880	Design Prototype SFE	74 w	8/1/96	2/4/98		Start		EEF135
1881	Layout Prototype SFE	16 w	2/5/98	5/28/98	1880	As S		ETF135
1882	Fabricate/Assemble Prototype SFE	20 w	6/25/98	11/13/98	1881	Start		ETF135[0.5]
1883	Test Prototype SFE	18 w	11/16/98	4/6/99	1882	As S		ETF135[0.2],PhysU135[0.2],EEF135[0.2]
1884	Design Prototype SRC	16 w	7/7/98	10/27/98	1880	Start		EEF135
1885	Layout Prototype SRC	8 w	10/28/98	1/7/99	1884	As S		ETF135
1886	Fabricate/Assemble Prototype SRC	20.4 w	1/8/99	6/1/99	1885	As S		ETF135[0.5]
1887	Test Prototype SRC	19 w	6/2/99	10/14/99	1886	As S		ETF135[0.2],PhysU135[0.2],EEF135[0.2]
1888	SFE, SRC Prototypes Complete	0 w	10/14/99	10/14/99	1887	As S		
1889	M3-Muon Electronics Prototypes Complete	0 w	10/14/99	10/14/99	1810,1859,1888,1925	As S		
1890	Design SC LED Pulsar Prototype	26 w	8/3/98	2/17/99	1880	Start		EEF135
1891	Layout SC LED Pulsar Prototype	6 w	2/18/99	3/31/99	1890	As S		ETF135
1892	Fabricate/Test SC LED Pulsar Prototype	8 w	8/16/99	10/11/99	1891	Start		ETF135[0.2],EEF135[0.2],PhysF135[0.2]
1893	Layout SC LED Pulsar	1 w	10/12/99	10/18/99	1892	Start		ETF135
1894	Fabricate/Test SC LED Pulsar	19 w	10/19/99	3/15/00	1893	As S	1.3.5.3	ETF135[0.2],PhysU135[0.2],EEF135[0.2],k\$[0.17],k\$c[0.03]
1895	Final SFE, SRC Design	28 w	6/30/99	1/31/00	1887SS+4 w	As S		EEF135
1896	Procure Components FY96	10 w	9/27/96	12/9/96		As S	1.3.5.3	k\$[1.1],k\$c[0.09]
1897	Procure Components FY97	10 w	2/28/97	5/8/97		As S	1.3.5.3	k\$[0.61],k\$c[0.05]
1898	Procure 100% SFE Components	12 w	5/15/98	8/10/98		Start	1.3.5.3	ETF135[0.1],k\$[1.58],k\$c[0.12]
1899	Procure 100% SRC Components	4 w	7/22/99	8/18/99	1887FS-12 w	Start	1.3.5.3	k\$[0.32],k\$c[0.04]
1900	Fabricate, Assemble 10% SFE and SRC Prototypes	7 w	7/29/99	9/16/99	1895SS+4 w	As S	1.3.5.3	ETF135[0.1],k\$[0.15],k\$c[0.01]
1901	10% SFE, SRC Fabricated	0 w	9/16/99	9/16/99	1900	As S		
1902	Bench Test 10% SFE, SRC	10 w	9/17/99	11/29/99	1901	As S	1.3.5.3	ETF135,EEF135[0.1],k\$[0.13],k\$c[0.03]
1903	Install 10% SFE, SRC	9 w	11/12/99	1/31/00	1902SS+8 w	As S		PhysU135,EEF135[0.1],PhysF135,ETF135[0.5]
1904	SFE, SRC Preproduction Testing Complete	0 w	1/31/00	1/31/00	1903	As S		
1905	M2-Muon Electronics Preproduction Installation Complete	0 w	1/31/00	1/31/00	1824,1846,1869,1904	As S		
1906	Fabricate Production SFE, SRC	12 w	2/1/00	4/24/00	1902,1895	As S	1.3.5.3	ETF135[0.3],k\$[0.94],k\$c[0.08]
1907	SFE, SRC Fabrication Complete	0 w	4/24/00	4/24/00	1906	As S		
1908	Bench test production SFE, SRC	11 w	3/14/00	5/30/00	1906SS+6 w	As S		ETF135,EEF135[0.1]
1909	Install production SFE, SRC	12 w	3/28/00	6/20/00	1908SS+2 w	As S		PhysU135,EEF135[0.1],PhysF135,ETF135[0.5]
1910	SFE, SRC online software	75 w	11/16/98	5/31/00	1883SS	As S		PhysU135[0.5]
1911	Readout Electronics: MRC/MFC Cards	250.4 w	9/4/95	9/18/00		As S		
1912	Design prototype MRC	20 w	9/4/95	1/25/96		As S		EEF135
1913	Layout MRC	12 w	1/26/96	4/18/96	1912	As S		ETF135
1914	Fabricate/Test prototype MRC	32 w	10/23/96	6/18/97	1913FS+26 w	As S		ETF135,EEF135[0.25]
1915	Design 2nd prototype MRC	40 w	5/7/97	3/2/98	1914FS-6 w	As S		EEF135[0.25]
1916	Layout 2nd prototype MRC	12 w	3/3/98	5/26/98	1915	As S		EEF135[0.1]

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1917	Fabricate/Test 2nd Prototype MRC	30 w	5/27/98	1/11/99	1916	As Sc		ETF135,PhysF135[0.5]
1918	MRC Prototype Complete	0 w	1/11/99	1/11/99	1917	As S		
1919	Perform System Test - 2nd Prototype MRC	11 w	1/12/99	3/29/99	1918	As Sc		PhysF135,EEF135[0.1]
1920	Design Final MRC	10 w	1/12/99	3/22/99	1917	As Sc		EEF135
1921	Procure Production MRC Parts	10 w	1/12/99	3/22/99	1917	As Sc	1.3.5.4	ETF135[0.1],k\$[0.43],k\$c[0.07]
1922	Fabricate Production MRC	12.6 w	8/30/99	11/29/99	1919,1920	Start	1.3.5.4	ETF135[0.3],EEF135[0.1],k\$[0.55],k\$c[0.09]
1923	Bench Test Production MRC	8.4 w	10/12/99	12/10/99	1922SS+6 w,1944	As Sc	1.3.5.4	ETF135,EEF135[0.2],k\$[0.02]
1924	Design 1st Prototype MFC	52 w	11/20/96	12/9/97		Start		EEF135
1925	Layout/Fabricate 1st Prototype MFC	44 w	12/10/97	10/29/98	1924	As Sc		ETF135
1926	Test 1st Prototype MFC	8 w	10/30/98	1/11/99	1925	Start		ETF135[0.2],PhysU135[0.2],EEF135[0.2]
1927	Design 2nd Prototype MFC	32 w	1/12/99	8/25/99	1926	As Sc		EEF135
1928	Layout 2nd Prototype MFC	5 w	8/26/99	9/30/99	1927	As Sc		ETF135,EEF135[0.1]
1929	Fabricate/Test 2nd Prototype MFC	7.4 w	10/1/99	11/22/99	1928	As Sc		PhysF135[0.5],ETF135
1930	MFC Prototype Complete	0 w	11/22/99	11/22/99	1929	As S		
1931	Perform System Test - 2nd Prototype MFC	12 w	11/23/99	3/1/00	1930	As Sc		PhysF135,EEF135[0.1],ETF135[0.3]
1932	Design Final MFC	4 w	3/2/00	3/29/00	1931	As Sc		EEF135
1933	Procure Production MFC Parts	5 w	8/26/99	9/30/99	1927	As Sc	1.3.5.4	ETF135[0.3],k\$[0.42],k\$c[0.05]
1934	Fabricate Production MFC	8 w	3/30/00	5/24/00	1932	As Sc	1.3.5.4	ETF135[0.3],EEF135[0.1],k\$[0.18],k\$c[0.02]
1935	Design/Fabricate MFC Tester	28 w	8/26/99	3/27/00	1927	As Sc	1.3.5.4	k\$[0.06],k\$c[0.01]
1936	Bench Test Production MFC	6 w	5/25/00	7/7/00	1934,1935	As Sc	1.3.5.4	ETF135,EEF135[0.2],k\$[0.02]
1937	Design Prototype TFC	4 w	8/26/99	9/23/99	1927	As Sc		EEF135
1938	Layout/Fabricate Prototype TFC	8 w	9/24/99	11/18/99	1937	As Sc		ETF135
1939	Test Prototype TFC	12.4 w	11/19/99	3/1/00	1938,1931FF	As Sc		PhysU135[0.2],EEF135[0.2],PhysF135,ETF135[0.3]
1940	TFC Prototype Complete	0 w	3/1/00	3/1/00	1939	As S		
1941	Procure Production TFC Parts	6 w	9/24/99	11/4/99	1937	As Sc	1.3.5.4	ETF135[0.1],k\$[0.12],k\$c[0.02]
1942	Fabricate Production TFC	8 w	3/2/00	4/26/00	1939,1941	As Sc	1.3.5.4	ETF135[0.3],EEF135[0.1],k\$[0.08],k\$c[0.02]
1943	Bench Test Production TFC	4 w	4/27/00	5/24/00	1942	As Sc	1.3.5.4	ETF135,EEF135[0.2],ETU135,k\$[0.02]
1944	Design/Fabricate MRC Tester	26 w	11/16/98	6/2/99		Start	1.3.5.4	ETF135[0.5],EEF135[0.5],k\$[0.05],k\$c[0.01]
1945	Procure CPU Boards-FY98	8 w	8/17/98	10/12/98		Start	1.3.5.4	PhysU135[0.1],k\$[1.02],k\$c[0.1]
1946	Procure CPU Boards-FY99	8 w	6/1/99	7/27/99		Start	1.3.5.4	PhysU135[0.1],k\$[0.44],k\$c[0.04]
1947	Procure VME Crates FY96	8 w	9/3/96	10/28/96		Start	1.3.5.4	EEF135[0.1],k\$[0.06],k\$c[0.01]
1948	Procure VME Crates FY98	8 w	8/17/98	10/12/98		Start	1.3.5.4	EEF135[0.1],k\$[2.73],k\$c[0.29]
1949	MRC, MFC Production Complete	0 w	5/24/00	5/24/00	1922,1934	As S		
1950	Install and Commission Production MRC, MFC	12 w	6/23/00	9/18/00	1923SS+4 w,1936SS+4 w,1943	As Sc		PhysU135[2],EEF135[0.1],ETF135[0.5]
1951	MRC, MFC Online Software	145 w	6/19/97	5/30/00	1914	As Sc		PhysU135[0.5]
1952								
1953	FORWARD SHIELDING	138.2 w	8/1/97	5/23/00		As S		
1954	EMC Truss & Shield Design and Procurement	102.8 w	8/1/97	8/31/99		As S		
1955	Design Shield	24 w	1/5/98	6/22/98		Start		MEF130[0.5],DesF130[0.6]
1956	Prepare Shielding Drawings	27 w	6/23/98	1/15/99	1955	As Sc		MEF130[0.8],DesF130
1957	Procure Poly and Pb Materials	31 w	1/25/99	8/31/99	1956FS+1 w	As Sc		
1958	Procure Fabricated Steel Shielding Pieces	31 w	1/25/99	8/31/99	1956FS+1 w	As Sc		MEF130[0.4],MTF130[0.1]
1959	Design Shield Support Structure	44 w	8/1/97	6/23/98		Start		MEF130[0.5],DesF130[0.9]
1960	Draw Support Structure Ass'y and Details	12 w	10/12/98	1/19/99	1959	Start		MEF130[0.5],DesF130[0.6]
1961	Procure Support Structure Material and Parts	6 w	1/13/99	2/23/99	1960FS-1 w	As Sc		
1962	Design EMC Truss Modifications	17 w	9/14/98	1/26/99		Start		MEF130[0.4],DesF130[0.1],MTF130[0.1]
1963	Prepare EMC Truss Drawings	10 w	11/9/98	2/2/99	1962SS+8 w	As Sc		MEF130[0.4],DesF130[0.3],MTF130[0.1]
1964	Procure EMC Truss Materials	6 w	1/27/99	3/9/99	1962	As Sc		
1965	EMC Truss Preassembly Away From DAB	53.4 w	2/3/99	3/2/00		As S		
1966	Assemble/Modify N & S EMC Truss Spacers and Tops	13 w	2/3/99	5/4/99	1963	As Sc		MEF130[0.2],MTFmab[1.5],Welder_Day
1967	Fabricate EMC Truss Bottom Bases	9 w	2/10/99	4/13/99	1964SS+2 w	As Sc		MEF130[0.2],MTFmab[1.5],Welder_Day
1968	Assemble N EMC Truss Bottom	26 w	5/5/99	11/5/99	1963,1964,1966,1967	As Sc		MEF130[0.2],MTFmab[1.5],Welder_Day
1969	Milestone - N EMC Bottom Truss Finished	0 d	11/3/99	11/3/99		Start		
1970	Move N EMC Bottom Section to Lab G Hardstand	1 d	11/8/99	11/8/99	1969	Start		
1971	Install Walkways on North Top and Spacers	7 d	11/9/99	11/17/99	1970	Start		MEF130[0.2],Welder_Day[0.2],MTFmab
1972	Install Walkways on South Top and Spacers	7 d	11/18/99	11/30/99	1971	As Sc		MEF130[0.1],MTFmab,Welder_Day[0.2]
1973	Fabricate & Test EMC South Bottom Truss @ MAB	9 w	11/8/99	1/25/00	1969	Start		MEF130[0.4],MTFmab[1.5],Welder_Day
1974	Move Telescoping Arm Support to DAB	1 d	2/1/00	2/1/00	1973	As Sc		
1975	Move N & S Top and N Spacers to Lab G Hardstand	1 d	11/23/99	11/23/99		Start		
1976	Move S Spacers to Lab G Hardstand	1 d	1/31/00	1/31/00		Start		
1977	Preassemble N EMC Assembly at Lab G Hardstand	9 d	1/4/00	1/14/00	1970,1975FS+17 d	Start		MEF130[0.2],MTF130[2],Welder_Day[0.2]
1978	Survey N EMC Assembly	1 d	1/28/00	1/28/00	1977	Start		Align_Day[2]
1979	Move EMC S Bottom Truss to Lab G Hardstand	1 d	2/1/00	2/1/00	1973,1978	As Sc		
1980	Preassemble S EMC Assembly at Lab G Hardstand	2 d	2/2/00	2/3/00	1979	As Sc		MEF130[0.2],MTF130[2],Welder_Day[0.2]
1981	Survey S EMC Assembly	1 d	2/28/00	2/28/00	1980	Start		Align_Day[2]
1982	Disassemble & Move N EMC Ass'y and Support to DAB	1 d	1/29/00	1/31/00	1978	As Sc		MEF130[0.2],MTF130[2]
1983	Disassemble & Move S EMC Ass'y and Support to DAB	3 d	2/29/00	3/2/00	1981	As Sc		MEF130[0.2],MTF130[2]
1984	Shielding Box Ass'y	5.2 w	12/2/99	1/20/00		As S		
1985	Assemble N EF Plug Boxes	3 d	12/2/99	12/6/99		Start		Welder_Day[0.25],MTF130
1986	Assemble S EF Plug Boxes	3 d	12/7/99	12/9/99	1985	As Sc		Welder_Day[0.25],MTF130
1987	Assemble N Middle Section Boxes	6 d	12/10/99	12/17/99	1986	As Sc		Welder_Day[0.25],MTF130

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
1988	Assemble S Middle Section Boxes	6 d	1/3/00	1/10/00	1987	As Sc		Welder_Day[0.25],MTF130
1989	Assemble N Clamshell Boxes	4 d	1/11/00	1/14/00	1988	As Sc		Welder_Day[0.25],MTF130
1990	Assemble S Clamshell Boxes	4 d	1/17/00	1/20/00	1989	As Sc		Welder_Day[0.25],MTF130
1991	Assemble and Install N&S EF Plug	13.4 w	11/12/99	3/1/00		As S		
1992	Move North Core Section to DAB	1 d	11/12/99	11/12/99		Start		
1993	Move South Core Section to DAB	1 d	11/15/99	11/15/99	1992	Start		
1994	Install Boxes on Cores	6 d	12/10/99	12/17/99	1986,1993	As Sc		MTF130,Welder_Day
1995	Prepare Magnet Hole	1 d	2/28/00	2/28/00	1994	Start		MTF130[2],Welder_Day
1996	Install Plug w/ SAMUS Lifting Fixture	2 d	2/29/00	3/1/00	1995	As Sc		MTF130[2]
1997	Assemble/Test N EMC Bottom Truss & Shield	7.8 w	1/17/00	3/9/00		As S		
1998	Install Rollers & Housings on EMC Truss Rails	6 d	2/16/00	2/23/00	1982SS+50 %	As Sc		MEF130[0.2],MTF130[0.5]
1999	Move N Middle and Clamshell Cores to DAB	1 d	1/17/00	1/17/00	1987,1989	Start		
2000	Install Bottom Box on Bottom Middle Core Section	3 d	1/18/00	1/20/00	1987,1999	As Sc		MEF130[0.1],MTF130,Welder_Day
2001	Install Bottom Middle Ass'y Onto EMC Truss	1 d	2/24/00	2/24/00	1974,1998,2000	As Sc		MEF130,MTF130[2],Crane_Day[0.1]
2002	Secure Side Boxes on Middle Core Section	2 d	2/25/00	2/28/00	2000,2001	As Sc		MEF130[0.1],MTF130,Welder_Day,Crane_Day[0.1]
2003	Install Top Box on Top Middle Core Section	2 d	2/29/00	3/1/00	1999,2002,2001	As Sc		MEF130[0.1],MTF130,Welder_Day,Crane_Day[0.1]
2004	Install Top Middle Ass'y Onto Bottom Ass'y	1 d	3/2/00	3/2/00	2001,2003	As Sc		MEF130,MTF130[2],Crane_Day[0.1]
2005	Install Clamshell Boxes onto Clamshell Cores	5 d	1/24/00	1/28/00	1989,1999	As Sc		MEF130[0.1],MTF130,Welder_Day
2006	Install N Clamshells Onto EMC Truss	3 d	2/24/00	2/28/00	1998	As Sc		MEF130[0.5],MTF130[2],Crane_Day[0.1]
2007	Test Middle Section Movement	2 d	3/3/00	3/6/00	2004,2006	As Sc		MEF130[0.5],MTF130[2]
2008	Test Clamshell Section Movements	3 d	3/7/00	3/9/00	2007	As Sc		MEF130[0.5],MTF130[2]
2009	North Truss Testing Complete	0 w	3/9/00	3/9/00	1997	As S		
2010	Assemble/Test S EMC Bottom Truss & Shield	10.2 w	1/17/00	3/27/00		As S		
2011	Install Rollers & Housings on EMC Truss Rails	3 d	3/10/00	3/14/00	1983,2008	As Sc		MEF130[0.2],MTF130,Crane_Day[0.1]
2012	Move S Middle and Clamshell Cores to DAB	1 d	1/17/00	1/17/00	1988,1990,1997	As Sc		
2013	Install Bottom Box on Bottom Middle Core Sections	3 d	1/18/00	1/20/00	1988,2012	As Sc		MEF130[0.1],MTF130,Welder_Day
2014	Install Bottom Middle Ass'y Onto EMC Truss	1 d	3/15/00	3/15/00	2011,2013	As Sc		MEF130,MTF130[2],Crane_Day[0.1]
2015	Secure Side Boxes on Middle Core Section	2 d	3/16/00	3/17/00	2013,2014	As Sc		MEF130[0.1],MTF130,Welder_Day,Crane_Day[0.1]
2016	Install Top Box on Top Middle Core Section	2 d	3/16/00	3/17/00	1988,2012,2014	As Sc		MEF130[0.1],MTF130,Welder_Day,Crane_Day[0.1]
2017	Install Top Middle Ass'y Onto Bottom Ass'y	1 d	3/20/00	3/20/00	2014,2016	As Sc		MEF130,MTF130[2],Crane_Day[0.1]
2018	Install Clamshell Boxes Onto Clamshell Cores	4 d	1/21/00	1/26/00	1990,2012	As Sc		MEF130[0.1],MTF130,Welder_Day,Crane_Day[0.1]
2019	Install S Clamshells Onto EMC Truss	3 d	3/15/00	3/17/00	2018,2011	As Sc		MEF130[0.5],MTF130[2],Crane_Day[0.1]
2020	Test Middle Section Movement	2 d	3/21/00	3/22/00	2017,2019	As Sc		MEF130[0.5],MTF130[2]
2021	Test Clamshell Section Movements	3 d	3/23/00	3/27/00	2020	As Sc		MEF130[0.5],MTF130[2]
2022	South Truss Testing Complete	0 w	3/27/00	3/27/00	2010	As S		
2023	Final Assembly of S EMC Truss	4.2 w	3/28/00	4/25/00		As S		
2024	Install Octant Supports	3 d	4/21/00	4/25/00	1624SS+50 %,2022	As Sc		MTF130[2],Welder_Day,Crane_Day[0.1]
2025	Install Readout & VME Crates	3 d	3/28/00	3/30/00	2022	As Sc		MTF130,Welder_Day[0.2]
2026	Install MDT Gas Lines	3 d	3/31/00	4/4/00	2025	As Sc		MTF130[2],Welder_Day,DAB_Gas_Plumbing
2027	Install Power and Lights	3 d	4/5/00	4/7/00	2026	As Sc		MTF130[2],ETF130[0.75],Elect[2.5],Welder_Day
2028	Install Gas/Fire Protection Instrumentation	3 d	4/10/00	4/12/00	2027	As Sc		MTF130[2],Welder_Day
2029	Final Assembly of N EMC Truss	5.8 w	4/13/00	5/23/00		As S		
2030	Install Octant Supports	3 d	5/19/00	5/23/00	1624,2009	As Sc		MTF130[2],Welder_Day,Crane_Day[0.1]
2031	Install Readout & VME Crates	3 d	4/13/00	4/17/00	2009,2028	As Sc		MTF130,Welder_Day[0.2]
2032	Install MDT Gas Lines	3 d	4/18/00	4/20/00	2031	As Sc		MTF130[2],Welder_Day,DAB_Gas_Plumbing
2033	Install Power and Lights	3 d	4/21/00	4/25/00	2032	As Sc		MTF130[2],ETF130[0.75],Elect[2.5],Welder_Day
2034	Install Gas/Fire Protection Instrumentation	3 d	4/26/00	4/28/00	2033	As Sc		MTF130[2],Welder_Day
2035	EMC Lifting Fixture	20.2 w	11/3/99	4/7/00		As S		
2036	Evaluate EMC Lifting Fixture	4 d	11/3/99	11/8/99		Start		MEF130
2037	Redesign EMC Lifting Fixture Yoke & EMC Hooks	3 w	1/17/00	2/4/00		Start		MEF130[0.5]
2038	Obtain New Material	6 w	2/7/00	3/17/00	2037	As Sc		
2039	Modifications to Lifting Fixture	3 w	3/20/00	4/7/00	2038	As Sc		MTF130,MEF130[0.2],Welder_Day[0.25]
2040								
2041	TRUSS DANCE - Scheme 4	11 w	6/5/00	8/21/00		As S		
2042	Prepare L&R and LHe systems for platform move	1 w	6/5/00	6/12/00	2043SF	As Sc		MTF100[2]
2043	Move ECS calorimeter onto platform	0.6 w	6/12/00	6/14/00	941,1768	As Sc		MTF100[4],Platform,Sidewalk_South,DAB_Pit,ICR_South,ICR_North
2044	Move platform west	1 w	6/15/00	6/21/00	2043	As Sc		MTF100[5],MEF100,DAB_Pit,Platform,ICR_North,ICR_South,CF_Wikway_E,CF
2045	Move north and south EF's onto platform	0.8 w	6/22/00	6/27/00	2044	As Sc		MTF100[4],DAB_Pit,Platform,ICR_North,ICR_South,CF_Wikway_E,CF_Wikway
2046	M2-Muon End Toroids Installed on Platform	0 w	6/27/00	6/27/00	2045	As S		
2047	Move platform east	0.4 w	6/28/00	6/29/00	2046	As Sc		MTF100[4],DAB_Pit,Platform,ICR_North,ICR_South,CF_Wikway_E,CF_Wikway
2048	Disassemble north EMC truss for move	0.4 w	6/30/00	7/3/00	2029,2047	As Sc		Crane_Day[0.5]
2049	Assemble north EMC on north sidewalk	1 w	7/5/00	7/11/00	2048,2035	As Sc		MTF100[3],Crane_Day,Sidewalk_North
2050	North EMC Truss Assembled on North Sidewalk	0 w	7/11/00	7/11/00	2049	As S		
2051	Disassemble south EMC truss for move	1 w	7/12/00	7/18/00	1772,2050	As Sc		MTF100[2],Crane_Day[0.5]
2052	Disconnect LHe engines	1 w	7/12/00	7/19/00	2053SF	As Sc		
2053	Assemble south EMC on south sidewalk	2 w	7/19/00	8/1/00	2035,2051	As Sc		MTF100[3],Crane_Day,Sidewalk_South
2054	South EMC Truss Assembled on South Sidewalk	0 w	8/1/00	8/1/00	2053	As S		
2055	Reconnect LHe system	1.6 w	8/2/00	8/11/00	2053	As Sc		MTF100[2]
2056	Accelerator Engineering Run Ends	0 w	8/1/00	8/1/00		Start		
2057	Remove shield wall for south EMC truss installation	0.6 w	8/2/00	8/4/00	2056,2054	As Sc		Crane_Day[0.75],DAB_Pit,Sidewalk_South,Sidewalk_North,Platform
2058	Prepare collision hall/low beta quads for south truss installation	3 w	8/1/00	8/21/00	2056	As Sc		

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
2059	Install and align south EMC truss	0.2 w	8/8/00	8/8/00	2053,2058SS+1 w,2057	As Sc		MTF100[4],PhysU133[2],PhysF133,Align_Day,Sidewalk_South,DAB_Pit,Collisio
2060	Replace shield wall for commissioning run	0.6 w	8/17/00	8/21/00	2059,2058FF	As Sc		Crane_Day[0.75],DAB_Pit,Sidewalk_South,Sidewalk_North,Platform
2061	Accelerator Commissioning Run Begins	0 w	8/21/00	8/21/00	2060	As S		
2062								
2063	ROLL-IN	14.2 w	11/1/00	2/15/01		As S		
2064	M1-Begin Shield Wall Removal/Ready to Roll-in	0 w	11/1/00	11/1/00		Start		
2065	Remove shielding wall, disconnect HVAC	0.6 w	11/1/00	11/3/00	2064	As S		MTF100[6],ETF100[2],Crane_Day,DAB_Pit,Sidewalk_North,Sidewalk_South
2066	Prepare collision hall for roll-in	3 w	11/1/00	11/21/00	2065SS	As Sc		MTF100[4],Collision_Hall
2067	Re-align south EMC	1 w	11/6/00	11/10/00	2065,2059	As Sc		MTF100[4],PhysU133[2],PhysF133,Align_Day,Collision_Hall[0.5]
2068	Survey south EMC	1 w	11/13/00	11/17/00	2067	As Sc		Align_Day[3],Collision_Hall[0.5]
2069	South EMC Installed and Surveyed	0 w	11/17/00	11/17/00	2068	As S		
2070	Install and align north EMC	2 w	11/13/00	11/28/00	2066SS+1 w,2067,1776	As Sc		MTF100[4],PhysU133[2],PhysF133,Align_Day,Collision_Hall[0.5],Sidewalk_Nort
2071	Survey north EMC	1 w	11/29/00	12/5/00	2070	As Sc		Align_Day[3],Collision_Hall[0.5]
2072	North EMC Installed and Surveyed	0 w	12/5/00	12/5/00	2071	As S		
2073	Close calorimeters and iron toroids for roll-in	1 w	1/16/01	1/22/01	956	As S		MTF100[4],Platform,DAB_Pit,ICR_North,ICR_South,CF_Wikway_E,CF_Wik
2074	Roll detector into collision hall	0.6 w	1/23/01	1/25/01	2068,1370,1579,1682,1795,1331,1367,1268	As S		MTF100[6],MEF100,Platform,DAB_Pit,ICR_North,ICR_South,CF_Wikway_E
2075	Build first 5 tiers of shielding wall	1 w	1/26/01	2/1/01	2074	As S		MTF100[4],Crane_Day
2076	Hookup utilities, shield cable bridge	0.4 w	1/26/01	1/29/01	2074	As Sc		MTF100[4]
2077	Open iron, calorimeters	0.2 w	1/26/01	1/26/01	2074	As Sc		MTF100[4],Platform,ICR_North,ICR_South,CF_Wikway_E,CF_Wikway_W
2078	Install/hookup air handlers	1 w	2/2/01	2/8/01	2075	As S		MTF100[4],ETF100[2]
2079	Build wall to 10 tiers	0.2 w	2/9/01	2/9/01	2078	As S		MTF100[4],Crane_Day
2080	Install helium U-tubes	0.6 w	2/12/01	2/14/01	2079	As S		MTF100[4],MEF100,Welder_Day
2081	Finish shielding wall	0.2 w	2/15/01	2/15/01	2080	As S		MTF100[4],Crane_Day
2082	M1-Detector Rolled-in and Hooked Up	0 w	2/15/01	2/15/01	2081	As S		
2083								
2084	TRIGGER SYSTEM	264.8 w	10/2/95	2/1/01		As S		
2085	Framework	202 w	1/2/96	2/2/00		As S		
2086	Foundation Module Board Design	36 w	1/2/96	9/12/96		Start	1.4.1.1	k\$(0.53)
2087	Design the Derivative Boards	78 w	6/19/96	1/21/98	2086SS+24 w	As Sc	1.4.1.1	EEU141,k\$(0.53)
2088	Circuit Board Layout Finished	0 w	1/21/98	1/21/98	2087	As S		
2089	FPGA Code for Foundation Module	16 w	6/19/96	10/10/96	2086SS+24 w	As Sc	1.4.1.1	EEU141,k\$(0.53)
2090	FPGA Code for the Derivative Boards	97 w	9/13/96	8/28/98	2089SS+12 w	As Sc	1.4.1.1	EEU141,k\$(0.53)
2091	L1/L2 Support Equipment	102 w	1/2/96	1/21/98	2086SS	Start	1.4.1.1	EEU141[0.5],k\$(2.88)
2092	Obligate Funds for SCL and Hub System	0.2 w	6/1/99	6/1/99		Start	1.4.5.5	k\$(1.9),k\$(0.28)
2093	Prototype Serial Command Link Receiver	141.8 w	12/10/96	10/22/99		Finis		EEF141
2094	Prototype Serial Command Link Transmitter	141.8 w	12/10/96	10/22/99	2093SS	Finis		ETF141[0.6]
2095	Build Cards and Assemble L1 Framework	86 w	2/28/97	11/16/98	2087SS+50 %	As Sc	1.4.1.1	EEU141[0.5],k\$(6.23)
2096	L1 Framework Testing	11 w	11/17/98	2/17/99	2095	As Sc		
2097	L1 Framework Delivered to Fermilab	0 w	12/16/98	12/16/98	2096	As S		
2098	Commission L1 Framework for First User	5.6 w	9/16/99	10/25/99	2093,2094,2097	As Sc		
2099	Build Cards for L2 Framework	32 w	4/2/98	11/16/98		Start	1.4.1.1	EEU141[0.5],k\$(3.55)
2100	Assemble L2 Framework	4 w	9/15/99	10/12/99	2099	Start		
2101	L2 Framework Testing	1 w	10/13/99	10/19/99	2100	As Sc		
2102	Commission L2 Framework for First User	12 w	10/26/99	2/2/00	2098	As Sc		PhysU141[0.5],EEU141[0.5]
2103	L2 Framework Delivered to Fermilab	0 w	2/2/00	2/2/00	2102	As S		
2104	Trigger Control Software	221.2 w	1/2/96	6/16/00		As S		
2105	Implement L1 Exerciser/Diagnostics with NT	36 w	1/2/96	9/12/96		Start	1.4.1.1	EEU141[0.5],k\$(0.53)
2106	Operate L1 Frame with Trg Mon	90 w	2/28/97	12/16/98	2095SS,2105	As Sc	1.4.1.1	EEU141,k\$(1.06)
2107	Operate L1 Framework at FNAL	6 w	2/18/99	3/31/99	2096,2106	As Sc		EEU141
2108	Operate L2 Framework	12 w	10/20/99	1/27/00	2101,2107	As Sc		
2109	Operate Frameworks, L1 Calor, L2 Trigger	12 w	1/28/00	4/20/00	2108	As Sc		EEU141
2110	Operate with Rate Control, Servers, Data Logging	8 w	4/21/00	6/16/00	2109	As Sc		
2111	Level 1 Calorimeter Trigger	183.6 w	10/1/96	6/22/00		As S		
2112	Determine Specifications	123 w	10/1/96	4/2/99		As Sc	1.4.3.1	PhysU143[0.5],EEU143,k\$(0.1),k\$(0.02)
2113	Design Cal to L2 and L3 Readout	20 w	4/5/99	8/24/99	2112	As Sc		PhysU143,EEU143[0.5],k\$(0.35)
2114	Build 20% Cal to L2 and L3 Readout	8 w	2/3/00	3/29/00	2102,2113	As Sc		PhysU143,EEU143[0.5]
2115	Procure VRB Cards and Controller	1 w	3/30/00	4/5/00	2114	As Sc	1.4.3.1	k\$(0.73)
2116	M3- Cal Readout Available to L2	0 w	4/5/00	4/5/00	2115	As S		
2117	Design and Build Quadrant Signal	37 w	8/25/99	5/26/00	2113	As Sc		EEU143,k\$(0.35),k\$(0.1)
2118	Modify Trigger Pickoffs	32 w	10/4/99	5/31/00	2112	Start	1.4.3.1	EEU143,PhysU143,k\$(0.52),k\$(0.15)
2119	Design and Build TCC Interface	18 w	4/5/99	8/10/99	2112	As Sc	1.4.3.1	EEU143,k\$(0.11),k\$(0.03)
2120	Construct Timing Hardware	24 w	9/13/99	3/14/00	2119	As Sc	1.4.3.1	EEU143,k\$(0.17),k\$(0.04)
2121	Commission L1 Cal Trigger	11 w	4/6/00	6/22/00	2116,2120	As Sc	1.4.3.1	PhysU143[0.5],EEU143[0.5],k\$(0.65),k\$(0.16)
2122	M3-Calorimeter Level 1 Trigger Commissioned	0 w	6/22/00	6/22/00	2121,2117,2118	As S		
2123	Muon Level 1 Trigger	252.4 w	1/2/96	2/1/01		As S		
2124	M3-Muon Level 1 Trigger TDR Submitted	0 w	1/18/99	1/18/99		Start		
2125	R AND D (Serial Link Daughter Board-SLDB)	226.4 w	1/2/96	7/25/00		As S		
2126	Design 1553 Card	4 w	1/2/96	1/29/96		As Sc		EEU143[0.2]
2127	Layout/Fab 1553 Card	4 w	1/30/96	2/26/96	2126	As Sc		ETU143
2128	Test 1553 Card	8 w	2/27/96	4/22/96	2127	As Sc		ETU143,PhysU143
2129	Design/Layout/Fabricate Prototype SLDB	12 w	1/2/96	3/25/96		As Sc		EEU143[0.2]

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
2130	Test Prototype SLDB	40 w	5/21/96	3/13/97	2129,2131	As Sc		EEU143[0.2],PhysU143[0.2]
2131	Design/Layout/Fabricate SLDB Tester	8 w	3/26/96	5/20/96	2129	As Sc		EEU143[0.2]
2132	Layout/Fabricate/Assemble V2 SLDB	6 w	6/9/97	7/21/97	2130FS+12 w	As Sc		EEU143[0.2]
2133	Test V2 SLDB	12 w	7/22/97	10/14/97	2132	As Sc		EEU143[0.2],PhysU143[0.2]
2134	Layout/Fabricate/Assemble V3 SLDB	28 w	10/15/97	5/13/98	2133	As Sc		EEU143[0.1]
2135	Test V3 SLDB	20 w	5/14/98	10/5/98	2134	As Sc		EEU143[0.1],PhysU143[0.25]
2136	Layout/Fabricate/Assemble Preproduction SLDB	12 w	1/25/99	4/16/99		Start		
2137	Test Preproduction SLDB	28 w	4/19/99	11/3/99	2136	As Sc		
2138	Layout/Fabricate/Assemble Production SLDB	19 w	11/4/99	3/31/00	2137	As Sc		
2139	Test Production SLDB	16 w	4/3/00	7/25/00	2138	As Sc		
2140	CRATES	148 w	9/2/97	8/31/00		As S		
2141	CRATE BACKPLANE	148 w	9/2/97	8/31/00		As S		
2142	Design Prototype Backplane	18 w	9/2/97	1/20/98		Start		EEU143[0.2]
2143	Layout/Fabricate Prototype Backplane	8 w	5/1/98	6/26/98		Start		ETU143
2144	Test Prototype Backplane	12 w	6/29/98	9/22/98	2143	As Sc		EEU143[0.1],PhysU143[0.2]
2145	Design Extender Cards	12 w	5/13/98	8/6/98	2142FS+16 w	As Sc		EEU143[0.05]
2146	Layout/Fabricate Extender Cards	32 w	8/7/98	4/6/99	2145	As Sc		PhysU143
2147	Design Preproduction Backplane	8 w	5/1/98	6/26/98		Start		EEU143[0.2]
2148	Layout/Fabricate Preproduction Backplane	12 w	6/29/98	9/22/98	2147	As Sc		
2149	Test Preproduction Backplane	34 w	9/23/98	6/4/99	2148	As Sc		PhysU143[0.1]
2150	Backplane Pre Production Testing Complete	0 w	6/4/99	6/4/99	2149	As S		
2151	Layout/Fabricate Production Backplane	22 w	12/1/99	5/16/00	2150	Start	1.4.3.2	k\$[0.41],k\$c[0.05]
2152	Test Production Backplane	4 w	5/17/00	6/14/00	2151	As Sc		PhysU143[0.1]
2153	Assemble/Test Cables	16 w	3/15/00	7/6/00		Start		PhysU143[0.25],MTF143[2]
2154	Install Cables	8 w	7/7/00	8/31/00	2153	As Sc		PhysU143[0.25],MTF143
2155	Fabricate and Test Prototype Splitter Cards	20 w	1/4/99	5/21/99		Start		EEU143[0.2]
2156	Fabricate and Test Preproduction Splitter Cards	19 w	10/15/99	3/13/00	2155	Start		
2157	Splitter Card PreProduction Testing Complete	0 w	3/13/00	3/13/00	2156	As S		
2158	Fabricate and Test Production Splitter Cards	12 w	3/14/00	6/6/00	2157	As Sc		EEU143[0.2]
2159	POWER SUPPLIES	108 w	6/18/98	8/24/00		As S		
2160	Design Prototype Power Supply	60 w	6/18/98	9/2/99		Start		EEF143[0.5]
2161	Procure/Build Prototype Power Supply	16 w	9/3/99	1/11/00	2160	As Sc		EEF143[0.5]
2162	Test Prototype Power Supply	8 w	1/12/00	3/7/00	2161	As Sc		
2163	Power Supply Prototype Testing Complete	0 w	3/7/00	3/7/00	2162	As S		
2164	Procure/Build Production Power Supply	16 w	3/8/00	6/28/00	2163	As Sc		ETF143[0.5]
2165	Test and install production power supply	8 w	6/29/00	8/24/00	2164	As Sc		ETF143[0.5]
2166	MUON TRIGGER CARD-MTCXX	161.8 w	7/28/97	11/2/00		As S		
2167	Design Prototype MTCxx	60 w	7/28/97	10/9/98		Start		EEU143[0.4],PhysU143[0.2]
2168	MTCxx Design Review	0.2 w	4/28/98	4/28/98		Start		
2169	Procure Prototype MTCxx Parts	6 w	10/12/98	11/20/98	2167	As Sc		EEU143[0.1]
2170	Layout, Fabricate, and Assemble Prototype MTCxx	9 w	10/26/98	1/12/99	2167FS+2 w	As Sc		EEU143[0.1]
2171	Develop Test Plan and Software Tools	8 w	10/26/98	1/5/99	2170SS	As Sc		EEU143[0.05],PhysU143[0.2]
2172	Prototype MTCxx, MTFB, and MTCM Complete	0 w	1/12/99	1/12/99	2170,2184,2197	As S		
2173	Test Prototype MTCxx	24 w	1/13/99	6/30/99	2148,2172,2210	As Sc	1.4.3.2	EEU143[0.1],PhysU143[0.25],k\$[0.19],k\$c[0.03]
2174	Design Preproduction MTCxx	4 w	7/1/99	7/29/99	2173	As Sc		EEU143[0.25]
2175	Layout, Fabricate, and Assemble Preproduction (10%) MTCxx	10 w	7/30/99	10/8/99	2174	As Sc		EEU143[0.1]
2176	Preproduction MTCxx, MTFB, and MTCM Complete	0 w	4/3/00	4/3/00	2175,2188,2201	As S		
2177	Test Preproduction MTCxx	12 w	4/4/00	6/27/00	2176	As Sc		EEU143[0.1],ETU143[0.1],PhysU143[0.5]
2178	Layout, Fabricate, and Assemble Production MTCxx	10 w	6/28/00	9/7/00	2177	As Sc	1.4.3.2	EEU143[0.1],k\$[1.22],k\$c[0.18]
2179	Production MTCxx, MTFB, and MTCM Complete	0 w	9/7/00	9/7/00	2178,2191,2204	As S		
2180	Test, Install, and Commission MTCxx	8 w	9/8/00	11/2/00	2179	As Sc		EEU143[0.1],ETU143[0.1],PhysU143[0.5]
2181	MUON TRIGGER FLAVOR BOARD-MTFB	155.8 w	7/28/97	9/21/00		As S		
2182	Design Prototype MTFB	60 w	7/28/97	10/9/98		Start		EEU143[0.4],PhysU143[0.2]
2183	Procure Prototype MTFB Parts	6 w	10/12/98	11/20/98	2182	As Sc		EEU143[0.1]
2184	Layout, Fabricate, and Assemble Prototype MTFB	9 w	10/26/98	1/12/99	2182FS+2 w	As Sc		EEU143[0.1]
2185	Develop Test Plan and Software Tools	8 w	10/26/98	1/5/99	2184SS	As Sc		EEU143[0.05],PhysU143[0.2]
2186	Test Prototype MTFB	24 w	1/13/99	6/30/99	2170	As Sc		EEU143[0.1],PhysU143[0.25]
2187	Design Preproduction MTFB	18 w	10/1/99	2/21/00	2186	Start		EEU143[0.25]
2188	Layout, Fabricate, and Assemble Preproduction (10%) MTFB	20 w	10/29/99	4/3/00	2187SS+4 w	As Sc	1.4.3.2	EEU143[0.1],k\$[0.06],k\$c[0.01]
2189	Test Preproduction MTFB	12 w	2/22/00	5/15/00	2176FS-6 w	As Sc		EEU143[0.1],ETU143[0.1],PhysU143[0.5]
2190	MTFB PreProduction Testing Complete	0 w	5/15/00	5/15/00	2189	As S		
2191	Layout, Fabricate, and Assemble Production MTFB	10 w	5/16/00	7/26/00	2189	As Sc	1.4.3.2	EEU143[0.1],k\$[0.88],k\$c[0.13]
2192	Test, Install, and Commission MTFB	8 w	7/27/00	9/21/00	2191	As Sc		EEU143[0.1],ETU143[0.1],PhysU143[0.5]
2193	MUON TRIGGER CRATE MANAGER-MTCM	215.6 w	3/18/96	7/25/00		As S		
2194	Design Prototype MTCM	56 w	3/18/96	4/30/97		Start		EEU143[0.8],PhysU143[0.2]
2195	MTCM Design Review	0.2 w	3/6/97	3/6/97	2194FS-8 w	As Sc		
2196	Procure Prototype MTCM Parts	12 w	4/3/97	6/26/97	2194FS-4 w	As Sc		EEU143[0.1]
2197	Layout, Fabricate, and Assemble Prototype MTCM	8 w	5/30/97	7/25/97	2194FS+4 w	As Sc		EEU143[0.1]
2198	Develop Test Plan and Software Tools	8 w	5/30/97	7/25/97	2197SS	As Sc		EEU143[0.05],PhysU143[0.2]
2199	Test Prototype MTCM	40 w	7/28/97	5/19/98	2197	As Sc		EEU143[0.2],PhysU143[0.5]
2200	Design Preproduction MTCM	16 w	10/12/98	2/16/99	2167	As Sc		EEU143[0.25]

DO Upgrade Schedule
Split Silicon Option - Draft

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
2201	Layout, Fabricate, and Assemble Preproduction (10%) MTCM	10 w	2/17/99	4/27/99	2200	As Sc		EEU143[0.1]
2202	Test Preproduction MTCM	32 w	4/28/99	12/14/99	2201	As Sc		EEU143[0.1],ETU143[0.1],PhysU143[0.5]
2203	MTCM PreProduction Testing Complete	0 w	12/14/99	12/14/99	2202	As S		
2204	Layout, Fabricate, and Assemble Production MTCM	10 w	3/20/00	5/26/00	2202	Start	1.4.3.2	EEU143[0.1],k\$[0.37],k\$c[0.05]
2205	Test, Install, and Commission MTCM	8 w	5/30/00	7/25/00	2204	As Sc		EEU143[0.05],ETU143[0.05],PhysU143[0.5]
2206	MUON TRIGGER TESTER-MTT	121.4 w	11/1/96	4/23/99		As S		
2207	Design MTT	24 w	11/1/96	5/1/97		Start		EEF143
2208	Procure Prototype MTT Parts	12 w	4/4/97	6/27/97	2207FS-4 w	As Sc		EEF143[0.1]
2209	Develop Test Plan and Software Tools	12 w	4/4/97	6/27/97	2208SS	As Sc		PhysU143[0.1]
2210	Layout/Fabricate Prototype MTT	12 w	5/2/97	7/28/97	2207	As Sc		EEF143
2211	Test Prototype MTT	36 w	7/29/97	4/22/98	2210	As Sc		EEF143[0.5],PhysU143[0.5]
2212	MTT Prototype Testing Complete	0 w	4/22/98	4/22/98	2211	As S		
2213	Design Production MTT	9 w	3/1/98	5/1/98	2212	As Sc		EEF143
2214	Layout/Fabricate/Assemble Production MTT	12 w	7/15/98	10/7/98		Start		EEF143[0.2]
2215	Test Production MTT	26 w	10/8/98	4/23/99	2214	As Sc		EEF143,PhysU143[0.5]
2216	MDT CENTROID FINDER-MCEN	201.6 w	12/1/96	1/4/01		As S		
2217	Design Prototype MCEN	32 w	12/1/96	7/25/97		Must		EEU143[0.5],PhysU143[0.1]
2218	MCEN and MCCM Design Review	0 w	7/25/97	7/25/97	2217	As S		
2219	Revise Design	2 w	7/28/97	8/8/97	2218	As Sc		EEU143[0.5],PhysU143[0.1]
2220	Layout/Fabricate/Assemble Prototype MCEN	32 w	8/11/97	4/7/98	2219	As Sc		ETU143
2221	Test Prototype MCEN	82.2 w	4/8/98	12/1/99	2220	As Sc		EEU143[0.5],ETU143[0.5],PhysU143[0.5]
2222	Design Preproduction MCEN	6 w	2/21/00	3/31/00	2221	Start		EEU143[0.5]
2223	Layout/Fabricate/Assemble Preproduction MCEN	10 w	4/3/00	6/12/00	2222	As Sc		
2224	Test Preproduction MCEN	10 w	6/13/00	8/22/00	2223	As Sc		EEU143[0.25],ETU143[0.25],PhysU143[0.5]
2225	MCEN PreProduction Testing Complete	0 w	8/22/00	8/22/00	2224	As S		
2226	Layout/Fabricate/Assemble Production MCEN	10 w	8/23/00	11/1/00	2224	As Sc		
2227	Test, Install, and Commission MCEN	8 w	11/2/00	1/4/01	2226	As Sc		EEU143[0.1],ETU143[0.25],PhysU143[0.5]
2228	CENTROID PHYSICS BOARD-MCPB	193.6 w	2/20/97	1/18/01		As S		
2229	Design Prototype	24 w	2/20/97	8/8/97		Start		
2230	Layout/Fabricate/Assemble Prototype MCPB	32 w	8/11/97	4/7/98	2229	As Sc		
2231	Test Prototype MCPB	82.2 w	4/8/98	12/1/99	2230	As Sc		
2232	Design Preproduction MCPB	2 w	4/3/00	4/14/00	2231,2222	Start		
2233	Layout/Fabricate/Assemble Preproduction MCPB (10%)	10 w	4/17/00	6/26/00	2232	As Sc		
2234	Test Preproduction MCPB	10 w	6/27/00	9/6/00	2233	As Sc		
2235	MCPB PreProduction Testing Complete	0 w	9/6/00	9/6/00	2234	As S		
2236	Layout/Fabricate/Assemble Production MCPB	10 w	9/7/00	11/15/00	2235	As Sc		
2237	Test, Install, and Commission MCPB	8 w	11/16/00	1/18/01	2236	As Sc		
2238	CENTROID FINDER MANAGER-MCCM	151.6 w	1/14/98	2/1/01		As S		
2239	Design Prototype	24 w	1/14/98	7/1/98	2220FS-12 w	As Sc		EEU143[0.5],PhysU143[0.1]
2240	Layout/Fabricate/Assemble Prototype MCCM	40 w	7/2/98	4/27/99	2239	As Sc		ETU143
2241	MCEN, MCCM, MCPB Prototypes Complete	0 w	4/27/99	4/27/99	2220,2230,2240	As S		
2242	M3-Muon Level 1 Trigger Prototype Complete	0 w	4/27/99	4/27/99	2172,2241	As S		
2243	Test Prototype MCCM	41 w	4/28/99	2/29/00	2242	As Sc		ETU143[0.5],PhysU143[0.5],EEU143[0.5]
2244	Design Preproduction MCCM	4 w	4/17/00	5/12/00	2243,2232	As Sc		EEU143[0.5]
2245	Layout/Fabricate/Assemble Preproduction MCCM (10%)	10 w	5/15/00	7/25/00	2244	As Sc		
2246	10% MCEN, MCPB, MCCM Complete	0 w	7/25/00	7/25/00	2223,2233,2245	As S		
2247	Test Preproduction MCCM	8 w	7/26/00	9/20/00	2245	As Sc		EEU143[0.25],ETU143[0.25],PhysU143[0.5]
2248	M3-Muon Level 1 Trigger Preproduction Testing Complete	0 w	9/20/00	9/20/00	2177,2189,2202,2224,2234,2247	As S		
2249	Layout/Fabricate/Assemble Production MCCM	10 w	9/21/00	12/1/00	2247	As Sc		
2250	MCEN, MCCM Production Complete	0 w	12/1/00	12/1/00	2226,2249	As S		
2251	Test, Install, and Commission MCCM	8 w	12/4/00	2/1/01	2249	As Sc		EEU143[0.1],ETU143[0.25],PhysU143[0.5]
2252	SOFTWARE	226.2 w	1/2/96	7/24/00		As S		
2253	Trigger Simulator	220 w	1/2/96	6/8/00		Start		PhysU143[0.1]
2254	Control Software	104 w	6/15/98	7/24/00		Start		PhysU143[0.1]
2255	MOU Obligations	34.2 w	8/3/98	4/15/99		As S		
2256	Obligate FY98 Funds To Univ of Arizona	0.2 w	8/3/98	8/3/98		Start	1.4.3.2	k\$[4.53],k\$c[0.51]
2257	Obligate FY99 Funds To Univ of Arizona	0.2 w	4/15/99	4/15/99		Start		
2258	Obligate FY98 Funds to Boston Univ	0.2 w	8/3/98	8/3/98		Start	1.4.3.2	k\$[2.7],k\$c[0.37]
2259	Obligate FY99 Funds to Boston Univ	0.2 w	4/15/99	4/15/99		Start		
2260	Level 1 Central Fiber Tracker	156.4 w	11/3/97	1/9/01		As S		
2261	Specification Stage	23.8 w	11/3/97	5/1/98		Start		
2262	Acceptance of Specifications	0 d	5/1/98	5/1/98	2261	As S		
2263	Preliminary Design	18 w	2/1/98	6/8/98		As Sc		
2264	Design	26 w	6/9/98	12/11/98	2263	As Sc		
2265	Design Review	4 w	12/14/98	1/22/99	2264	As Sc		
2266	Design Review Completed	0 d	1/22/99	1/22/99	2265	As S		
2267	Finalize Design	15 w	1/25/99	5/7/99	2266	As Sc		
2268	Assemble Commission CTT System	13 w	10/3/00	1/9/01	882,916,927	Start		PhysF143[2],PhysU143[2]
2269	M3-CTT Level 1 Trigger Commissioned	0 w	1/9/01	1/9/01	2268	As S		
2270	M3-L1 Commissioned	0 w	2/1/01	2/1/01	2111,2123,2260	As S		
2271	Level 2 Trigger	255.4 w	10/2/95	11/20/00		As S		

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
2272	Michigan State University MOU	0.2 w	6/1/98	6/1/98		Start	1.4.4.2	k\$[4.91],k\$c[1.1]
2273	University Of Maryland MOU	0.2 w	6/1/98	6/1/98		Start	1.4.4.2	k\$[1.16],k\$c[0.33]
2274	University Of Illinois-Chicago MOU	0.2 w	6/1/98	6/1/98		Start	1.4.4.4	k\$[0.42],k\$c[0.08]
2275	Foreign Contributions (1.4.4)	0.2 w	6/1/98	6/1/98		Start	1.4.4.2	k\$[0.57],k\$c[0.17]
2276	Develop Conceptual Design	104 w	10/2/95	10/24/97		As S		
2277	Design Overall Architecture	104 w	10/2/95	10/24/97		Start		PhysU144[0.1]
2278	Deadtime Queuing Simulations	104 w	10/2/95	10/24/97		Start		PhysU144[0.2]
2279	Overall L2 Rate Simulations	104 w	10/2/95	10/24/97		Start		PhysF144[0.2],PhysU144[0.2]
2280	Conceptual Design Complete	0 w	10/24/97	10/24/97	2277,2278,2279	As S		
2281	Prepare Common Software Items	112.4 w	1/2/98	4/10/00		As S		
2282	Set up Library Procedures	72 w	1/2/98	6/11/99		Finisl		PhysU144[0.2]
2283	Unpack L2 Output into L3 Structures	44 w	10/1/98	8/24/99		Finisl		PhysU144[0.4]
2284	Code Online Verification Frame	30 w	8/26/99	4/10/00		Start		PhysU144[0.5]
2285	Manufacture Components	208.6 w	3/1/96	5/18/00		As S		
2286	Build Processor	208 w	3/1/96	5/15/00		As S		
2287	Initial Design	183.6 w	3/1/96	11/9/99		As S		
2288	Select Prototype Processor	52 w	3/1/96	3/18/97		As Sc		EEU144[0.1],PhysU144[0.2]
2289	Simulate Timing Performance	93.2 w	3/1/96	1/20/98	2288SS	As Sc		PhysU144[0.2]
2290	Test Code Downloading	15 w	3/19/97	7/2/97	2288	As Sc		PhysU144[0.5]
2291	Choose Monitoring Data Path	28 w	3/19/97	10/3/97	2288	As Sc		PhysU144[0.1]
2292	Define COOR Communication	127 w	4/21/97	11/9/99		Finisl		PhysU144[0.2]
2293	Define Input, Output Formats	83 w	4/21/97	12/17/98		As Sc		PhysU144[0.1]
2294	Prepare Global TDR	40.2 w	4/21/97	2/13/98		Start		PhysU144[0.2]
2295	Global Processor TDR Submitted	0 w	2/13/98	2/13/98	2290,2294	As S		
2296	Level 2 Programming and I/O Defined	0 w	11/9/99	11/9/99	2292,2293,2360,2385,2386,2387,2420,2435	As S		
2297	Processor Development/Production	137.8 w	7/28/97	5/15/00		As S		
2298	Receive Prototype PCI Interfaces to Processor	30.2 w	7/28/97	3/11/98	2288	Start	1.4.4.2	
2299	Receive and Install VME Prototype Processor	3 w	12/1/98	1/4/99	2295,2298	Start	1.4.4.2	EEU144,k\$[0.11],k\$c[0.02]
2300	Debug and Operate Alpha Processor	32 w	1/5/99	8/18/99	2299,2335FF,2336FF	As Sc	1.4.4.2	EEU144,PhysU144[0.2],ETF144[0.25],k\$[0.8],k\$c[0.18]
2301	Alpha Production	36 w	8/19/99	5/15/00	2300	As Sc	1.4.4.2	ETF144[0.25],k\$[0.81],k\$c[0.16]
2302	Alpha Cards Received	0 w	5/15/00	5/15/00	2301	Start		
2303	Build Magic Bus Transceiver	208.6 w	3/1/96	5/18/00		As S		
2304	Conceptual Design of Transceiver Card	90.6 w	3/1/96	12/19/97	2288SS	As Sc		PhysU144[0.2]
2305	MBT Specification	60 w	1/2/98	3/18/99	2304	As Sc	1.4.4.2	EEU144[0.1],PhysU144[0.25],k\$[0.38],k\$c[0.12]
2306	Finalize MBT Design	0 w	3/18/99	3/18/99	2305	Start		
2307	Build First Prototype MBT	32 w	7/7/98	3/4/99		As Sc	1.4.4.2	EEU144,k\$[0.83],k\$c[0.22]
2308	Build Second Prototype MBT	31 w	3/5/99	10/12/99	2307	As Sc		
2309	MBT preproduction	12 w	10/13/99	1/20/00	2308	As Sc		EEU144
2310	MBT Production	17 w	1/21/00	5/18/00	2306,2309	As Sc	1.4.4.2	k\$[0.22],k\$c[0.06]
2311	MBTs Received	0 w	5/18/00	5/18/00	2310	As S		
2312	Build Second Level Input Computer	112.6 w	9/2/97	12/10/99		As S		
2313	SLIC Specification and TDR	65 w	9/2/97	1/5/99		Start	1.4.4.2	EEU144[0.5],PhysU144[0.25],k\$[0.48],k\$c[0.14]
2314	Finalize SLIC Conceptual Design	0 w	2/1/99	2/1/99	2313,2321	As S		
2315	Design/Prototype SLIC Mezzanine	41 w	7/2/98	5/4/99		Start	1.4.4.2	EEU144,k\$[0.92],k\$c[0.26]
2316	Design/Prototype SLIC Motherboard	32 w	1/4/99	8/17/99		Start		
2317	SLIC Mezzanine Production	16 w	8/18/99	12/10/99	2315,2316	As Sc		EEU144,k\$[0.92],k\$c[0.26]
2318	SLIC Motherboard Production	16 w	8/18/99	12/10/99	2316	As Sc		
2319	SLICs Received	0 w	12/10/99	12/10/99	2318	As S		
2320	Build Serial Command Link Fanout and Cable Input Convert	100.2 w	5/1/98	5/12/00		As S		
2321	Specify Fanout and CIC	21 w	5/1/98	9/29/98	2295	Start		EEU144[0.3],PhysU144[0.25]
2322	Design/Prototype Fanout and CIC	55.2 w	9/30/98	11/10/99	2321	Start	1.4.4.2	EEU144[0.3]
2323	Prototype and design complete	0 w	11/10/99	11/10/99	2314,2322	As S		
2324	Test Fanout and CIC Prototypes	17 w	11/11/99	3/24/00	2323	As Sc	1.4.4.2	EEU144[0.3],k\$[0.2],k\$c[0.06]
2325	Fanout/CIC Production	7 w	3/27/00	5/12/00	2324	As Sc	1.4.4.2	k\$[0.61],k\$c[0.14]
2326	Build Fiber Input Converter	70 w	5/1/98	9/28/99		As S		
2327	Specify Converter	12 w	5/1/98	7/27/98	2295	As Sc	1.4.4.2	EEU144[0.3],PhysU144[0.25],k\$[0.12]
2328	Design,Prototype Converter	34 w	7/28/98	4/8/99	2327	As Sc	1.4.4.2	EEU144[0.3],k\$[0.24]
2329	Converter Production	24 w	4/9/99	9/28/99	2328	As Sc	1.4.4.2	k\$[0.6],k\$c[0.02]
2330	Level 2 Component Specs Complete	0 w	3/18/99	3/18/99	2299,2305,2313,2321,2327	As S		
2331	Build Global Processor System	161 w	6/2/97	9/1/00		As S		
2332	Develop Control Software/Prototype System	151.4 w	7/3/97	7/28/00		As S		
2333	Prepare/Test V1 Download/Script Runner	32.6 w	7/3/97	3/5/98	2290	Start		PhysU144[0.5]
2334	V1.0 Script Runner in non-VME Prototype	0 w	3/5/98	3/5/98	2333	Start		
2335	Prepare V2 of Script Runner	40.2 w	3/6/98	12/22/98	2334	Finisl		PhysU144[0.5]
2336	Prepare V1 of Administrative Master Code	35.2 w	6/15/98	3/5/99		Finisl		PhysU144[0.7]
2337	Prepare code for single crate data movement	12 w	10/13/99	1/20/00	2300,2336,2308	As Sc	1.4.4.8	EEU144,k\$[0.12],k\$c[0.02]
2338	Establish single crate data movement	4 w	1/21/00	2/17/00	2337	As Sc		EEU144
2339	M3-Establish Single Crate Internal Data Movement	0 w	2/17/00	2/17/00	2335,2338	Start		
2340	Establish Communication with L1,L2 FW	4 w	2/3/00	3/1/00	2098,2102,2337	As Sc		EEU144
2341	Establish Communication with L3	4 w	3/2/00	3/29/00	2340	As Sc		PhysU144[0.3]
2342	Prepare V2 Administrative Master Code	8 w	3/30/00	5/24/00	2335,2337,2340,2341	As Sc		PhysU144

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
2343	Prepare Final Script Runner	9 w	5/25/00	7/28/00	2342	As Sc		PhysU144
2344	Prepare Final Admin Master Code	9 w	5/25/00	7/28/00	2342	As Sc	1.4.4.5	PhysU144[0.5],k\$[0.12],k\$c[0.02]
2345	L2 Operating Code Complete	0 w	7/28/00	7/28/00	2342,2343,2344	As S		
2346	Develop Simulation/Monitoring System	161 w	6/2/97	9/1/00		As S		
2347	Specify/Establish Monitoring Data Extraction	24 w	8/2/99	2/2/00	2336	As Sc		PhysU144
2348	Prepare Monitoring Display	28 w	10/25/99	5/23/00		As Sc		PhysU144
2349	Develop/Simulate Trigger Algorithm	127 w	6/2/97	1/5/00		Start		PhysU144[0.5]
2350	Preprocessor, Global Timing OK in Hwde	0 w	3/17/00	3/17/00	2349,2519	Start		
2351	Tune Algorithms with Data.L3,Offline	34 w	1/6/00	9/1/00	2349	As Sc		PhysU144
2352	Develop Monitoring Histograms	6 w	1/6/00	2/16/00	2349	As Sc		PhysU144
2353	Build/Commission Final System	8 w	5/25/00	7/21/00		As S		
2354	Assemble	4 w	5/25/00	6/22/00	2301,2310,2342	As Sc	1.4.4.2	PhysU144,EEU144,k\$[0.02]
2355	Installation at FNAL	4 w	6/23/00	7/21/00	2100,2354	As Sc		PhysU144,ETF144
2356	Global Installation Complete	0 w	7/21/00	7/21/00	2355	Start		
2357	Build Calorimeter Preprocessors	189.6 w	10/30/96	9/5/00		As S		
2358	Design Calorimeter Processor	96.8 w	10/30/96	10/14/98		As S		
2359	Simulate Time Performance	72.8 w	10/30/96	4/24/98		As Sc		PhysU144[0.2]
2360	Define Input, Output	63.8 w	10/30/96	2/20/98	2359SS	As Sc		PhysU144[0.1]
2361	Prepare TDR	24 w	4/27/98	10/14/98	2294,2359,2360,2369,2371	As Sc		PhysU144[0.3]
2362	Cal TDR Submitted	0 w	10/14/98	10/14/98	2361	As S		
2363	Build Test Calpp System	43.6 w	8/19/99	7/10/00		As S		
2364	Assemble Test Crate	8.6 w	8/19/99	10/19/99	2300,2308	As Sc		PhysU144,EEU144,ETF144
2365	Operate Test Crate	12 w	1/21/00	4/13/00	2337,2364	As Sc		PhysU144
2366	Calpp Operation	0 w	4/13/00	4/13/00	2365	As S		
2367	Prepare V3 Admin Master (multiple workers)	12 w	4/14/00	7/10/00	2365	As Sc		PhysU144
2368	Develop L2Cal Algorithms	129.2 w	10/1/97	5/18/00		As S		
2369	Develop/Simulate Jet Alg.	43 w	12/1/97	10/13/98		Start		
2370	Develop/Simulate Electron Alg.	80 w	12/1/97	7/19/99		Start		
2371	Develop/Simulate Missing Et Alg.	51 w	10/1/97	10/12/98		As Sc		
2372	Tune Jet Alg. With MonteCarlo	78 w	10/14/98	5/18/00	2369	As Sc		
2373	Tune Electron Alg. With MonteCarlo	41 w	7/20/99	5/18/00	2370	As Sc		
2374	Develop Cal Monitoring System	65.8 w	3/8/99	6/30/00		As S		
2375	Develop Monitoring Histograms	28 w	7/20/99	2/17/00	2369,2370,2371	As Sc		PhysU144
2376	Specify/Establish Monitoring Data Extraction	45 w	3/8/99	2/4/00	2336	As Sc		PhysU144
2377	Prepare Monitoring Display	19 w	2/18/00	6/30/00	2375,2376	As Sc		PhysU144
2378	Build/Commission Final System	8 w	7/11/00	9/5/00		As S		
2379	Assemble and Commission	4 w	7/11/00	8/7/00	2301,2310,2367	As Sc	1.4.4.2	PhysU144,EEU144,k\$[0.02]
2380	Installation at FNAL	4 w	8/8/00	9/5/00	2379	As Sc		PhysU144,ETF144
2381	L2 Cal Installation Complete	0 w	9/5/00	9/5/00	2380	Start		
2382	Build Muon Preprocessor	188.8 w	2/1/97	11/20/00		As S		
2383	Design/Build Test System	162.8 w	2/1/97	5/17/00		As S		
2384	Select/Receive Test Card	17 w	2/1/97	6/2/97		As Sc	1.4.4.5	PhysU144[0.2],k\$[0.2]
2385	Define Inputs	8.6 w	6/3/97	8/1/97	2384	As Sc		PhysU144[0.1]
2386	Define Communication	15 w	7/2/98	10/16/98		Start		PhysU144[0.1]
2387	Define Outputs	4 w	9/29/97	10/24/97	2288	Start		PhysU144[0.1]
2388	Prepare Muon Processor TDR	80 w	7/2/98	2/22/00	2295	As Sc		PhysU144[0.25]
2389	Muon TDR Submitted	0 w	5/17/00	5/17/00	2314,2385,2386,2387,2388,2399,2412	As S		
2390	Design FNAL test crate	4 w	2/1/99	2/26/99	2314,2321,2386	As Sc	1.4.4.5	PhysU144[0.1],EEU144[0.25],k\$[0.06],k\$c[0.02]
2391	Operate FNAL Test Crate	16 w	1/21/00	5/11/00	2318,2337,2390	As Sc		PhysU144,ETF144[0.25]
2392	Assemble Final System	10 w	5/19/00	7/31/00		As S		
2393	Assemble Central Crate	6 w	5/19/00	6/30/00	2301,2310,2318	As Sc	1.4.4.5	PhysU144,EEU144,k\$[0.3],k\$c[0.06]
2394	Installation at FNAL	4 w	7/3/00	7/31/00	2325,2393	As Sc		PhysU144,ETF144
2395	Assemble Forward Crate	6 w	5/19/00	6/30/00	2393SS	As Sc		PhysU144
2396	Installation at FNAL	4 w	7/3/00	7/31/00	2395	As Sc	1.4.4.5	PhysU144,ETF144,k\$[0.03],k\$c[0.01]
2397	L2 Muon Installation Complete	0 w	7/31/00	7/31/00	2394,2396	As S		
2398	Develop Processor Algorithm	170 w	2/3/97	7/10/00		As S		
2399	Draft Version of Central Algorithm	28 w	2/3/97	8/19/97	2384SS	As Sc		PhysU144
2400	Receive Evaluation DSP	0 w	1/15/99	1/15/99		Start		
2401	Complete Central Algorithm on Digital Signal Proc.	55 w	1/15/99	2/24/00	2399,2400	As Sc		PhysU144
2402	Draft Forward Algorithm	12 w	6/1/98	8/24/98	2399	As Sc		PhysU144
2403	Complete Forward Algorithm	26 w	8/26/99	3/13/00	2400,2402	As Sc		PhysU144
2404	Develop Alpha Algorithm	14 w	1/19/00	4/25/00	2402,2399	Start		
2405	Assemble Full Algorithm	8 w	5/12/00	7/10/00	2391,2401,2403,2404	As Sc		PhysU144
2406	Build Simulator	101.4 w	10/30/98	11/20/00		As S		
2407	Design L1 Muon Simulator	18 w	10/30/98	3/22/99		As Sc		
2408	Implement L1 Muon Simulator	36 w	3/23/99	12/6/99	2407,2516	As Sc		
2409	Integrate Central L2 Alg into Framework	12 w	8/23/99	11/15/99	2399,2516	As Sc		
2410	Study Efficiency of Central Trigger	16 w	11/16/99	3/22/00	2409	As Sc		PhysU144
2411	Integrate Forward L2 Algorithm into Framework	8 w	11/16/99	1/26/00	2402,2409,2516	Start		PhysU144
2412	Study Full Efficiencies	8 w	3/23/00	5/17/00	2408,2410,2411	As Sc		PhysU144
2413	Tune Simulator on Online Implementation	20 w	5/18/00	10/9/00	2412	As Sc		PhysU144

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
2414	Simulate Offline Verification	4 w	10/10/00	11/6/00	2413	As Sc		
2415	Develop Online Monitoring Histograms	3 w	10/10/00	10/30/00	2413	As Sc		PhysU144
2416	Develop Online Verification	2 w	11/7/00	11/20/00	2284,2414	As Sc		PhysU144
2417	Build CTT Preprocessor	157.2 w	6/1/97	8/7/00		As S		
2418	Design Preprocessor	132.2 w	10/1/97	6/9/00		As S		
2419	Develop and Time Trigger Algorithm	90 w	10/1/97	7/30/99		As Sc		PhysU144[0.25]
2420	Establish Specifications	23 w	7/2/98	12/15/98		As Sc		PhysU144[0.25],EEU144[0.5]
2421	Establish Crate Content	4 w	12/16/98	1/26/99	2420	As Sc		PhysU144[0.5]
2422	Submit CTT TDR	0 w	10/18/99	10/18/99	2419,2421	Start		
2423	Operate Alpha	16 w	2/18/00	6/9/00	2339,2422	As Sc		PhysU144[0.5]
2424	Build Final System	8 w	6/12/00	8/7/00		As S		
2425	Assemble Crate	4 w	6/12/00	7/10/00	2301,2310,2329,2423	As Sc	1.4.4.f	PhysU144[0.5],EEU144[0.5],k\$[0.08],k\$c[0.02]
2426	Installation at FNAL	4 w	7/11/00	8/7/00	2342,2425	As Sc		PhysU144,ETF144
2427	L2 CTT Installation Complete	0 w	8/7/00	8/7/00	2426	As S		
2428	Build Algorithm/Simulator	142.6 w	6/1/97	4/24/00		As S		
2429	Integrate Algorithm in Simulator	125.6 w	6/1/97	12/13/99		As Sc		PhysU144[0.2]
2430	Tune Algorithm on Physics, L3, Offline	17 w	12/14/99	4/24/00	2429	As Sc		PhysU144[0.6]
2431	Incorporate in Global Algorithms	16 w	12/14/99	4/17/00	2429	As Sc		PhysU144[0.25]
2432	Build PS Preprocessor	157.2 w	6/1/97	8/7/00		As S		
2433	Design Preprocessor	132.2 w	10/1/97	6/9/00		As S		
2434	Develop and Time Trigger Algorithm	90 w	10/1/97	7/30/99		As Sc		PhysU144[0.25]
2435	Establish Specifications	29.5 w	8/17/98	3/29/99		As Sc		EEU144[0.25],PhysU144[0.25]
2436	Establish Crate Content	12 w	3/29/99	6/22/99	2435	As Sc		PhysU144[0.5]
2437	Submit PS TDR	0 w	10/18/99	10/18/99	2434,2436	Start		
2438	Operate Alpha	16 w	2/18/00	6/9/00	2339,2437	As Sc		PhysU144[0.5]
2439	Build Final System	8 w	6/12/00	8/7/00		As S		
2440	Assemble Crate	4 w	6/12/00	7/10/00	2301,2310,2329,2438	As Sc	1.4.4.f	PhysU144[0.5],EEU144[0.5],k\$[0.17],k\$c[0.03]
2441	Installation at FNAL	4 w	7/11/00	8/7/00	2342,2440	As Sc		PhysU144,ETF144
2442	L2 PS Installation Complete	0 w	8/7/00	8/7/00	2441	As S		
2443	Build Algorithm/Simulator	145 w	6/1/97	5/10/00		As S		
2444	Integrate Algorithm in Simulator	128 w	6/1/97	1/12/00		As Sc		PhysU144[0.2]
2445	Tune Algorithm on Physics, L3, Offline	17 w	1/13/00	5/10/00	2444	As Sc		PhysU144[0.6]
2446	Incorporate in Global Algorithms	16 w	1/13/00	5/3/00	2444	As Sc		PhysU144[0.25]
2447	Integrate L2 System	82.8 w	2/6/99	10/3/00		As S		
2448	Level 2 Review	0 w	2/6/99	2/6/99	2295,2314,2362	Start		
2449	Commission Global/Calpp Combination	4 w	9/6/00	10/3/00	2348,2355,2377,2380	Start		PhysU144[0.8],EEU144[0.4],ETF144
2450	Commission L2 Muon	6 w	8/1/00	9/12/00	2397,2405	As Sc		PhysU144[2],ETF144
2451	Commission L2 with CTT,FPS	6 w	8/8/00	9/19/00	2427,2442	As Sc		
2452	M3-Trigger Level 2 Commissioned	0 w	10/3/00	10/3/00	2449,2450,2451	As S		
2453	Level 3 Trigger	225.2 w	6/3/96	12/19/00		As S		
2454	Purchase Components	218.2 w	6/3/96	10/27/00		As S		
2455	Upgrade 40 Extended VBD Cards	177 w	6/3/96	1/10/00		Finisl	1.4.5.2	k\$[0.14]
2456	Upgrade 60 Regular VBD Cards	121 w	7/18/97	1/10/00		Finisl	1.4.5.2	k\$[0.14]
2457	MPM Daughter Cards (Brown Univ. FY98 MOU)	0.2 w	2/24/98	2/24/98		Start	1.4.5.4	k\$[0.48],k\$c[0.1]
2458	Purchase Readout Control-FY99	24 w	10/1/99	4/3/00		Start	1.4.5.4	k\$[1.81],k\$c[0.36]
2459	Purchase High Speed Output	24 w	10/1/99	4/3/00		Start	1.4.5.2	k\$[0.87],k\$c[0.16]
2460	Purchase Commissioning Processors	10 w	10/1/99	12/13/99		Start	1.4.5.3	k\$[0.1],k\$c[0.02]
2461	Purchase Run II Processors	4 w	10/2/00	10/27/00	2460	Start	1.4.5.3	k\$[2.5],k\$c[0.5]
2462	Develop/Install Readout Control	224.2 w	6/3/96	12/12/00		As S		
2463	Data Path Operation with Old System	45.2 w	6/3/96	4/30/97		As S		
2464	With New MCH Position	16 w	6/3/96	9/24/96	2455SS	As Sc		PhysU145[0.5]
2465	With Upgraded VME Readout Boards	20 w	12/2/96	4/30/97		Start		PhysU145[0.5]
2466	Readout Control R&D	178 w	11/15/96	6/29/00		As S		
2467	Initial Design	50 w	11/15/96	11/18/97		Start	1.4.5.1	k\$[0.99],k\$c[0.15]
2468	Simulation	124 w	11/15/96	5/27/99	2467SS	As Sc		PhysU145[0.5]
2469	Develop First Data Path Prototype(VBD,MPM)	78 w	5/16/97	12/9/98	2467SS+24 w,2482	Finisl		PhysU145[0.5]
2470	First System Test at D0 (VBD,MPM,NT)	14 w	11/19/97	3/11/98	2467	As Sc		
2471	M3-Trigger Level 3 System Test Complete	0 w	3/11/98	3/11/98	2470	As S		
2472	Final Design	55 w	3/12/98	4/21/99	2471	As Sc	1.4.5.1	k\$[0.99],k\$c[0.15]
2473	M3-Trigger Level 3 TDR Submitted	0 w	4/21/99	4/21/99	2472	As S		
2474	Design and Construct Hardware Components	59 w	4/22/99	6/29/00	2473	As Sc	1.4.5.1	k\$[1.32],k\$c[0.2]
2475	Develop Second Data Path Prototype	46 w	4/22/99	3/29/00	2469,2473	As Sc		PhysU145[0.5]
2476	First Hardware System Test at D0	9 w	3/30/00	6/1/00	2475	As Sc		PhysU145[0.5],EEF145[0.1]
2477	Second Hardware Test (one full chain)	4 w	6/2/00	6/29/00	2476	As Sc		
2478	M3-L3 Operational (One Full Chain)	0 w	6/29/00	6/29/00	2477	As S		
2479	Install Full System	6 w	10/30/00	12/12/00	2477,2486,2454	As Sc		PhysU145[0.5],EEF145[0.5]
2480	Develop Operation Software	181 w	6/3/96	2/7/00		As S		
2481	Support Continuous Data Collection at D0	172 w	6/3/96	11/18/99	2455SS	As Sc		PhysU145[0.5]
2482	Establish New Protocol	24 w	6/3/96	11/19/96	2455SS	As Sc		PhysU145[0.5]
2483	Develop L3/DAQ Framework	148 w	6/3/96	6/1/99	2455SS	As Sc		PhysU145[0.5]
2484	Run Control and Operation	24 w	5/28/99	11/15/99		Start		

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
2485	Develop Monitoring/Diagnostic Control	181 w	6/3/96	2/7/00	2455SS	As S		PhysU145[0.5]
2486	M3-L3 Online Software Complete	0 w	11/18/99	11/18/99	2481,2482,2483,2484	As S		
2487	Level 3 Filtering Software	192.6 w	2/3/97	12/19/00		As S		
2488	Develop L3 Filtering Framework	36 w	6/3/97	2/26/98		Start		PhysU145[1.25]
2489	Development of L3 Data Base (Constants, Trigger)	64 w	10/2/98	1/31/00		Start		
2490	Platform Support for Code	91 w	6/1/98	4/6/00		As S		
2491	Initial NT Release Procedures	40 w	6/1/98	3/25/99		Start		PhysU145[0.4],ETF145
2492	NT Release Procedures Completion	26 w	9/22/99	4/6/00	2491FS+25 w	As S		
2493	Port Initial Code to NT	4 w	3/26/99	4/22/99	2491	As S		PhysU145[0.1],ETF145
2494	Geometry/Constant	16 w	5/18/99	9/9/99		As S		
2495	Define Download Method	16 w	5/18/99	9/9/99		Start		PhysF145,PhysU145
2496	Unpacking Issues	137 w	8/18/97	5/31/00		As S		
2497	Unpack Base Classes	129 w	8/18/97	4/4/00		Start		PhysU145
2498	L2 Inputs Into L3 Defined	0 w	4/4/00	4/4/00	2293,2497	As S		
2499	Availability of MC Raw Data	0 w	4/4/00	4/4/00	2497	Start		
2500	Implement Subdetector Unpacking	8 w	4/5/00	5/31/00	2488,2497	As S		PhysU145
2501	Develop Filter Tools	188.6 w	2/3/97	11/17/00		As S		
2502	Tool Parameter Format	21 w	2/3/97	6/30/97		As S		PhysU145
2503	Tool Parameter Format Defined	0 w	6/30/97	6/30/97	2502	Start		
2504	Develop algorithms	59 w	11/18/98	2/10/00	2503	Start		PhysU145[8]
2505	Implement L3 Algorithms	24 w	6/1/00	11/17/00	2488,2491,2495,2500,2504	As S		PhysU145[2.5]
2506	Optimize, test, tune parameters	32 w	2/11/00	9/26/00	2504	As S		PhysU145[2.5]
2507	Code Maintenance	32 w	2/11/00	9/26/00	2504	As S		PhysU145[2.5]
2508	Provide Executables	77.2 w	6/2/99	12/19/00		As S		
2509	First Downloadable Executable Available	6 w	6/2/99	7/14/99	2483,2488,2493	As S		PhysU145[1.5]
2510	M3-First Downloadable Executable Available	0 w	7/14/99	7/14/99	2509	As S		
2511	Cosmic Ray Executable Available	12 w	2/1/00	4/24/00	2489,2495,2509	As S		PhysU145[1.5]
2512	Runtime Executable Available	4 w	11/20/00	12/19/00	2492,2505,2511	As S		PhysU145[1.5]
2513	L1/L2/L3 Simulator	100 w	10/15/98	10/25/00		As S		
2514	Development of Trigparse Replacement	46 w	6/1/99	5/5/00		Start		PhysU145[0.25]
2515	Develop COOR_SIM	23 w	11/10/99	5/4/00	2292	As S		PhysU145[0.25]
2516	Design Simulation Framework	20 w	10/15/98	3/19/99		Start		PhysU145
2517	Design and Implement Data Chunks	60 w	10/15/98	1/14/00	2516SS	Start		PhysU145[2]
2518	Finalize Ntuple, Chunks, and Monte Carlo Inputs	9 w	1/17/00	3/17/00	2516,2517	As S		PhysU145[2]
2519	First Version Simulation	9 w	1/17/00	3/17/00	2518SS	As S		PhysU145[2]
2520	Integrate L1 and L2 Simulation Prototypes with I/O	12 w	5/8/00	8/1/00	2514,2515,2518,2519	As S		PhysU145
2521	Finalize L1 and L2 Simulations	12 w	8/2/00	10/25/00	2520	As S		PhysU145
2522	Integrate L3 Algorithms	4 w	7/5/00	8/1/00	2520SS+8 w	As S		PhysU145
2523								
2524	ONLINE SYSTEM	152.7 w	9/19/97	10/24/00		As S		
2525	Online Management	145.6 w	9/19/97	9/1/00		Start		PhysF150,PhysU150[0.2],Fuess,Slattery[0.2]
2526	1.5.1 Online Equipment	145.6 w	9/19/97	9/4/00		As S		CProf150,ETF150[0.1],Fitzmaurice,Cantal[0.1]
2527	Purchases	145.6 w	9/19/97	9/4/00		As S		
2528	FY97 Purchases	0 w	9/19/97	9/19/97		As S		
2529	1.5.1.1 Processors	0 w	9/19/97	9/19/97		As S		
2530	1.5.1.1.1 DAQ Processors	0 w	9/19/97	9/19/97		Start	1.5.1.1 k\$[0.46],k\$[0.06]	
2531	1.5.1.2 Network	0 w	9/19/97	9/19/97		Start	1.5.1.2 k\$[0.03],k\$[0.01]	
2532	1.5.1.3 Disk / Tape Peripherals	0 w	9/19/97	9/19/97		As S		
2533	1.5.1.3.1 Disk	0 w	9/19/97	9/19/97		Start	1.5.1.3 k\$[0.3],k\$[0.03]	
2534	1.5.1.4 Printers / Monitors	0 w	9/19/97	9/19/97		Start	1.5.1.4 k\$[0.1]	
2535	1.5.1.5 Software	0 w	9/19/97	9/19/97		Start	1.5.1.5 k\$[0.1],k\$[0.02]	
2536	FY98 Purchases	0 w	7/29/98	7/29/98		As S		
2537	1.5.1.1 Processors	0 w	7/29/98	7/29/98		Start		
2538	1.5.1.1.1 DAQ Processors	0 w	7/29/98	7/29/98		Start	1.5.1.1 k\$[0.42],k\$[0.06]	
2539	1.5.1.3 Disk / Tape Peripherals	0 w	7/29/98	7/29/98		Start		
2540	1.5.1.3.1 Disk	0 w	7/29/98	7/29/98		Start	1.5.1.3 k\$[0.26],k\$[0.03]	
2541	1.5.1.4 Printers / Monitors	0 w	7/29/98	7/29/98		Start	1.5.1.4 k\$[0.1]	
2542	1.5.1.5 Software	0 w	7/29/98	7/29/98		Start	1.5.1.5 k\$[0.16],k\$[0.04]	
2543	FY99 Purchases	0 w	9/1/99	9/1/99		As S		
2544	1.5.1.1 Processors	0 w	9/1/99	9/1/99		As S		
2545	1.5.1.1.1 DAQ Processors	0 w	9/1/99	9/1/99		Start	1.5.1.1 k\$[0.17],k\$[0.02]	
2546	1.5.1.1.2 Monitoring Processors	0 w	9/1/99	9/1/99		Start	1.5.1.1 k\$[0.52],k\$[0.08]	
2547	1.5.1.2 Network	0 w	9/1/99	9/1/99		Start	1.5.1.2 k\$[0.46],k\$[0.11]	
2548	1.5.1.3 Disk / Tape Peripherals	0 w	9/1/99	9/1/99		As S		
2549	1.5.1.3.1 Disk	0 w	9/1/99	9/1/99		Start	1.5.1.3 k\$[0.17],k\$[0.02]	
2550	1.5.1.3.2 Tape	0 w	9/1/99	9/1/99		Start	1.5.1.3 k\$[0.05],k\$[0.01]	
2551	1.5.1.4 Printers / Monitors	0 w	9/1/99	9/1/99		Start	1.5.1.4 k\$[0.09]	
2552	Future Purchases	26.2 w	3/1/00	9/4/00		As S		
2553	1.5.1.1 Processors	26.2 w	3/1/00	9/4/00		As S		
2554	1.5.1.1.1 DAQ Processors	0 w	3/1/00	3/1/00		Start	1.5.1.1 k\$[0.65],k\$[0.09]	
2555	1.5.1.1.2 Monitoring Processors	0 w	9/4/00	9/4/00		Start	1.5.1.1 k\$[1.55],k\$[0.23]	

ID	Task Name	Duration	Start	Finish	Predecessors	Cons	WB\$	Resource Names
2556	1.5.1.2 Network	0 w	3/1/00	3/1/00		Start	1.5.1.2	k\$[0.3],k\$C[0.07]
2557	1.5.1.3 Disk / Tape Peripherals	0 w	3/1/00	3/1/00		As S:		
2558	1.5.1.3.1 Disk	0 w	3/1/00	3/1/00		Start	1.5.1.3:	k\$[0.47],k\$C[0.04]
2559	1.5.1.3.2 Tape	0 w	3/1/00	3/1/00		Start	1.5.1.3:	k\$[0.2],k\$C[0.06]
2560	1.5.1.4 Printers / Monitors	0 w	9/4/00	9/4/00		Start	1.5.1.4:	k\$[0.47],k\$C[0.02]
2561	1.5.1.5 Software	0 w	3/1/00	3/1/00		Start	1.5.1.5:	k\$[0.18],k\$C[0.04]
2562	DAQ Components Operational	0 w	9/1/99	9/1/99		Start		
2563	Integration Activities - Single Detector / Single Stream	9.4 w	9/1/99	11/5/99		As S:		
2564	Controls Activities	9.4 w	9/1/99	11/5/99	2562	As Sc		PhysF150[2],CProf150[4],PhysU150[0.5],Bartlett,Jonckheere[0.25],Zhang[0.75]
2565	Trigger Integration	9.4 w	9/1/99	11/5/99	2562	As Sc		PhysU150[0.25],Watts[0.25]
2566	Configuration and Run Control	9.4 w	9/1/99	11/5/99	2562	As Sc		PhysU150[0.25],Snyder[0.25]
2567	Event Data Path	9.4 w	9/1/99	11/5/99	2562	As Sc		CProf150[1.5],Genser,Guglielmo[0.2],Litmaath[0.1],Moore_C[0.2]
2568	DAQ Monitoring	9.4 w	9/1/99	11/5/99	2562	As Sc		PhysF150[0.5],Yasuda[0.5]
2569	Event Monitoring	9.4 w	9/1/99	11/5/99	2562	As Sc		PhysF150,PhysU150,Yu[0.2],UnknownPhysU150[1.8]
2570	Calibration Activities	9.4 w	9/1/99	11/5/99	2562	As Sc		PhysF150[0.5],PhysU150,Yasuda[0.5],Bertram[0.1],UnknownPhysU150[0.9]
2571	Expert Mode - Integrated DAQ	0 w	11/19/99	11/19/99	2563	As S:		
2572	Integration Activities - Multi Detector / Multi Stream	15 w	11/19/99	3/20/00		As S:		
2573	Controls Activities	15 w	11/19/99	3/20/00	2571	As Sc		PhysF150[2],CProf150[4],PhysU150[0.5],Bartlett,Jonckheere[0.25],Zhang[0.75]
2574	Trigger Integration	15 w	11/19/99	3/20/00	2571	As Sc		PhysU150[0.25],Watts[0.25]
2575	Configuration and Run Control	15 w	11/19/99	3/20/00	2571	As Sc		PhysU150[0.25],Snyder[0.25]
2576	Event Data Path	15 w	11/19/99	3/20/00	2571	As Sc		CProf150[1.5],Genser,Guglielmo[0.2],Litmaath[0.1],Moore_C[0.2]
2577	DAQ Monitoring	15 w	11/19/99	3/20/00	2571	As Sc		PhysF150[0.5],Yasuda[0.5]
2578	Event Monitoring	15 w	11/19/99	3/20/00	2571	As Sc		PhysF150,PhysU150[2],Yu[0.1],UnknownPhysU150[2],UnknownPhysF150[0.9]
2579	Calibration Activities	15 w	11/19/99	3/20/00	2571	As Sc		PhysF150[0.5],PhysU150[2],Yasuda[0.5],Bertram[0.1],UnknownPhysU150[1.9]
2580	User Mode - Integrated DAQ	0 w	3/20/00	3/20/00	2572	As S:		
2581	DAQ Startup Activities	4.5 w	3/21/00	4/20/00		As S:		
2582	Controls Activities	4.5 w	3/21/00	4/20/00	2580	As Sc		PhysF150[2],CProf150[4],PhysU150[0.5],Bartlett,Jonckheere[0.25],Zhang[0.75]
2583	Trigger Integration	4.5 w	3/21/00	4/20/00	2580	As Sc		PhysU150[0.25],Watts[0.25]
2584	Configuration and Run Control	4.5 w	3/21/00	4/20/00	2580	As Sc		PhysU150[0.25],Snyder[0.25]
2585	Event Data Path	4.5 w	3/21/00	4/20/00	2580	As Sc		CProf150[1.5],Genser,Guglielmo[0.2],Litmaath[0.1],Moore_C[0.2]
2586	DAQ Monitoring	4.5 w	3/21/00	4/20/00	2580	As Sc		PhysF150[0.5],Yasuda[0.5]
2587	Event Monitoring	4.5 w	3/21/00	4/20/00	2580	As Sc		PhysF150,PhysU150[2],Yu[0.1],UnknownPhysF150[0.9],UnknownPhysU150[2]
2588	Calibration Activities	4.5 w	3/21/00	4/20/00	2580	As Sc		PhysF150[0.5],PhysU150[2],Yasuda[0.5],Bertram[0.1],UnknownPhysU150[1.9]
2589	Steady DAQ Running	0 w	4/20/00	4/20/00	2581	As S:		
2590	Performance Tuning	15.3 w	3/1/00	6/16/00		As S:		
2591	Hardware Reconfigurations	13 w	3/1/00	5/31/00	2554	As Sc		CProf150,ETF150[0.1],Fitzmaurice,Cantal[0.1]
2592	Software Upgrades	8 w	4/20/00	6/16/00	2589	As Sc		CProf150[0.25],Genser[0.25]
2593	Full DAQ Rate Achieved	0 w	6/16/00	6/16/00	2590	As S:		
2594	Commissioning Activities	26 w	4/20/00	10/24/00		As S:		
2595	Controls Activities	26 w	4/20/00	10/24/00	2589	As Sc		PhysF150[2],CProf150[3],PhysU150[2],Bartlett,Jonckheere[0.25],Zhang[0.75],S
2596	Event Monitoring	26 w	4/20/00	10/24/00	2589	As Sc		PhysF150,PhysU150[4],Yu[0.1],UnknownPhysF150[0.9],UnknownPhysU150[4]
2597	Calibration Activities	26 w	4/20/00	10/24/00	2589	As Sc		PhysF150[0.5],PhysU150[4],Yasuda[0.5],UnknownPhysU150[4]
2598	DAQ Path Upgrades	26 w	4/20/00	10/24/00	2589	As Sc		PhysU150[0.25],CProf150[0.75],Snyder[0.25],Genser[0.5],Guglielmo[0.25]
2599	Accelerator Operations	26 w	4/20/00	10/24/00		As S:		
2600	Accelerator interface	26 w	4/20/00	10/24/00	2589	As Sc		PhysU150,Begel