ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
1	**1.1**	**Run 2b Silicon**	**249.8 w**	**Mon 10/2/00**	**Wed 9/28/05**						
2	**1.1.1**	**Sensors**	**198.2 w**	**Mon 10/2/00**	**Mon 9/20/04**						
3	**1.1.1.1**	**Probing Equipment Setup**	**98.2 w**	**Mon 10/2/00**	**Tue 9/17/02**						
4	**1.1.1.1.1**	**Kansas State Site**	**58 w**	**Mon 10/2/00**	**Mon 11/26/01**						
5	1.1.1.1.1.1	Procure hardware	10 w	Mon 10/2/00	Tue 12/12/00						
6	1.1.1.1.1.2	Setup hardware	20 w	Wed 12/13/00	Mon 5/7/01	5	1.1.1.7(0.5)	MRI			PHYSU,ETO
7	1.1.1.1.1.3	Setup and debug software	20 w	Tue 1/16/01	Tue 6/5/01	6SS+4 w					PHYSU,ETO[20%]
8	1.1.1.1.1.4	Debug probing equipment	24 w	Tue 2/13/01	Wed 8/1/01	6FF,7SS+4 w					PHYSU,ETO
9	**1.1.1.1.1.5**	**Sensor Probing Equipment Setup Complete**	**0 w**	**Wed 8/1/01**	**Wed 8/1/01**	**8**					
10	1.1.1.1.1.6	Define certification procedures	12 w	Thu 8/2/01	Thu 10/25/01	9					
11	1.1.1.1.1.7	Certify probing stations/site	4 w	Fri 10/26/01	Mon 11/26/01	10					PHYSU
12	**1.1.1.1.2**	**CINVESTAV Site**	**48 w**	**Mon 10/1/01**	**Tue 9/17/02**						
13	1.1.1.1.2.1	Procure hardware	24 w	Mon 10/1/01	Thu 3/28/02		1.1.1.1(0.5)	MRI			ETO[20%]
14	1.1.1.1.2.2	Setup hardware	20 w	Fri 3/29/02	Mon 8/19/02	13					PHYSU,ETO[120%]
15	1.1.1.1.2.3	Setup and debug software	15 w	Fri 4/26/02	Mon 8/12/02	14SS+4 w					PHYSU,ETO[20%]
16	1.1.1.1.2.4	Debug probing equipment	12 w	Fri 5/24/02	Mon 8/19/02	14FF,15SS+4 w					PHYSU,ETO
17	**1.1.1.1.2.5**	**Sensor Probing Equipment Setup Complete**	**0 w**	**Mon 8/19/02**	**Mon 8/19/02**	**16**					
18	1.1.1.1.2.6	Certify probing stations/site	4 w	Tue 8/20/02	Tue 9/17/02	17,10					PHYSU,ETO[20%]
19	**1.1.1.1.3**	**Stony Brook Site**	**44 w**	**Mon 10/1/01**	**Mon 8/19/02**						
20	1.1.1.1.3.1	Procure hardware	20 w	Mon 10/1/01	Thu 2/28/02		1.1.1.1(0.5)	MRI			
21	1.1.1.1.3.2	Setup hardware	20 w	Fri 3/1/02	Mon 7/22/02	20	1.1.1.7(0.5)	MRI			PHYSU,ETO
22	1.1.1.1.3.3	Setup and debug software	15 w	Fri 3/29/02	Mon 7/15/02	21SS+4 w					PHYSU,ETO[20%]
23	1.1.1.1.3.4	Debug probing equipment	12 w	Fri 4/26/02	Mon 7/22/02	21FF,22SS+4 w					PHYSU,ETO
24	**1.1.1.1.3.5**	**Sensor Probing Equipment Setup Complete**	**0 w**	**Mon 7/22/02**	**Mon 7/22/02**	**23**					
25	1.1.1.1.3.6	Certify probing stations/site	4 w	Tue 7/23/02	Mon 8/19/02	24					PHYSU,ETO[20%]
26	**1.1.1.1.4**	**Fermilab Site**	**28.2 w**	**Mon 10/1/01**	**Fri 4/26/02**						
27	1.1.1.1.4.1	Procure hardware	1 d	Mon 10/1/01	Mon 10/1/01						
28	1.1.1.1.4.2	Setup hardware	4 w	Tue 10/2/01	Mon 10/29/01	27					PHYSF,ETF
29	1.1.1.1.4.3	Setup and debug software	16 w	Tue 10/30/01	Fri 3/1/02	28SS+4 w					PHYSF
30	1.1.1.1.4.4	Debug probing equipment	16 w	Thu 11/29/01	Fri 3/29/02	28FF,29SS+4 w					PHYSF,ETF[50%]
31	**1.1.1.1.4.5**	**Sensor Probing Equipment Setup Complete**	**0 w**	**Fri 3/29/02**	**Fri 3/29/02**	**30**					
32	1.1.1.1.4.6	Certify probing stations/site	4 w	Mon 4/1/02	Fri 4/26/02	31					PHYSU,ETF[20%]
33	**1.1.1.2**	**L0 Sensors**	**67 w**	**Tue 12/10/02**	**Mon 4/19/04**						
34	**1.1.1.2.1**	**Choose L0 Technology**	**0 w**	**Tue 12/10/02**	**Tue 12/10/02**	**68**					
35	**1.1.1.2.2**	**Preproduction**	**39 w**	**Wed 12/11/02**	**Tue 9/23/03**						
36	1.1.1.2.2.1	Develop preproduction specifications	1 w	Wed 12/11/02	Tue 12/17/02	34					PHYSU,EEU
37	1.1.1.2.2.2	Order preproduction sensors	4 w	Wed 12/18/02	Thu 1/23/03	36	1.1.1.6(0.2)	EQ			
38	1.1.1.2.2.3	Develop masks	4 w	Wed 12/18/02	Thu 1/23/03	37SS	1.1.1.2.1	EQ			DESF
39	1.1.1.2.2.4	Produce preproduction sensors	16 w	Fri 1/24/03	Thu 5/15/03	38	1.1.1.2.2	RD	4RIT	1	
40	1.1.1.2.2.5	Probe preproduction sensors	4 w	Fri 5/16/03	Fri 6/13/03	39,11					ETO,PHYSU[20%]
41	1.1.1.2.2.6	Perform irradiation testing	12 w	Mon 6/16/03	Tue 9/9/03	40SS+4 w	1.1.1.5(0.33)	RD	4RIT		PHYSF[50%],PHYSU[50%]
42	1.1.1.2.2.7	Analyze test results	12 w	Mon 6/30/03	Tue 9/23/03	41SS+2 w					PHYSF[50%],PHYSU[50%]
43	**1.1.1.2.3**	**Production**	**67 w**	**Wed 12/11/02**	**Mon 4/19/04**						
44	1.1.1.2.3.1	Develop final sensor specifications	2 w	Mon 6/16/03	Fri 6/27/03	34,40					PHYSU,EEU
45	1.1.1.2.3.2	Develop sensor probing procedures	4 w	Wed 12/11/02	Thu 1/16/03	34,11					PHYSU[50%],ETO[50%]
46	1.1.1.2.3.3	Bid final sensor order	4 w	Mon 6/30/03	Mon 7/28/03	44					
47	1.1.1.2.3.4	Order production sensors	4 w	Tue 7/29/03	Mon 8/25/03	46					
48	**1.1.1.2.3.5**	**L0 Sensors Released For Production**	**0 w**	**Mon 8/25/03**	**Mon 8/25/03**	**47**					
49	1.1.1.2.3.6	Produce L0 Sensors	20 w	Tue 8/26/03	Mon 1/26/04	48	1.1.1.2.3	EQ		1	
50	1.1.1.2.3.7	Probe L0 sensors	12 w	Tue 1/27/04	Mon 4/19/04	45,49					ETO,PHYSU[20%]
51	**1.1.1.2.3.8**	**1st L0 Sensor Delivered**	**0 w**	**Mon 1/26/04**	**Mon 1/26/04**	**49**					
52	**1.1.1.2.3.9**	**All L0 Sensors Delivered And Tested**	**0 w**	**Mon 4/19/04**	**Mon 4/19/04**	**50**					
53	**1.1.1.3**	**L1 Sensors**	**101.6 w**	**Mon 10/1/01**	**Tue 10/14/03**						
54	**1.1.1.3.1**	**Prototypes**	**59.6 w**	**Mon 10/1/01**	**Tue 12/10/02**						
55	1.1.1.3.1.1	Develop specifications	4 w	Mon 10/1/01	Fri 10/26/01						PHYSU[50%],EEU
56	**1.1.1.3.1.2**	**ELMA**	**38 w**	**Mon 10/29/01**	**Mon 8/5/02**						
57	1.1.1.3.1.2.1	Order sensors	4 w	Mon 10/29/01	Tue 11/27/01	55	1.1.1.6(0.1)	RD	4RIU		
58	1.1.1.3.1.2.2	Develop prototype masks	6 w	Mon 10/29/01	Tue 12/11/01	55	1.1.1.3.1(0.5)	EQ			DESF
59	1.1.1.3.1.2.3	Produce prototype sensors	20 w	Wed 12/12/01	Thu 5/9/02	57,58	1.1.1.3.2(0.5)	RD	4RIU		
60	1.1.1.3.1.2.4	Probe prototypes sensors	8 w	Mon 6/10/02	Mon 8/5/02	59,11,800					ETO,PHYSU[20%]
61	**1.1.1.3.1.3**	**Hamamatsu**	**44 w**	**Mon 11/26/01**	**Fri 10/11/02**						
62	1.1.1.3.1.3.1	Order sensors	16 w	Mon 11/26/01	Tue 3/26/02	55	1.1.1.6(0.1)	RD	4RIU		
63	1.1.1.3.1.3.2	Develop prototype masks	4 w	Mon 11/26/01	Fri 12/21/01	62SS	1.1.1.3.1(0.5)	EQ			DESF
64	1.1.1.3.1.3.3	Produce prototype sensors	20 w	Wed 3/27/02	Thu 8/15/02	62,63	1.1.1.3.2(0.5)	RD	4RIU		
65	1.1.1.3.1.3.4	Probe prototypes sensors	8 w	Fri 8/16/02	Fri 10/11/02	64,11,800					ETO,PHYSU[20%]
66	1.1.1.3.1.4	Perform irradiation testing	8 w	Mon 9/16/02	Fri 11/8/02	60SS+50%,65S	1.1.1.5(0.33)	RD	4RIU		PHYSU[50%],PHYSF[50%]
67	1.1.1.3.1.5	Analyze test results	8 w	Mon 10/14/02	Tue 12/10/02	66SS+4 w				2	PHYSU[50%],PHYSF[50%]
68	**1.1.1.3.1.6**	**Choose L1 Technology**	**0 w**	**Tue 12/10/02**	**Tue 12/10/02**	**67**					
69	**1.1.1.3.2**	**Production**	**42 w**	**Wed 12/11/02**	**Tue 10/14/03**						

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
70	1.1.1.3.2.1	Develop final sensor specifications	2 w	Wed 12/11/02	Thu 1/2/03	68				2	PHYSU,EEU
71	1.1.1.3.2.2	Develop sensor probing procedures	2 w	Wed 12/11/02	Thu 1/2/03	68,11					PHYSU[50%],ETO[50%]
72	1.1.1.3.2.3	Bid final sensor order	4 w	Fri 1/3/03	Thu 1/30/03	70					
73	1.1.1.3.2.4	Order production sensors	4 w	Fri 1/31/03	Thu 2/27/03	72					
74	**1.1.1.3.2.5**	**L1 Sensors Released For Production**	**0 w**	**Thu 2/27/03**	**Thu 2/27/03**	**73**					
75	1.1.1.3.2.6	Produce L1 Sensors	20 w	Fri 2/28/03	Mon 7/21/03	74	1.1.1.3.3	EQ			
76	1.1.1.3.2.7	Probe L1 sensors	12 w	Tue 7/22/03	Tue 10/14/03	71,75					ETO,PHYSU[20%]
77	**1.1.1.3.2.8**	**1st L1 Sensor Delivered**	**0 w**	**Mon 7/21/03**	**Mon 7/21/03**	**75**					
78	**1.1.1.3.2.9**	**All L1 Sensors Delivered And Tested**	**0 w**	**Tue 10/14/03**	**Tue 10/14/03**	**76**					
79	**1.1.1.4**	**L2-L5 Sensors**	**150 w**	**Mon 9/17/01**	**Mon 9/20/04**						
80	**1.1.1.4.1**	**Preproduction**	**60 w**	**Mon 9/17/01**	**Tue 11/26/02**						
81	1.1.1.4.1.1	Develop preproduction specifications	20 w	Mon 9/17/01	Thu 2/14/02						PHYSU,EEU
82	1.1.1.4.1.2	Order preproduction sensors	8 w	Fri 2/15/02	Thu 4/11/02	81					PHYSU[25%]
83	1.1.1.4.1.3	Develop masks	5 w	Fri 2/15/02	Thu 3/21/02	81	1.1.1.4.1(0.1)	EQ			DESF,PHYSF[30%]
84	1.1.1.4.1.4	Produce preproduction sensors	20 w	Fri 4/12/02	Tue 9/3/02	83,82	1.1.1.4.2	EQ			
85	1.1.1.4.1.5	Probe preproduction sensors	10 w	Wed 9/4/02	Tue 11/12/02	8SS+6 w,84,80					ETF[50%],ETO,PHYSU[50%],PHYSF[50%]
86	1.1.1.4.1.6	Perform irradiation testing	8 w	Wed 9/18/02	Tue 11/12/02	85SS+2 w	1.1.1.5(0.34)	RD	4RIV		PHYSF[200%],ETF[50%]
87	1.1.1.4.1.7	Analyze test results	2 w	Wed 11/13/02	Tue 11/26/02	86					PHYSU
88	**1.1.1.4.2**	**Production**	**100 w**	**Wed 9/18/02**	**Mon 9/20/04**						
89	1.1.1.4.2.1	Develop final sensor specifications	4 w	Wed 9/18/02	Tue 10/15/02	85SS+2 w					PHYSU,PHYSF
90	1.1.1.4.2.2	Develop sensor probing procedures	4 w	Wed 11/13/02	Thu 12/12/02	85					PHYSU
91	1.1.1.4.2.3	Develop final masks	4 w	Wed 10/16/02	Tue 11/12/02	89	1.1.1.4.1(0.9)	EQ			DESF[75%],PHYSF[50%]
92	1.1.1.4.2.4	Bid final sensor order	8 w	Wed 10/16/02	Thu 12/12/02	89					
93	1.1.1.4.2.5	Order production sensors	4 w	Fri 12/13/02	Mon 1/20/03	92,87					
94	**1.1.1.4.2.6**	**L2-L5 Sensors Released For Production**	**0 w**	**Mon 1/20/03**	**Mon 1/20/03**	**93,91**					
95	1.1.1.4.2.7	Produce L2-L5 sensors	64 w	Tue 1/21/03	Wed 4/28/04	94	1.1.1.4.3,1.1.1.6(0.6)	EQ			PHYSF[10%]
96	1.1.1.4.2.8	Probe L2-L5 sensors	64 w	Wed 6/11/03	Mon 9/20/04	90,95SS+20 w,					PHYSU[20%],ETO[150%],MTF[30%]
97	**1.1.1.4.2.9**	**25% L2-L5 Sensors Delivered**	**0 w**	**Wed 8/20/03**	**Wed 8/20/03**	**95SS+30 w**					
98	**1.1.1.4.2.10**	**75% L2-L5 Sensors Delivered**	**0 w**	**Wed 2/4/04**	**Wed 2/4/04**	**95SS+52 w**					
99	**1.1.1.4.2.11**	**All L2-L5 Sensors Delivered And Tested**	**0 w**	**Mon 9/20/04**	**Mon 9/20/04**	**96**					
100	1.1.1.5	Radiation Testing	100 w	Tue 9/4/01	Fri 9/5/03						PHYSF[50%],PHYSU[20%],MTF[10%]
101	**1.1.2**	**Readout System**	**181.2 w**	**Tue 9/4/01**	**Tue 4/26/05**						
102	**1.1.2.1**	**SVX4 Chips**	**113 w**	**Mon 12/3/01**	**Mon 3/15/04**						
103	1.1.2.1.1	Develop prototype	29 w	Mon 12/3/01	Wed 7/3/02		1.1.2.1.1(0.5)	RD	4RIW	2	PHYSF[20%],EEF
104	1.1.2.1.2	Develop SVX chip probing procedures	8 w	Wed 5/8/02	Wed 7/3/02	103FF	1.1.2.1.3(0.33)	RD	4RIW		PHYSU,PHYSF,EEF
105	1.1.2.1.3	Test SVX4 prototype chips	12 w	Fri 7/5/02	Fri 9/27/02	103,104	1.1.2.1.4(0.5),1.1.2.1.5(0.5)	RD	4RIW		PHYSF,EEF[200%],PHYSU
106	1.1.2.1.4	Develop second prototype	10 w	Mon 9/16/02	Fri 11/22/02	105SS+10 w				2	PHYSF[20%],EEF
107	1.1.2.1.5	Produce second prototype	12 w	Mon 11/25/02	Thu 2/27/03	106	1.1.2.1.1(0.5)	RD	4RIW		PHYSU,PHYSF,EEF
108	1.1.2.1.6	Test second prototype	12 w	Fri 2/28/03	Thu 5/22/03	107	1.1.2.1.4(0.5),1.1.2.1.5(0.5)	RD	4RIW		PHYSF,EEF[200%],PHYSU
109	**1.1.2.1.7**	**SVX4 Released For Production**	**0 w**	**Fri 6/20/03**	**Fri 6/20/03**	**108FS+4 w**					
110	1.1.2.1.8	Produce final wafers	12 w	Mon 6/23/03	Tue 9/16/03	109	1.1.2.1.2,1.1.2.1.3(0.67)	EQ			
111	**1.1.2.1.9**	**Wafers Delivered**	**0 w**	**Tue 9/16/03**	**Tue 9/16/03**	**110**					
112	1.1.2.1.10	Test wafers	4 w	Wed 9/17/03	Tue 10/14/03	111					EEF[50%],PHYSF[50%]
113	1.1.2.1.11	Package and test chips	20 w	Wed 10/15/03	Mon 3/15/04	112					PHYSF[50%],ETF[50%],EEF[25%]
114	**1.1.2.1.12**	**All SVX4 Chips Produced And Tested**	**0 w**	**Mon 3/15/04**	**Mon 3/15/04**	**113**					
115	**1.1.2.2**	**L0 Hybrids**	**108.4 w**	**Mon 3/4/02**	**Mon 5/3/04**						
116	**1.1.2.2.1**	**Prototypes**	**31.4 w**	**Mon 3/4/02**	**Fri 10/11/02**						
117	1.1.2.2.1.1	Develop prototype specifications	10 w	Mon 3/4/02	Fri 5/10/02	164	1.1.2.2.1.1(0.2),1.1.2.2.2.1	RD	4RIX		PHYSF[50%],EEF[50%],DESF[20%]
118	1.1.2.2.1.2	Procure prototypes	12 w	Mon 5/13/02	Tue 8/6/02	117	1.1.2.2.1.2(0.2),1.1.2.2.2.2	RD	4RIX		EEF[10%]
119	1.1.2.2.1.3	Develop bare hybrid probing procedures	8 w	Tue 6/11/02	Tue 8/6/02	117,118FF	1.1.2.2.2.4(0.4),1.1.2.2.2.5(0.4)	EQ			PHYSU[50%],ETO[50%]
120	1.1.2.2.1.4	Perform mechanical tests	4 w	Wed 7/10/02	Tue 8/6/02	119SS+4 w					MTF[50%],MEU[20%]
121	1.1.2.2.1.5	Test prototypes	8 w	Fri 8/16/02	Fri 10/11/02	118,119SS,105					PHYSU[50%],ETO[50%],PHYSF[50%],EEF[50%],
122	**1.1.2.2.2**	**Production**	**98.4 w**	**Mon 5/13/02**	**Mon 5/3/04**						
123	1.1.2.2.2.1	Develop final specifications	4 w	Mon 11/25/02	Thu 1/2/03	121,192SS,106					PHYSF[50%],EEF[50%],DESF[20%]
124	1.1.2.2.2.2	Bid hybrid production	4 w	Fri 1/3/03	Thu 1/30/03	123					PHYSU[20%]
125	**1.1.2.2.2.3**	**L0 Hybrids Released For Production**	**0 w**	**Thu 1/30/03**	**Thu 1/30/03**	**124**					
126	1.1.2.2.2.4	Produce hybrids	12 w	Fri 1/31/03	Thu 4/24/03	125	1.1.2.2.2.3	EQ			PHYSF[20%]
127	1.1.2.2.2.5	Probe bare hybrids	6 w	Fri 4/25/03	Fri 6/6/03	119,126					ETO,PHYSU[50%]
128	1.1.2.2.2.6	Design, procure, and qualify hybrid fixtures	8 w	Mon 5/13/02	Tue 7/9/02	117	1.1.2.2.2.4(0.6),1.1.5.2(0.3)	EQ			PHYSU[20%],MEU[50%],DESF[50%]
129	1.1.2.2.2.7	Stuff and wirebond hybrids	12 w	Wed 11/26/03	Mon 3/1/04	113SS+6 w,127				2	PHYSU[20%]
130	**1.1.2.2.2.8**	**L0 Hybrid Production Complete**	**0 w**	**Mon 3/1/04**	**Mon 3/1/04**	**129**					
131	1.1.2.2.2.9	Develop functionality test	4 w	Mon 9/9/02	Fri 10/4/02	121SS+3 w	1.1.2.2.2.5(0.3)	EQ			PHYSU[50%]
132	1.1.2.2.2.10	Perform initial functionality test	4 w	Tue 3/2/04	Mon 3/29/04	130,131					PHYSU[50%],ETO,SASEQTestStandF,SASEQTe
133	1.1.2.2.2.11	Procure and qualify hybrid burn-in fixtures	6 w	Fri 1/31/03	Thu 3/13/03	125	1.1.4.2(0.33)	EQ			MTU,DESF[30%],MEF[30%]
134	1.1.2.2.2.12	Develop hybrid burn-in test	4 w	Fri 3/14/03	Thu 4/10/03	121,133	1.1.2.2.2.5(0.3)	EQ			PHYSU[50%],ETU[50%]
135	1.1.2.2.2.13	Perform hybrid burn-in test	8 w	Tue 3/9/04	Mon 5/3/04	134,132SS+1 w					PHYSU[200%],HybridBurnInStand[200%]
136	**1.1.2.2.2.14**	**L0 Hybrid Testing Complete**	**0 w**	**Mon 5/3/04**	**Mon 5/3/04**	**135**					
137	**1.1.2.3**	**L1 Hybrids**	**122.4 w**	**Tue 9/4/01**	**Mon 2/23/04**						
138	**1.1.2.3.1**	**Prototypes**	**85.4 w**	**Tue 9/4/01**	**Thu 5/22/03**						

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
139	1.1.2.3.1.1	Develop prototype specifications	18 w	Tue 9/4/01	Fri 1/18/02		1.1.2.2.1.1(0.5),1.1.2.2.3.1(0.5)	RD	4RIY		PHYSF[50%],EEF,DESF[20%]
140	1.1.2.3.1.2	Procure prototypes	12 w	Mon 1/21/02	Fri 4/12/02	139	1.1.2.2.1.2(0.5),1.1.2.2.3.2(0.5)	RD	4RIY		EEF[10%]
141	1.1.2.3.1.3	Develop hybrid testing procedures	8 w	Fri 8/2/02	Fri 9/27/02	139,140FF,105	1.1.4,1.1.2.2.3.4(0.4),1.1.2.2.3.5(0.4)	RD	4RIY		PHYSU[50%],PHYSF[50%],ETF[50%]
142	1.1.2.3.1.4	Perform mechanical tests	4 w	Fri 8/30/02	Fri 9/27/02	141SS+4 w					MTF[50%],MEF[20%]
143	1.1.2.3.1.5	Test prototypes	8 w	Fri 8/2/02	Fri 9/27/02	140,141SS,105					PHYSU[50%],PHYSF[50%],ETF[50%],SASEQTe
144	1.1.2.3.1.6	Develop second prototype specifications	4 w	Mon 11/25/02	Thu 1/2/03	143,106	1.1.2.2.3.1(0.5)	RD	4RIY	3	PHYSF[50%],EEF,DESF[20%]
145	1.1.2.3.1.7	Procure second prototypes	12 w	Fri 1/3/03	Thu 3/27/03	144	1.1.2.2.3.2(0.5)	RD	4RIY		EEF[10%]
146	1.1.2.3.1.8	Test second prototype	8 w	Fri 3/28/03	Thu 5/22/03	145					PHYSU[50%],PHYSF[50%],ETF[50%]
147	**1.1.2.3.2**	**Production**	**77 w**	**Fri 8/2/02**	**Mon 2/23/04**						
148	1.1.2.3.2.1	Develop final specifications	4 w	Mon 6/23/03	Mon 7/21/03	109,146				2	PHYSF[50%],EEF,DESF[50%]
149	1.1.2.3.2.2	Bid hybrid production	4 w	Mon 6/23/03	Mon 7/21/03	148SS					PHYSU[20%]
150	**1.1.2.3.2.3**	**L1 Hybrids Released For Production**	**0 w**	**Mon 7/21/03**	**Mon 7/21/03**	**149**					
151	1.1.2.3.2.4	Produce hybrids	12 w	Tue 7/22/03	Tue 10/14/03	150	1.1.2.2.3.3	EQ			
152	1.1.2.3.2.5	Test bare hybrids	3 w	Wed 10/15/03	Tue 11/4/03	151,141					PHYSU[20%],ETO[50%],MTO[50%]
153	1.1.2.3.2.6	Design, procure, and qualify hybrid fixtures	8 w	Fri 8/2/02	Fri 9/27/02	143SS	1.1.2.2.3.4(0.6)	RD	4RIY		PHYSU[20%],MEU[50%],DESF[75%]
154	1.1.2.3.2.7	Stuff and wire-bond hybrids	10 w	Wed 11/5/03	Mon 1/26/04	113SS+2 w,153				2	PHYSU[25%]
155	**1.1.2.3.2.8**	**L1 Hybrid Production Complete**	**0 w**	**Mon 1/26/04**	**Mon 1/26/04**	**154**					
156	1.1.2.3.2.9	Develop functionality test	8 w	Fri 8/23/02	Fri 10/18/02	143SS+3 w	1.1.2.2.3.5(0.3)	EQ			PHYSU[50%]
157	1.1.2.3.2.10	Perform functionality test	4 w	Tue 1/27/04	Mon 2/23/04	155					PHYSU[50%],ETO[50%],SASEQTestStandU,SAS
158	1.1.2.3.2.11	Procure and qualify hybrid burn-in fixtures	6 w	Tue 7/22/03	Tue 9/2/03	150	1.1.4.2(0.33)	EQ			MTU,DESF[20%],PHYSU[20%],MEF[30%]
159	1.1.2.3.2.12	Develop hybrid burn-in test	12 w	Wed 9/3/03	Tue 11/25/03	158,143	1.1.2.2.3.5(0.3)	EQ			PHYSU[50%],ETU[50%]
160	1.1.2.3.2.13	Perform hybrid burn-in test	4 w	Tue 1/27/04	Mon 2/23/04	159,155FF+4 w					PHYSU[50%],ETF[25%],HybridBurnInStand[200%
161	**1.1.2.3.2.14**	**L1 Hybrid Testing Complete**	**0 w**	**Mon 2/23/04**	**Mon 2/23/04**	**160**					
162	**1.1.2.4**	**L2-L5 Hybrids**	**138.4 w**	**Tue 9/18/01**	**Tue 6/29/04**						
163	**1.1.2.4.1**	**Prototypes**	**87.4 w**	**Tue 9/18/01**	**Fri 6/20/03**						
164	1.1.2.4.1.1	Develop prototype specifications	22 w	Tue 9/18/01	Fri 3/1/02	139FF+6 w	1.1.2.2.1.1(0.3),1.1.2.2.4.1(0.5)	RD	4RIZ		EEF[50%],PHYSF[50%],DESF[25%],ETF[20%]
165	1.1.2.4.1.2	Procure prototypes	16 w	Mon 3/4/02	Mon 6/24/02	164	1.1.2.2.1.2(0.3),1.1.2.2.4.2(0.5)	RD	4RIZ		EEF[10%]
166	1.1.2.4.1.3	Develop bare hybrid probing procedures	8 w	Mon 4/29/02	Mon 6/24/02	164,165FF	1.1.2.2.4.4(0.33),1.1.2.2.4.5(0.33)	RD	4RIZ		PHYSU[50%],ETU[50%],PHYSF[50%]
167	1.1.2.4.1.4	Perform mechanical tests	4 w	Tue 5/28/02	Mon 6/24/02	166SS+4 w					MTF[50%],MEF[20%]
168	1.1.2.4.1.5	Perform temperature cycles	2 w	Tue 6/25/02	Tue 7/9/02	167					MTF[50%]
169	1.1.2.4.1.6	Test prototypes	8 w	Fri 8/16/02	Fri 10/11/02	165,166SS,105					PHYSU[50%],ETU[50%],EEF,PHYSF[50%],SASE
170	1.1.2.4.1.7	Develop second prototype specifications	8 w	Mon 11/25/02	Thu 1/30/03	169,106	1.1.2.2.4.1(0.5)	RD	4RIZ	2	EEF[50%],PHYSF[50%],DESF[25%],ETF[20%]
171	1.1.2.4.1.8	Procure second prototypes	12 w	Fri 1/31/03	Thu 4/24/03	170	1.1.2.2.4.2(0.5)	RD	4RIZ		EEF[10%]
172	1.1.2.4.1.9	Test second prototypes	8 w	Fri 4/25/03	Fri 6/20/03	171		RD	4RIZ		PHYSU[50%],ETU[50%],EEF,PHYSF[50%],SASE
173	**1.1.2.4.2**	**Production**	**99 w**	**Fri 7/5/02**	**Tue 6/29/04**						
174	1.1.2.4.2.1	Develop final specifications	4 w	Mon 6/23/03	Mon 7/21/03	109,172,661,68					PHYSF[50%],EEF,DESF[50%]
175	1.1.2.4.2.2	Bid hybrid production	4 w	Mon 6/23/03	Mon 7/21/03	174SS					PHYSU[20%]
176	**1.1.2.4.2.3**	**L2-L5 Hybrids Released For Production**	**0 w**	**Mon 7/21/03**	**Mon 7/21/03**	**175**					
177	1.1.2.4.2.4	Produce hybrids	16 w	Tue 7/22/03	Tue 11/11/03	176	1.1.2.2.1.3,1.1.2.2.4.3	EQ			
178	1.1.2.4.2.5	Probe bare hybrids	14 w	Wed 10/1/03	Mon 1/19/04	166,177SS+10	1.1.2.2.1.5	EQ			ETU,ETO,PHYSU[50%]
179	1.1.2.4.2.6	Design, procure, and qualify hybrid fixtures	8 w	Mon 10/14/02	Tue 12/10/02	169	1.1.2.2.4.4(0.67),1.1.5.2(0.3)	EQ			PHYSU[20%],MEU[50%],DESF
180	1.1.2.4.2.7	Stuff and wire-bond hybrids	24 w	Wed 10/29/03	Mon 4/26/04	178SS+4 w,113				2	PHYSU[20%]
181	**1.1.2.4.2.8**	**L2-L5 Hybrid Production Complete**	**0 w**	**Mon 4/26/04**	**Mon 4/26/04**	**180**					
182	1.1.2.4.2.9	Develop functionality test	4 w	Fri 7/5/02	Thu 8/1/02	103	1.1.2.2.4.5(0.33)	EQ			PHYSU[50%]
183	1.1.2.4.2.10	Perform initial functionality test	20 w	Tue 1/6/04	Mon 5/24/04	180SS+8 w,182					PHYSU,ETO,SASEQTestStandU[200%],SASEQT
184	1.1.2.4.2.11	Procure and qualify hybrid burn-in fixtures	6 w	Tue 7/22/03	Tue 9/2/03	176	1.1.4.2(0.34)	EQ			MTU,DESF[20%],PHYSU[20%],MEF[30%]
185	1.1.2.4.2.12	Develop hybrid burn-in test	4 w	Wed 9/3/03	Tue 9/30/03	184,169	1.1.2.2.4.5(0.34)	EQ			PHYSU[50%],ETU[50%]
186	1.1.2.4.2.13	Perform hybrid burn-in test	24 w	Tue 1/13/04	Tue 6/29/04	181FF+4 w,185				2	PHYSU[200%],ETF[40%],HybridBurnInStand[200
187	**1.1.2.4.2.14**	**L2-L5 Hybrid Testing Complete**	**0 w**	**Tue 6/29/04**	**Tue 6/29/04**	**186**					
188	**1.1.2.5**	**L0 Analog Flex Cables**	**66 w**	**Wed 1/2/02**	**Thu 4/24/03**						
189	1.1.2.5.1	Design cables	12 w	Wed 1/2/02	Tue 3/26/02		1.1.2.3.1.1	RD	4RKA		PHYSU[50%],EEF[50%],DESF[10%]
190	1.1.2.5.2	Produce pre-production cables	12 w	Wed 3/27/02	Wed 6/19/02	189	1.1.2.3.1.2	RD	4RKA		
191	1.1.2.5.3	Test preproduction cables	8 w	Fri 8/16/02	Fri 10/11/02	190,121FF	1.1.2.3.1.4(0.5),1.1.2.3.1.5(0.25)	RD	4RKA		PHYSU,ETF[50%],PHYSF,MTF[20%]
192	1.1.2.5.4	Develop final specifications	4 w	Mon 10/14/02	Fri 11/8/02	191,362				3	PHYSU[50%],EEF[50%],DESF[50%],PHYSF[50%]
193	1.1.2.5.5	Bid cable production	4 w	Mon 11/11/02	Tue 12/10/02	192					PHYSU[20%]
194	**1.1.2.5.6**	**L0 Flex Cables Released For Production**	**0 w**	**Tue 12/10/02**	**Tue 12/10/02**	**193**					
195	1.1.2.5.7	Produce cables	12 w	Wed 12/11/02	Thu 3/13/03	194	1.3,1.1.2.3.1.4(0.5),1.1.2.3.1.5(0.75)	EQ			PHYSU[10%]
196	1.1.2.5.8	Test cables	12 w	Fri 1/31/03	Thu 4/24/03	195SS+6 w				2	ETF[75%],PHYSU[50%],PHYSF[50%]
197	**1.1.2.5.9**	**L0 Flex Cable Production And Testing Complete**	**0 w**	**Thu 4/24/03**	**Thu 4/24/03**	**196**					
198	**1.1.2.6**	**L0 Digital Jumper Cables**	**55.4 w**	**Mon 5/13/02**	**Fri 6/20/03**						
199	1.1.2.6.1	Design cables	4 w	Mon 5/13/02	Mon 6/10/02	117	1.1.2.3.2.1(0.33)	RD	4RKB		PHYSU,EEU[50%],DESF[10%]
200	1.1.2.6.2	Prepare prototypes	16 w	Tue 6/11/02	Wed 10/2/02	199	1.1.2.3.2.2(0.33)	RD	4RKB		PHYSU[10%]
201	1.1.2.6.3	Test prototypes	4 w	Thu 10/3/02	Wed 10/30/02	200	1.1.2.3.2.4(0.33),1.1.2.3.2.5(0.33)	EQ			ETU[50%],PHYSU[50%]
202	1.1.2.6.4	Develop final specifications	4 w	Fri 1/3/03	Thu 1/30/03	201,123,362,61					PHYSU,EEU[50%]
203	1.1.2.6.5	Bid cable production	4 w	Fri 1/31/03	Thu 2/27/03	202					PHYSU[10%]
204	**1.1.2.6.6**	**L0 Digital Jumper Cables Released For Production**	**0 w**	**Thu 2/27/03**	**Thu 2/27/03**	**203**					
205	1.1.2.6.7	Produce cables	12 w	Fri 2/28/03	Thu 5/22/03	204	1.1.2.3.2.3(0.33)	EQ			PHYSU[10%]
206	1.1.2.6.8	Test cables	4 w	Fri 5/23/03	Fri 6/20/03	205					ETU,PHYSU[20%]
207	**1.1.2.6.9**	**L0 Digital Jumper Cables Produced And Tested**	**0 w**	**Fri 6/20/03**	**Fri 6/20/03**	**206**					

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
208	1.1.2.7	L1 Digital Jumper Cables	99.4 w	Mon 1/21/02	Mon 1/19/04						
209	1.1.2.7.1	Design cables	6 w	Mon 1/21/02	Fri 3/1/02	139	1.1.2.3.2.1(0.33)	RD	4RKC		PHYSU,EEU[50%],DESF[10%]
210	1.1.2.7.2	Prepare prototypes	16 w	Mon 3/4/02	Mon 6/24/02	209	1.1.2.3.2.2(0.33)	RD	4RKC		PHYSU[10%]
211	1.1.2.7.3	Test prototypes	4 w	Tue 6/25/02	Tue 7/23/02	210	1.1.2.3.2.4(0.33),1.1.2.3.2.5(0.33)	EQ			ETU[50%],PHYSU[50%]
212	1.1.2.7.4	Develop final specifications	4 w	Tue 7/22/03	Mon 8/18/03	211,148,392,61					PHYSU
213	1.1.2.7.5	Bid cable production	4 w	Tue 8/19/03	Tue 9/16/03	212					PHYSU[10%]
214	1.1.2.7.6	L1 Digital Jumper Cables Released For Production	0 w	Tue 9/16/03	Tue 9/16/03	213					
215	1.1.2.7.7	Produce cables	12 w	Wed 9/17/03	Thu 12/11/03	214	1.1.2.3.2.3(0.33)	EQ			PHYSU[10%]
216	1.1.2.7.8	Test cables	4 w	Fri 12/12/03	Mon 1/19/04	215					ETU,PHYSU[20%]
217	1.1.2.7.9	L1 Digital Jumper Cables Produced And Tested	0 w	Mon 1/19/04	Mon 1/19/04	216					
218	1.1.2.8	L2-L5 Digital Jumper Cables	99.4 w	Mon 3/4/02	Mon 3/1/04						
219	1.1.2.8.1	Design cables	6 w	Mon 3/4/02	Fri 4/12/02	164	1.1.2.3.2.1(0.17)	RD	4RKD		PHYSU,EEU[25%],DESF[10%]
220	1.1.2.8.2	Prepare prototypes	16 w	Mon 4/15/02	Tue 8/6/02	219	1.1.2.3.2.2(0.17)	RD	4RKD		PHYSU[10%]
221	1.1.2.8.3	Test prototypes	4 w	Wed 8/7/02	Wed 9/4/02	220	1.1.2.3.2.4(0.34),1.1.2.3.2.5(0.34)	EQ			ETU[50%],PHYSU[50%]
222	1.1.2.8.4	Design preproduction cables	8 w	Thu 9/5/02	Wed 10/30/02	221	1.1.2.3.2.1(0.17)	RD	4RKD		PHYSU,EEU[25%],DESF[40%]
223	1.1.2.8.5	Prepare preproduction cables	16 w	Thu 10/31/02	Tue 3/4/03	222	1.1.2.3.2.2(0.17)	RD	4RKD		PHYSU[10%]
224	1.1.2.8.6	Test preproduction cables	8 w	Wed 3/5/03	Tue 4/29/03	223					ETU[50%],PHYSU[50%]
225	1.1.2.8.7	Develop final specifications	6 w	Tue 7/22/03	Tue 9/2/03	174,429,224					PHYSU,DESF[50%]
226	1.1.2.8.8	Bid cable production	4 w	Wed 9/3/03	Tue 9/30/03	225					PHYSU[10%]
227	1.1.2.8.9	L2-L5 Digital Jumper Cables Released For Production	0 w	Tue 9/30/03	Tue 9/30/03	226					
228	1.1.2.8.10	Produce cables	16 w	Wed 10/1/03	Mon 2/2/04	227	1.1.2.3.2.3(0.34)	EQ			PHYSU[10%]
229	1.1.2.8.11	Test cables	14 w	Wed 11/12/03	Mon 3/1/04	228SS+6 w					PHYSF[20%],ETO,PHYSU[20%]
230	1.1.2.8.12	L2-L5 Digital Jumper Cables Produced And Tested	0 w	Mon 3/1/04	Mon 3/1/04	229					
231	1.1.2.9	L0 Junction Cards	101.4 w	Mon 5/13/02	Mon 5/24/04						
232	1.1.2.9.1	Design cards	4 w	Mon 5/13/02	Mon 6/10/02	117	1.1.2.4.1(0.33)	RD	4RKE		EEU[50%],PHYSU[20%],DESF[20%],MEF[20%]
233	1.1.2.9.2	Prepare prototypes	8 w	Tue 6/11/02	Tue 8/6/02	232	1.1.2.4.2(0.33)	RD	4RKE		PHYSU[10%]
234	1.1.2.9.3	Test prototypes	4 w	Thu 10/31/02	Wed 11/27/02	233,201	1.1.2.4.4(0.33),1.1.2.4.5(0.33)	EQ			ETU[50%],EEU[20%],PHYSU[20%]
235	1.1.2.9.4	Develop final specifications	4 w	Wed 11/26/03	Mon 1/5/04	234,125,268,61					EEU[50%]
236	1.1.2.9.5	Bid card production	4 w	Tue 1/6/04	Mon 2/2/04	235					PHYSU[10%]
237	1.1.2.9.6	L0 Junction Cards Released For Production	0 w	Mon 2/2/04	Mon 2/2/04	236					
238	1.1.2.9.7	Produce cards	12 w	Tue 2/3/04	Mon 4/26/04	237	1.1.2.4.3(0.33)	EQ			PHYSU[10%]
239	1.1.2.9.8	Test cards	4 w	Tue 4/27/04	Mon 5/24/04	238					ETU,PHYSU[20%]
240	1.1.2.9.9	L0 Junction Cards Produced and Tested	0 w	Mon 5/24/04	Mon 5/24/04	239					
241	1.1.2.10	L1 Junction Cards	117.4 w	Mon 1/21/02	Mon 5/24/04						
242	1.1.2.10.1	Design cards	10 w	Mon 1/21/02	Fri 3/29/02	139	1.1.2.4.1(0.33)	RD	4RKF		EEU[50%],PHYSU[20%],DESF[10%],MEF[20%]
243	1.1.2.10.2	Prepare prototypes	8 w	Mon 4/1/02	Fri 5/24/02	242	1.1.2.4.2(0.33)	RD	4RKF		PHYSU[10%]
244	1.1.2.10.3	Test prototypes	4 w	Wed 7/24/02	Tue 8/20/02	243,211	1.1.2.4.4(0.33),1.1.2.4.5(0.33)	EQ			ETU[50%],EEU[20%],PHYSU[20%]
245	1.1.2.10.4	Develop final specifications	4 w	Wed 11/26/03	Mon 1/5/04	244,150,268,61					EEU[50%]
246	1.1.2.10.5	Bid card production	4 w	Tue 1/6/04	Mon 2/2/04	245					PHYSU[10%]
247	1.1.2.10.6	L1 Junction Cards Released For Production	0 w	Mon 2/2/04	Mon 2/2/04	246					
248	1.1.2.10.7	Produce cards	12 w	Tue 2/3/04	Mon 4/26/04	247	1.1.2.4.3(0.33)	EQ			PHYSU[10%]
249	1.1.2.10.8	Test cards	4 w	Tue 4/27/04	Mon 5/24/04	248					ETU,PHYSU[20%]
250	1.1.2.10.9	L1 Junction Cards Produced and Tested	0 w	Mon 5/24/04	Mon 5/24/04	249					
251	1.1.2.11	L2-5 Junction Cards	115.4 w	Mon 3/4/02	Tue 6/22/04						
252	1.1.2.11.1	Design cards	8 w	Mon 3/4/02	Fri 4/26/02	164	1.1.2.4.1(0.34)	RD	4RKG		EEU[50%],PHYSU[20%],DESF[5%]
253	1.1.2.11.2	Prepare prototypes	8 w	Mon 4/29/02	Mon 6/24/02	252	1.1.2.4.2(0.34)	RD	4RKG		PHYSU[10%]
254	1.1.2.11.3	Test prototypes	4 w	Thu 9/5/02	Wed 10/2/02	253,221	1.1.2.4.4(0.34),1.1.2.4.5(0.34)	EQ			ETU[50%],EEU[20%],PHYSU[20%]
255	1.1.2.11.4	Develop final specifications	4 w	Wed 11/26/03	Mon 1/5/04	254,176,268					EEU[50%]
256	1.1.2.11.5	Bid card production	4 w	Tue 1/6/04	Mon 2/2/04	255					PHYSU[10%]
257	1.1.2.11.6	L2-5 Junction Cards Released For Production	0 w	Mon 2/2/04	Mon 2/2/04	256					
258	1.1.2.11.7	Produce cards	16 w	Tue 2/3/04	Mon 5/24/04	257	1.1.2.4.3(0.34)	EQ			PHYSU[10%]
259	1.1.2.11.8	Test cards	16 w	Tue 3/2/04	Tue 6/22/04	258SS+4 w				2	ETO,PHYSU[20%]
260	1.1.2.11.9	L2-5 Junction Cards Produced and Tested	0 w	Tue 6/22/04	Tue 6/22/04	259					
261	1.1.2.12	Twisted-Pair Cables	142.4 w	Mon 3/4/02	Wed 1/12/05						
262	1.1.2.12.1	Design cables	4 w	Mon 3/4/02	Fri 3/29/02	276	1.1.2.3.3.1(0.5)	RD	4RKH		PHYSF[50%],EEU
263	1.1.2.12.2	Prepare prototypes	12 w	Mon 4/1/02	Mon 6/24/02	262	1.1.2.3.3.2(0.5),1.1.2.3.4(0.5)	RD	4RKH		PHYSF[10%],ETF[50%]
264	1.1.2.12.3	Test prototypes	4 w	Tue 6/25/02	Tue 7/23/02	263	1.1.2.3.3.4,1.1.2.3.3.5(0.3)	EQ			PHYSU[25%],ETU[50%],PHYSF[25%]
265	1.1.2.12.4	Design preproduction cables	4 w	Wed 7/24/02	Tue 8/20/02	264	1.1.2.3.3.1(0.5)	RD	4RKH		PHYSF[50%],EEU
266	1.1.2.12.5	Prepare preproduction cables	12 w	Wed 8/21/02	Wed 11/13/02	265	1.1.2.3.3.2(0.5),1.1.2.3.4(0.5)	RD	4RKH		PHYSF[10%],ETF[50%]
267	1.1.2.12.6	Test preproduction cables	4 w	Thu 11/14/02	Fri 12/13/02	266					PHYSU[25%],ETU[50%],PHYSF[25%]
268	1.1.2.12.7	Develop final specifications	4 w	Wed 10/29/03	Tue 11/25/03	282,148,613,61				2	PHYSF[50%],EEU[50%],DESF[50%]
269	1.1.2.12.8	Bid cable production	4 w	Wed 11/26/03	Mon 1/5/04	268					PHYSF[10%]
270	1.1.2.12.9	Twisted-Pair Cables Released For Production	0 w	Mon 1/5/04	Mon 1/5/04	269					
271	1.1.2.12.10	Produce cables	16 w	Tue 1/6/04	Mon 4/26/04	270	1.1.2.3.3.3	EQ			PHYSF[10%]
272	1.1.2.12.11	Connect cables to junction cards	26 w	Wed 6/23/04	Wed 1/5/05	271,240,250,26					ETF[200%]
273	1.1.2.12.12	Test cables	26 w	Wed 6/30/04	Wed 1/12/05	272SS+1 w	1.1.2.3.3.5(0.7)	EQ			ETF,PHYSF[20%]
274	1.1.2.12.13	Twisted-Pair Cables Ready	0 w	Wed 1/12/05	Wed 1/12/05	273					
275	1.1.2.13	Adapter Cards	143.4 w	Tue 9/4/01	Wed 7/21/04						
276	1.1.2.13.1	Design cards	24 w	Tue 9/4/01	Fri 3/1/02		1.1.2.6.1(0.5)	RD	4RKI		EEU[50%],DESF[5%],PHYSU[50%]

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
277	1.1.2.13.2	Prepare prototypes	16 w	Mon 3/4/02	Mon 6/24/02	276	1.1.2.6.2(0.5)	RD	4RKI		PHYSU[10%]
278	1.1.2.13.3	Test prototypes	8 w	Tue 6/25/02	Tue 8/20/02	277	1.1.2.6.4,1.1.2.6.5	EQ			EEU[50%],PHYSU[50%]
279	1.1.2.13.4	Design preproduction cards	12 w	Wed 8/21/02	Wed 11/13/02	278	1.1.2.6.1(0.5)	RD	4RKI	2	EEU[50%],DESF[5%],PHYSU[50%]
280	1.1.2.13.5	Prepare preproduction cards	16 w	Thu 11/14/02	Tue 3/18/03	279	1.1.2.6.2(0.5)	RD	4RKI		PHYSU[10%]
281	1.1.2.13.6	Test preproduction cards	8 w	Wed 3/19/03	Tue 5/13/03	280				2	EEU[50%],PHYSU[50%]
282	1.1.2.13.7	Develop final specifications	4 w	Wed 10/1/03	Tue 10/28/03	109,125,150,20					EEU[50%],PHYSU[20%],DESF[25%]
283	1.1.2.13.8	Bid card production	4 w	Wed 10/29/03	Tue 11/25/03	282					PHYSU[10%]
284	**1.1.2.13.9**	**Adapter Cards Released For Production**	**0 w**	**Tue 11/25/03**	**Tue 11/25/03**	**283**					
285	1.1.2.13.10	Produce cards	16 w	Wed 11/26/03	Mon 3/29/04	284	1.1.2.6.3	EQ			PHYSU[10%]
286	1.1.2.13.11	Test cards	16 w	Tue 3/30/04	Wed 7/21/04	285					ETU,PHYSU[20%],EEU[20%]
287	**1.1.2.13.12**	**Adapter Cards Produced And Tested**	**0 w**	**Wed 7/21/04**	**Wed 7/21/04**	**286**					
288	**1.1.2.14**	**SASEQ Test Stands**	**86.6 w**	**Mon 11/19/01**	**Mon 8/18/03**						
289	**1.1.2.14.1**	**SASEQs**	**86.6 w**	**Mon 11/19/01**	**Mon 8/18/03**						
290	1.1.2.14.1.1	Procure parts for SASEQs	12 w	Mon 11/19/01	Thu 2/21/02		1.1.4.1	EQ			ETF[50%],PHYSU[10%]
291	1.1.2.14.1.2	Assemble and test SASEQs	4 w	Fri 2/22/02	Thu 3/21/02	290					ETF,EEF[50%],PHYSU[10%]
292	1.1.2.14.1.3	Refurbish Run 2a SASEQs	8 w	Mon 6/23/03	Mon 8/18/03	109					ETF,EEF[50%],ETU,EEU[50%]
293	**1.1.2.14.2**	**Purple Card**	**57.4 w**	**Mon 3/4/02**	**Thu 4/24/03**						
294	1.1.2.14.2.1	Design prototype purple card	8 w	Mon 3/4/02	Fri 4/26/02	276	1.1.2.5.1	RD	4RKJ	2	EEF
295	1.1.2.14.2.2	Produce prototype	8 w	Mon 4/29/02	Mon 6/24/02	294	1.1.2.5.2	RD	4RKJ		EEF[50%]
296	1.1.2.14.2.3	Test prototype	6 w	Tue 6/25/02	Tue 8/6/02	295	1.1.2.5.4,1.1.2.5.5	RD	4RKJ	2	EEF[50%],PHYSF
297	1.1.2.14.2.4	Develop final specification	4 w	Mon 9/30/02	Fri 10/25/02	296,105					EEF[50%],PHYSF[20%]
298	1.1.2.14.2.5	Procure cards	16 w	Mon 10/28/02	Thu 2/27/03	297	1.1.2.5.3	EQ			
299	1.1.2.14.2.6	Test cards	8 w	Fri 2/28/03	Thu 4/24/03	298					EEF[50%],PHYSF[20%]
300	**1.1.2.14.4**	**High Voltage System**	**56 w**	**Mon 12/3/01**	**Thu 1/23/03**						
301	1.1.2.14.4.1	Procure HV modules and pods	36 w	Mon 12/3/01	Thu 8/22/02						PHYSF[20%],ETF[20%]
302	1.1.2.14.4.2	Install and test HV system	20 w	Fri 8/23/02	Thu 1/23/03	301					ETF,EEF[50%]
303	**1.1.2.14.5**	**Commercial Products**	**8.6 w**	**Tue 10/1/02**	**Mon 12/2/02**						
304	1.1.2.14.5.1	Procure PC and software	4 w	Fri 11/1/02	Mon 12/2/02		1.1.4.12	EQ			ETF[20%],PHYSU[20%]
305	1.1.2.14.5.2	Procure bit3	8 w	Tue 10/1/02	Mon 11/25/02						ETF[20%],PHYSU[20%]
306	1.1.2.14.5.3	Procure low voltage power supplies	8 w	Tue 10/1/02	Mon 11/25/02						ETF[20%],PHYSU[20%]
307	**1.1.2.15**	**Interface Boards And Low Voltage System**	**73.8 w**	**Wed 10/29/03**	**Tue 4/26/05**						
308	1.1.2.15.1	Develop specifications for re-worked boards	4 w	Wed 10/29/03	Tue 11/25/03	282	1.1.2.7.1	EQ			EEO,PHYSF,ETF[50%]
309	1.1.2.15.2	Prepare prototypes	12 w	Wed 11/26/03	Mon 3/1/04	308	1.1.2.7.2(0.15)	EQ			ETO[25%]
310	1.1.2.15.3	Test prototypes	4 w	Tue 3/2/04	Mon 3/29/04	309					EEO,PHYSU
311	**1.1.2.15.4**	**Interface Boards Released For Modifications**	**0 w**	**Mon 3/29/04**	**Mon 3/29/04**	**310**					
312	1.1.2.15.5	Rework and test existing boards	8 w	Wed 3/2/05	Tue 4/26/05	311,837	1.1.2.7.2(0.85),1.1.2.7.3,1.1.2.9.1	EQ			PHYSU,ETF[300%]
313	1.1.2.15.6	Procure additional boards	12 w	Tue 3/30/04	Tue 6/22/04	310	1.1.2.7.4,1.1.2.7.5				
314	**1.1.2.15.7**	**Interface Boards Ready**	**0 w**	**Tue 4/26/05**	**Tue 4/26/05**	**312**					
315	**1.1.2.16**	**High-mass Cables**	**18 w**	**Thu 1/2/03**	**Wed 5/7/03**						
316	1.1.2.16.1	Produce new cables	16 w	Thu 1/2/03	Wed 4/23/03		1.1.2.3.5	EQ			ETF[10%]
317	1.1.2.16.2	Test new cables	2 w	Thu 4/24/03	Wed 5/7/03	316					ETF,PHYSF[20%]
318	**1.1.2.16.3**	**High-mass Cables Ready**	**0 w**	**Wed 5/7/03**	**Wed 5/7/03**	**317**					
319	**1.1.2.17**	**High Voltage System**	**40 w**	**Fri 1/24/03**	**Tue 11/4/03**						
320	1.1.2.17.1	Design L0-L1 system	12 w	Fri 1/24/03	Thu 4/17/03	117SS+50%,30					EEF,PHYSF
321	**1.1.2.17.2**	**High Voltage Modules Released For Production**	**0 w**	**Thu 4/17/03**	**Thu 4/17/03**	**320**					
322	1.1.2.17.3	Procure new modules	16 w	Fri 4/18/03	Mon 8/11/03	321	1.1.2.3.6,1.1.2.3.7,1.1.2.9.2	EQ			PHYSF[10%]
323	1.1.2.17.4	Test new modules	8 w	Tue 8/12/03	Tue 10/7/03	322					ETF[50%],PHYSF[50%]
324	**1.1.2.17.5**	**High Voltage Modules Ready**	**0 w**	**Tue 10/7/03**	**Tue 10/7/03**	**323**					
325	1.1.2.17.6	Test system	4 w	Wed 10/8/03	Tue 11/4/03	324					ETF,PHYSF
326	**1.1.2.18**	**Downstream Readout Ready**	**0 w**	**Tue 4/26/05**	**Tue 4/26/05**	**274,287,314,31**					
327	1.1.2.19	Modify monitoring and control system	8 w	Thu 9/4/03	Wed 10/29/03	860	1.1.2.8	EQ			ETF,EEF
328	**1.1.2.20**	**Stand-alone system integration test**	**107 w**	**Fri 8/2/02**	**Thu 9/23/04**						
329	1.1.2.20.1	Readout Layer 1 hybrid with Purple Card	8 w	Fri 8/2/02	Fri 9/27/02	143SS,294,291					EEF[50%],ETF[50%],MEF[5%],PHYSF
330	1.1.2.20.2	Readout multiple hybrids	8 w	Mon 9/30/02	Fri 11/22/02	329					EEF[50%],ETF[50%],MEF[5%],PHYSF
331	**1.1.2.20.6**	**Successful readout of more than 1 hybrid**	**0 w**	**Fri 11/22/02**	**Fri 11/22/02**	**330**					
332	1.1.2.20.3	Readout full stave with Purple Card	12 w	Fri 4/25/03	Mon 7/21/03	477					EEF[50%],ETF[50%],MEF[5%],PHYSF
333	**1.1.2.20.7**	**Successful readout of full stave**	**0 w**	**Mon 7/21/03**	**Mon 7/21/03**	**332**					
334	1.1.2.20.4	Readout full stave with all prototype components in final c	16 w	Fri 4/25/03	Mon 8/18/03	172SS,224SS,:					EEF[50%],ETF[50%],MEF[5%],PHYSF
335	**1.1.2.20.8**	**Successful readout of full stave with all prototype compo**	**0 w**	**Mon 8/18/03**	**Mon 8/18/03**	**334**					
336	1.1.2.20.5	Readout multiple staves with all final components	12 w	Wed 6/30/04	Thu 9/23/04	186SS,229SS,:					EEF[50%],ETF[50%],MEF[5%],PHYSF
337	**1.1.2.20.9**	**Successful readout of multiple staves with all final comp**	**0 w**	**Thu 9/23/04**	**Thu 9/23/04**	**336**					
338	1.1.2.21	L0-L1 System Integration Test	70 w	Mon 9/30/02	Mon 3/1/04	143,211,296	1.1.4.13(0.50)	EQ			PHYSU,EEF[25%],ETF[25%],MEF[7%],MTF[10%]
339	1.1.2.22	L2-L5 System Integration Test	70 w	Mon 10/14/02	Mon 3/15/04	296,169,221	1.1.4.13(0.50),1.1.4.14	EQ			PHYSU,EEF[25%],ETF[25%],MEF[25%]
340	**1.1.3**	**Mechanical Design and Fabrication**	**188.4 w**	**Mon 8/6/01**	**Wed 5/18/05**						
341	**1.1.3.1**	**Beam Tube**	**123 w**	**Tue 9/4/01**	**Thu 2/26/04**						
342	1.1.3.1.1	Design beam tube	30 w	Tue 9/4/01	Fri 4/12/02						PHYSF[15%],MEF[10%],DESF[25%]
343	**1.1.3.1.2**	**Beam Tube Order Placed**	**0 w**	**Fri 5/3/02**	**Fri 5/3/02**	**342FS+3 w**					
344	1.1.3.1.3	Procure beam tube	78 w	Mon 5/6/02	Fri 11/21/03	343	1.1.3.11	SP			PHYSF[2%],MEF[1%],DESF[1%]
345	1.1.3.1.4	Test beam tube for acceptance	12 w	Mon 11/24/03	Thu 2/26/04	344					PHYSF[20%],MEF[10%],MTF[30%],CMMT[25%],CM

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
346	1.1.3.1.5	Beam Tube Accepted	0 w	Thu 2/26/04	Thu 2/26/04	345					
347	1.1.3.2	South silicon barrel assembly	164.6 w	Mon 8/6/01	Fri 11/19/04						
348	1.1.3.2.1	L0-L1 barrel assembly	149.8 w	Mon 8/6/01	Fri 8/6/04						
349	1.1.3.2.1.1	L0 Barrel	149.8 w	Mon 8/6/01	Fri 8/6/04						
350	1.1.3.2.1.1.1	L0 readout module fixtures	46 w	Mon 6/16/03	Mon 5/17/04						
351	1.1.3.2.1.1.1.1	Design fixtures	12 w	Mon 6/16/03	Tue 9/9/03	121SS+2 w,40,					PHYSU,MEF[50%],PHYSF,DESF[10%],DESU[25%
352	1.1.3.2.1.1.1.2	Procure initial layer 0 readout module fixtur	12 w	Wed 9/10/03	Thu 12/4/03	351					MEF[10%],DESF[10%]
353	1.1.3.2.1.1.1.3	QC readout module fixtures	2 w	Fri 12/5/03	Thu 12/18/03	352					MEF[50%],DESF[25%],CMMT,PHYSF[30%],CMMS
354	1.1.3.2.1.1.1.4	Finalize readout module fabrication fixtures	2 w	Fri 12/19/03	Mon 1/12/04	353					PHYSF[200%],DESF[150%],MEF[150%]
355	1.1.3.2.1.1.1.5	Procure remaining layer 0 module fixtures	16 w	Tue 1/13/04	Mon 5/3/04	354					MEF[10%],DESF[10%]
356	1.1.3.2.1.1.1.6	QC readout module fixtures	2 w	Tue 5/4/04	Mon 5/17/04	355					MEF[50%],DESF[25%],CMMT,PHYSF[30%],CMMS
357	1.1.3.2.1.1.2	L0 structures	149.8 w	Mon 8/6/01	Fri 8/6/04						
358	1.1.3.2.1.1.2.1	Materials R&D	22 w	Mon 8/6/01	Fri 1/18/02						MEU[25%],PHYSU[25%],MEF[15%],PHYSF[15%]
359	1.1.3.2.1.1.2.2	Design sensor supports	13 w	Mon 1/21/02	Fri 4/19/02	358	1.1.3.1.1,1.1.3.1.2,1.1.3.3.4(0.25)	RD	4RKK		PHYSU,MEU,DESU,PHYSF[20%],DESF[10%]
360	1.1.3.2.1.1.2.3	Design sensor support fabrication tooling	13 w	Mon 4/22/02	Tue 7/23/02	359	1.1.3.1.4	RD	4RKK		PHYSU,MEU,DESU,PHYSF[20%]
361	1.1.3.2.1.1.2.4	Design cooling tubes and connections	4 w	Mon 3/25/02	Fri 4/19/02	359FF					PHYSU,MEU,DESU,PHYSF[20%],DESF[10%],ME
362	1.1.3.2.1.1.2.5	Design support of readout	10 w	Mon 2/11/02	Fri 4/19/02	359FF					PHYSU,MEU,DESU,PHYSF[20%],DESF[10%]
363	1.1.3.2.1.1.2.6	Design connection to layer 1	10 w	Mon 4/22/02	Mon 7/1/02	362					PHYSU,MEU,DESU,PHYSF[20%],DESF[10%]
364	1.1.3.2.1.1.2.7	Procure prototype fabrication fixtures	12 w	Tue 7/2/02	Wed 9/25/02	361,363	1.1.3.1.3(0.1)	EQ			PHYSU[5%],MEU[10%]
365	1.1.3.2.1.1.2.8	Prototype sensor supports	8 w	Thu 9/26/02	Wed 11/20/02	358,359,364					PHYSU[30%],MEU[30%],MTU[30%],PHYSF[5%]
366	1.1.3.2.1.1.2.9	Prototype cooling tubes and connections	8 w	Thu 9/26/02	Wed 11/20/02	358,361,364,36					PHYSU[30%],MEU[30%],MTU[30%],PHYSF[5%]
367	1.1.3.2.1.1.2.10	Prototype support of readout	8 w	Thu 9/26/02	Wed 11/20/02	358,362,364,36					PHYSU[30%],MEU[30%],MTU[30%],PHYSF[5%]
368	1.1.3.2.1.1.2.11	Prototype connection to layer 1	4 w	Tue 7/2/02	Tue 7/30/02	363					PHYSU,MEU,MTU,PHYSF[25%]
369	1.1.3.2.1.1.2.12	Verify mechanical dimensions and precisio	3 w	Thu 11/21/02	Fri 12/13/02	365,366,367,36					PHYSU[50%],PHYSF[50%],MEU[50%],CMMT[50%]
370	1.1.3.2.1.1.2.13	Procure final fabrication fixtures	16 w	Mon 12/16/02	Tue 4/15/03	369	1.3.1.3(0.9),1.1.3.1.5,1.1.3.3.4(0.25)	EQ			PHYSU[5%],MEU[10%]
371	1.1.3.2.1.1.2.14	Procure materials for cooling and mechani	16 w	Mon 12/16/02	Tue 4/15/03	369	1.1.3.1.6,1.1.5.2(0.4)	EQ			DESU[5%],MEU[5%]
372	1.1.3.2.1.1.2.15	Fabricate south layer 0 mechanical assem	6 w	Wed 4/16/03	Wed 5/28/03	370,371,826					MEU,MTU,PHYSU[40%]
373	1.1.3.2.1.1.2.16	Verify mechanical dimensions and precisic	3 w	Thu 6/5/03	Wed 6/25/03	372FS+1 w					PHYSU[50%],PHYSF[50%],MEU[50%],CMMT[50%]
374	1.1.3.2.1.1.2.17	Layer 0 South Mechanical Assemblies Cor	0 w	Wed 6/25/03	Wed 6/25/03	373					
375	1.1.3.2.1.1.2.18	Mount sensor modules for layer 0, south	10 w	Thu 5/6/04	Fri 7/16/04	373,641SS+1 w					MTF,CMMT,PHYSF,PHYSU,DESF[10%],CMML,CM
376	1.1.3.2.1.1.2.19	Verify sensor alignment	1 w	Mon 7/19/04	Fri 7/23/04	375					PHYSF[50%],MTF,CMMT,PHYSU[50%],DESF[10%
377	1.1.3.2.1.1.2.20	Final electrical test of readout	2 w	Mon 7/26/04	Fri 8/6/04	376					PHYSF,PHYSU
378	1.1.3.2.1.2	L0 South Complete	0 w	Fri 8/6/04	Fri 8/6/04	377					
379	1.1.3.2.1.3	L1 Barrel	142.8 w	Mon 8/6/01	Thu 6/17/04						
380	1.1.3.2.1.3.1	L1 Readout module fixtures	52 w	Fri 1/3/03	Mon 1/19/04						
381	1.1.3.2.1.3.1.1	Design fixtures	12 w	Fri 1/3/03	Thu 3/27/03	143,70					PHYSU,MEF[50%],PHYSF,DESF,DESU[25%]
382	1.1.3.2.1.3.1.2	Procure initial layer 1 readout module fixtur	12 w	Fri 3/28/03	Fri 6/20/03	381					MEF[10%],DESF[10%]
383	1.1.3.2.1.3.1.3	QC readout module fixtures	2 w	Mon 6/23/03	Mon 7/7/03	382					MEF[50%],DESF[25%],CMMT,PHYSF[30%],CMMS
384	1.1.3.2.1.3.1.4	Finalize readout module fabrication fixtures	2 w	Tue 7/22/03	Mon 8/4/03	383,148					PHYSF[200%],DESF[150%],MEF[150%]
385	1.1.3.2.1.3.1.5	Procure remaining layer 1 module fixtures	20 w	Tue 8/5/03	Mon 1/5/04	384					MEF[10%],DESF[10%]
386	1.1.3.2.1.3.1.6	QC readout module fixtures	2 w	Tue 1/6/04	Mon 1/19/04	385					MEF[50%],DESF[25%],CMMT,PHYSF[30%],CMMS,
387	1.1.3.2.1.3.2	L1 structures	142.8 w	Mon 8/6/01	Thu 6/17/04						
388	1.1.3.2.1.3.2.1	Materials R&D	18 w	Mon 8/6/01	Wed 12/12/01						MEU[25%],PHYSU[25%],MEF[15%],PHYSF[15%]
389	1.1.3.2.1.3.2.2	Design sensor supports	13 w	Thu 12/13/01	Fri 3/22/02	388	1.1.3.2.1,1.1.3.2.2	RD	4RKK		PHYSU,MEU,DESU,PHYSF[20%],DESF[10%]
390	1.1.3.2.1.3.2.3	Design sensor support fabrication tooling	13 w	Mon 3/25/02	Mon 6/24/02	389	1.1.3.2.4	EQ			PHYSU,MEU,DESU,PHYSF[20%]
391	1.1.3.2.1.3.2.4	Design cooling tubes	4 w	Mon 2/25/02	Fri 3/22/02	389FF					PHYSU,MEU,DESU,PHYSF[20%],DESF[10%],ME
392	1.1.3.2.1.3.2.5	Design cooling tube connections	10 w	Mon 1/14/02	Fri 3/22/02	389FF					PHYSU,MEU,DESU,PHYSF[20%],DESF[5%]
393	1.1.3.2.1.3.2.6	Design connection to layer 2	9 w	Mon 3/25/02	Fri 5/24/02	392					PHYSU,MEU,DESU,PHYSF[20%],DESF[25%]
394	1.1.3.2.1.3.2.7	Procure prototype fabrication fixtures	12 w	Tue 5/28/02	Tue 8/20/02	391,393	1.1.3.2.3(0.1)	EQ			PHYSU[5%],MEU[10%]
395	1.1.3.2.1.3.2.8	Prototype sensor supports	8 w	Wed 8/21/02	Wed 10/16/02	394	1.1.3.3.4(0.25)				PHYSU[30%],MEU[30%],MTU[30%],PHYSF[5%]
396	1.1.3.2.1.3.2.9	Prototype cooling tubes	8 w	Thu 10/17/02	Fri 12/13/02	394,395					PHYSU[30%],MEU[30%],MTU[30%],PHYSF[5%]
397	1.1.3.2.1.3.2.10	Prototype cooling tube connections	1 d	Mon 12/16/02	Mon 12/16/02	394,396					PHYSU[30%],MEU[30%],MTU[30%],PHYSF[5%]
398	1.1.3.2.1.3.2.11	Prototype connection to layer 2	4 w	Mon 3/25/02	Fri 4/19/02	392					PHYSU,MEU,MTU,PHYSF[25%]
399	1.1.3.2.1.3.2.12	Verify mechanical dimensions and precisio	3 w	Tue 12/17/02	Wed 1/15/03	395,396,397,39					PHYSU[50%],PHYSF[50%],MEU[50%],CMMT[50%]
400	1.1.3.2.1.3.2.13	Procure final fabrication fixtures	16 w	Thu 1/16/03	Wed 5/7/03	399	1.3.2.3(0.9),1.1.3.2.5,1.1.3.3.4(0.25)	EQ			PHYSU[5%],MEU[10%]
401	1.1.3.2.1.3.2.14	Procure materials for cooling and mechani	16 w	Thu 1/16/03	Wed 5/7/03	399	1.1.3.2.6,1.1.3.3.1,1.1.3.3.2	EQ			DESU[5%],MEU[5%]
402	1.1.3.2.1.3.2.15	Fabricate south layer 1 mechanical assem	6 w	Thu 5/8/03	Thu 6/19/03	400,401					MEU,MTU,PHYSU[40%]
403	1.1.3.2.1.3.2.16	Verify mechanical dimensions and precisic	3 w	Fri 6/27/03	Fri 7/18/03	402FS+1 w					PHYSU[50%],PHYSF[50%],MEU[50%],CMMT[50%]
404	1.1.3.2.1.3.2.17	Layer 1 South Mechanical Assemblies Cor	0 w	Fri 7/18/03	Fri 7/18/03	403					
405	1.1.3.2.1.3.2.18	Mount sensor modules for layer 1, south	10 w	Thu 3/25/04	Thu 6/3/04	403,653SS+1 w					PHYSF,MTF,CMMT,PHYSU,DESF[10%],CMML,CM
406	1.1.3.2.1.3.2.19	Verify sensor alignment	1 w	Fri 6/4/04	Thu 6/10/04	405					PHYSF[50%],MTF,CMMT,PHYSU[50%],DESF[10%
407	1.1.3.2.1.3.2.20	Final electrical test of readout	1 w	Fri 6/11/04	Thu 6/17/04	406					PHYSF,PHYSU,SASEQTestStandF
408	1.1.3.2.1.4	L1 South Complete	0 w	Thu 6/17/04	Thu 6/17/04	407					
409	1.1.3.2.2	Mate layer 0 with layer 1, south	1 w	Mon 8/9/04	Fri 8/13/04	377,407	1.1.3.3.3	EQ			PHYSF,MTF,CMMT,PHYSU,CMML,CMMP[400%],M
410	1.1.3.2.3	Final electrical test of layers 0-1 south	2 w	Mon 8/16/04	Fri 8/27/04	409					PHYSF,PHYSU,SASEQTestStandF
411	1.1.3.2.4	L0-L1 South Complete	0 w	Fri 8/27/04	Fri 8/27/04	410					
412	1.1.3.2.5	L2-L5 barrel assembly	149 w	Mon 10/1/01	Mon 9/27/04						
413	1.1.3.2.5.1	L2-L5 readout module fixtures	95 w	Wed 2/20/02	Mon 1/19/04						
414	1.1.3.2.5.1.1	Procure CMM	8 w	Wed 2/20/02	Tue 4/16/02		1.1.3.12				

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
415	1.1.3.2.5.1.2	Design fixtures	12 w	Mon 3/4/02	Fri 5/24/02	164,81					PHYSU,MEF,PHYSF,DESF
416	1.1.3.2.5.1.3	Procure initial layer 2-5 readout module fixtures	12 w	Tue 5/28/02	Tue 8/20/02	415	).17),1.1.3.4.6(0.17),1.1.3.4.15(0.17)	RD	4RKL		MEF[10%],DESF[5%]
417	1.1.3.2.5.1.4	QC readout module fixtures	2 w	Wed 8/21/02	Wed 9/4/02	416					MEF[50%],DESF[25%],CMMT,PHYSF[30%],CMMS
418	1.1.3.2.5.1.5	Finalize readout module fabrication fixtures	2 w	Tue 7/22/03	Mon 8/4/03	417,174,89,661					PHYSF[200%],DESF[150%],MEF[150%]
419	1.1.3.2.5.1.6	Procure remaining layer 2-5 module fixtures	20 w	Tue 8/5/03	Mon 1/5/04	418	).83),1.1.3.4.6(0.83),1.1.3.4.15(0.83)	EQ			MEF[10%],DESF[5%]
420	1.1.3.2.5.1.7	QC readout module fixtures	2 w	Tue 1/6/04	Mon 1/19/04	419					MEF[50%],DESF[25%],CMMT,PHYSF[30%],CMMS
421	**1.1.3.2.5.2**	**Staves**	**142 w**	**Mon 10/1/01**	**Fri 8/6/04**						
422	1.1.3.2.5.2.1	Prototype Mechanical Stave	4 w	Wed 7/24/02	Tue 8/20/02	655					MEF[50%],DESF[10%],PHYSF[50%],MTF,CMMM
423	**1.1.3.2.5.2.2**	**Prototype Mechanical Stave built**	**0 w**	**Tue 8/20/02**	**Tue 8/20/02**	**422**					
424	1.1.3.2.5.2.3	Finalize stave design	2 w	Tue 7/8/03	Mon 7/21/03	435,479					PHYSF[200%],DESF[150%],MEF[150%]
425	**1.1.3.2.5.2.4**	**Stave cores**	**106 w**	**Thu 11/1/01**	**Thu 12/18/03**						
426	**1.1.3.2.5.2.4.1**	**Design & prototyping of stave cores**	**32 w**	**Thu 11/1/01**	**Wed 6/26/02**						
427	1.1.3.2.5.2.4.1.1	Design cooling tubes	12 w	Thu 11/1/01	Tue 2/5/02						PHYSF[50%],MEF[50%],DESF[50%]
428	1.1.3.2.5.2.4.1.2	Conduct cooling analyses and tests	8 w	Wed 2/6/02	Tue 4/2/02	427	1.1.3.4.1(.12)	RD	4RKL		PHYSF,MEF,MTF[50%]
429	1.1.3.2.5.2.4.1.3	Design stave hybrid mounting	6 w	Mon 3/4/02	Fri 4/12/02	164					PHYSF,MEF,DESF
430	1.1.3.2.5.2.4.1.4	Design stave core fiducial and locatin	12 w	Thu 11/1/01	Tue 2/5/02						PHYSF[50%],MEF[50%],DESF[50%]
431	1.1.3.2.5.2.4.1.5	Procure stave core prototype fixtures	12 w	Wed 2/6/02	Tue 4/30/02	430					MEF[10%]
432	1.1.3.2.5.2.4.1.6	Procure carbon fiber prepreg and othe	16 w	Wed 1/9/02	Tue 4/30/02	431FF	4.4(0.08),1.1.3.4.7(.12),1.1.3.7(0.16)	RD	4RKL		MEF[10%]
433	1.1.3.2.5.2.4.1.7	Fabricate prototype stave cores	4 w	Wed 5/1/02	Wed 5/29/02	432					PHYSF,MEF,MTF
434	1.1.3.2.5.2.4.1.8	Design and procure stave core QC fixt	6 w	Wed 4/17/02	Wed 5/29/02	433FF					MEF[50%],PHYSF[50%],DESF[50%]
435	1.1.3.2.5.2.4.1.9	QC prototype stave cores	2 w	Thu 5/30/02	Wed 6/12/02	434					CMMT[50%],MTF[50%],MEF[50%],CMMS[50%]
436	1.1.3.2.5.2.4.1.10	Conduct cooling tests	2 w	Thu 6/13/02	Wed 6/26/02	435					MEF[50%],MTF[50%]
437	**1.1.3.2.5.2.4.2**	**L4-L5 stave core fabrication**	**25 w**	**Mon 6/23/03**	**Thu 12/18/03**						
438	1.1.3.2.5.2.4.2.1	Procure stave core fixtures	12 w	Tue 7/22/03	Tue 10/14/03	424	1.1.3.4.4(0.46)	EQ			MEF[10%],DESF[10%]
439	1.1.3.2.5.2.4.2.2	Procure stave core materials	16 w	Mon 6/23/03	Tue 10/14/03	438FF	.1(0.44),1.1.3.4.2(0.44),1.1.3.7(0.42)	EQ			MEF[10%]
440	1.1.3.2.5.2.4.2.3	Fabricate stave cores	6 w	Wed 10/15/03	Tue 11/25/03	439,478					MTF[150%],MEF[10%],DESF[10%]
441	1.1.3.2.5.2.4.2.4	QC stave cores	3 w	Wed 11/26/03	Thu 12/18/03	440					CMMT[50%],MTF[50%],MEF[50%],CMMS
442	**1.1.3.2.5.2.4.3**	**L4-L5 Cores For South Complete**	**0 w**	**Thu 12/18/03**	**Thu 12/18/03**	**441**					
443	**1.1.3.2.5.2.4.4**	**L2-L3 stave core fabrication**	**25 w**	**Mon 6/23/03**	**Thu 12/18/03**						
444	1.1.3.2.5.2.4.4.1	Procure stave core fixtures	12 w	Tue 7/22/03	Tue 10/14/03	424	1.1.3.4.4(0.46)	EQ			MEF[10%],DESF[10%]
445	1.1.3.2.5.2.4.4.2	Procure stave core materials	16 w	Mon 6/23/03	Tue 10/14/03	444FF	.1(0.44),1.1.3.4.2(0.44),1.1.3.7(0.42)	EQ			MEF[10%]
446	1.1.3.2.5.2.4.4.3	Fabricate stave cores	6 w	Wed 10/15/03	Tue 11/25/03	445,478					MTF[150%],MEF[10%],DESF[10%]
447	1.1.3.2.5.2.4.4.4	QC stave cores	3 w	Wed 11/26/03	Thu 12/18/03	446					CMMT[50%],MTF[50%],MEF[50%],CMMS
448	**1.1.3.2.5.2.4.5**	**L2-L3 Cores For South Complete**	**0 w**	**Thu 12/18/03**	**Thu 12/18/03**	**447**					
449	**1.1.3.2.5.2.5**	**Stave core/hybrid modules**	**112.8 w**	**Mon 4/15/02**	**Fri 7/16/04**						
450	1.1.3.2.5.2.5.1	Design core/hybrid fabrication fixtures	12 w	Mon 4/15/02	Tue 7/9/02	429					PHYSF[200%],MEF[200%],MTF,DESF[200%]
451	1.1.3.2.5.2.5.2	Procure core/hybrid fabrication fixtures	12 w	Wed 7/10/02	Wed 10/2/02	450	1.1.3.4.7(0.88)	EQ			DESF[10%],MEF[10%],PHYSF[10%]
452	1.1.3.2.5.2.5.3	Fabricate prototype core/hybrid	4 w	Mon 10/14/02	Fri 11/8/02	433,451,169					PHYSF,MEF,MTF
453	**1.1.3.2.5.2.5.4**	**L4-L5**	**14.2 w**	**Wed 4/7/04**	**Fri 7/16/04**						
454	1.1.3.2.5.2.5.4.1	Install axial sensor modules on cores	5 w	Wed 4/7/04	Tue 5/11/04	447,671FS-4 w,					PHYSF[50%],MTF[50%],CMMT[50%],CMML,DESF
455	1.1.3.2.5.2.5.4.2	Verify alignment of sensor modules	2 w	Wed 5/12/04	Tue 5/25/04	454					PHYSF,CMMT,CMML,DESF[10%]
456	1.1.3.2.5.2.5.4.3	Install stereo sensor modules on core	3 w	Fri 6/11/04	Thu 7/1/04	455,740FS-2 w,					PHYSF[50%],MTF[50%],CMMT[50%],CMML,DESF
457	1.1.3.2.5.2.5.4.4	Verify alignment of sensor modules	2 w	Mon 7/5/04	Fri 7/16/04	456					PHYSF,CMMT,CMML,DESF[10%]
458	**1.1.3.2.5.2.5.5**	**L4-L5 Core/Hybrid Modules For South Com**	**0 w**	**Fri 7/16/04**	**Fri 7/16/04**	**457**					
459	**1.1.3.2.5.2.5.6**	**L2-L3**	**12 w**	**Thu 4/15/04**	**Fri 7/9/04**						
460	1.1.3.2.5.2.5.6.1	Install axial sensor modules on cores	5 w	Thu 4/15/04	Wed 5/19/04	447,671FS-6 w,					PHYSF[50%],MTF[50%],CMMT[50%],CMML,DESF
461	1.1.3.2.5.2.5.6.2	Verify alignment of sensor modules	2 w	Thu 5/20/04	Thu 6/3/04	460					PHYSF,CMMT,CMML,DESF[10%]
462	1.1.3.2.5.2.5.6.3	Install stereo sensor modules on core	3 w	Fri 6/4/04	Thu 6/24/04	461,740FS-5 w,					PHYSF[50%],MTF[50%],CMMT[50%],CMML,DESF
463	1.1.3.2.5.2.5.6.4	Verify alignment of sensor modules	2 w	Fri 6/25/04	Fri 7/9/04	462					PHYSF,CMMT,CMML,DESF[10%]
464	**1.1.3.2.5.2.5.7**	**L2-L3 Core/Hybrid Modules For South Com**	**0 w**	**Fri 7/9/04**	**Fri 7/9/04**	**463**					
465	**1.1.3.2.5.2.6**	**Stave shells**	**97.6 w**	**Mon 10/1/01**	**Tue 9/16/03**						
466	1.1.3.2.5.2.6.1	Design stave shells	24 w	Mon 10/1/01	Thu 3/28/02						PHYSF[50%],MEF[50%],DESF[10%]
467	1.1.3.2.5.2.6.2	Design and procure shell QC fixtures	6 w	Fri 3/29/02	Thu 5/9/02	466					PHYSF[25%],MEF[25%],DESF[10%]
468	1.1.3.2.5.2.6.3	Procure shell fabrication fixtures	16 w	Fri 3/29/02	Mon 7/22/02	466	1.1.3.4.8(0.25)	RD	4RKL		MEF[10%],DESF[10%]
469	1.1.3.2.5.2.6.4	Procure carbon fiber prepreg for shell protot	16 w	Fri 3/29/02	Mon 7/22/02	468FF	1.1.3.4.3(0.06)	RD	4RKL		MEF[10%]
470	1.1.3.2.5.2.6.5	Fabricate prototype stave shells	4 w	Tue 7/23/02	Mon 8/19/02	469					PHYSF,MEF,MTF,DESF[10%]
471	1.1.3.2.5.2.6.6	Procure carbon fiber prepreg for shells	16 w	Fri 3/28/03	Tue 7/22/03	472SF	1.1.3.4.3(0.94)	EQ			MEF[10%]
472	1.1.3.2.5.2.6.7	Fabricate stave shells	5 w	Tue 7/22/03	Mon 8/25/03	424					MTF,MEF[10%],DESF[10%]
473	1.1.3.2.5.2.6.8	QC stave shells	3 w	Tue 8/26/03	Tue 9/16/03	467,472					MTF,PHYSF[25%],DESF[10%]
474	**1.1.3.2.5.2.7**	**Stave Shells For South Complete**	**0 w**	**Tue 9/16/03**	**Tue 9/16/03**	**473**					
475	1.1.3.2.5.2.8	Design shell attachment fixtures	6 w	Mon 11/11/02	Fri 1/3/03	476SF					PHYSF[33%],MEF[33%],DESF[50%]
476	1.1.3.2.5.2.9	Procure shell attachment fixtures	12 w	Fri 1/3/03	Fri 3/28/03	477SF	1.1.3.4.8(0.75)	EQ			DESF[15%],MEF[25%],PHYSF[25%]
477	1.1.3.2.5.2.10	Fabricate prototype staves	4 w	Fri 3/28/03	Thu 4/24/03	452,470,422,66					PHYSF,MEF,MTF,DESF[10%]
478	1.1.3.2.5.2.11	Perform deflection tests on stave prototypes	8 w	Fri 4/25/03	Fri 6/20/03	477					PHYSF,MEF,CMML[50%],CMMP[25%],CMMT[25%]
479	1.1.3.2.5.2.12	Finalize stave fabrication fixtures	2 w	Mon 6/23/03	Mon 7/7/03	478	1.1.3.4.14	EQ			PHYSF[200%],DESF[150%],MEF[150%]
480	1.1.3.2.5.2.13	Fabricate L2-L3 staves	4 w	Fri 6/25/04	Fri 7/23/04	461,463FF+2 w					MTF,CMMT,PHYSU,PHYSF,DESF[10%],CMML
481	1.1.3.2.5.2.14	Test L2-L3 staves	3 w	Mon 7/12/04	Fri 7/30/04	480FF+1 w					PHYSU,PHYSF,SASEQTestStandF
482	1.1.3.2.5.2.15	Fabricate L4-L5 staves	4 w	Mon 7/5/04	Fri 7/30/04	455,457FF+2 w					MTF,CMMT,PHYSU,PHYSF,DESF[10%],CMML
483	1.1.3.2.5.2.16	Test L4-L5 staves	3 w	Mon 7/19/04	Fri 8/6/04	482FF+1 w					PHYSU,PHYSF,SASEQTestStandF

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
484	1.1.3.2.5.3	South Staves Complete	0 w	Fri 7/30/04	Fri 7/30/04	480,482					
485	1.1.3.2.5.4	Align south support cylinder in fixture on CMM	1 w	Mon 7/26/04	Fri 7/30/04	483FF-1 w,611					PHYSF,MTF,CMMT,DESF[10%],CMML
486	1.1.3.2.5.5	Install staves in south support cylinder	4 w	Mon 8/2/04	Fri 8/27/04	483SS+1 w,485					MEF[25%],MTF[50%],CMMT[50%],CMML,PHYSF[2
487	1.1.3.2.5.6	Verify stave alignment	1 w	Mon 8/30/04	Fri 9/3/04	486					MTF[50%],CMMT[50%],CMML,PHYSF[25%],PHYS
488	1.1.3.2.5.7	Final electrical test of south layers 2-5	3 w	Tue 9/7/04	Mon 9/27/04	487					PHYSF,PHYSU,SASEQTestStandF
489	1.1.3.2.6	Layer 2-5 South Complete	0 w	Mon 9/27/04	Mon 9/27/04	488					
490	1.1.3.2.7	Mate L0-L1 with L2-L5, south	2 w	Tue 9/28/04	Mon 10/11/04	411,489					PHYSF[150%],MEF[150%],MTF[150%],CMMT[150%
491	1.1.3.2.8	Install purge gas system, south	0.6 w	Tue 10/12/04	Thu 10/14/04	490,623					MEF,MTF
492	1.1.3.2.9	Install dew point sensors, south	0.2 w	Fri 10/15/04	Fri 10/15/04	491,624					MEF,MTF
493	1.1.3.2.10	Install and check cooling system, south	2 w	Mon 10/18/04	Fri 10/29/04	492,621					PHYSF,MEF,MTF
494	1.1.3.2.11	Final electrical test of south silicon	3 w	Mon 11/1/04	Fri 11/19/04	493					PHYSF,PHYSU,SASEQTestStandF
495	1.1.3.3	South Silicon Complete	0 w	Fri 11/19/04	Fri 11/19/04	494					
496	1.1.3.4	North silicon barrel assembly	97.4 w	Thu 5/29/03	Wed 5/11/05						
497	1.1.3.4.1	L0-L1 barrel assembly	68.8 w	Thu 5/29/03	Mon 10/11/04						
498	1.1.3.4.1.1	L0 Barrel	68.8 w	Thu 5/29/03	Mon 10/11/04						
499	1.1.3.4.1.1.1	L0 structures	68.8 w	Thu 5/29/03	Mon 10/11/04						
500	1.1.3.4.1.1.1.1	Fabricate north layer 0 mechanical assemb	6 w	Thu 5/29/03	Thu 7/10/03	372					MEU,MTU,PHYSU[40%]
501	1.1.3.4.1.1.1.2	Verify mechanical dimensions and precisic	3 w	Fri 7/18/03	Thu 8/7/03	500FS+1 w					PHYSU[50%],PHYSF[50%],MEU[50%],CMMT[50%
502	1.1.3.4.1.1.1.3	L0 North Mechanical Assemblies Complet	0 w	Thu 8/7/03	Thu 8/7/03	501					
503	1.1.3.4.1.1.1.4	Mount sensor modules for layer 0, north	10 w	Mon 7/12/04	Mon 9/20/04	501,641SS+10					MTF,CMMT,PHYSF,PHYSU,DESF[10%],CMML
504	1.1.3.4.1.1.1.5	Verify sensor alignment	1 w	Tue 9/21/04	Mon 9/27/04	503					PHYSF[50%],MTF,CMMT,PHYSU[50%],DESF[10%
505	1.1.3.4.1.1.1.6	Final electrical test of readout	2 w	Tue 9/28/04	Mon 10/11/04	504					PHYSF,PHYSU,SASEQTestStandF
506	1.1.3.4.1.2	L0 North Complete	0 w	Mon 10/11/04	Mon 10/11/04	505					
507	1.1.3.4.1.3	L1 Barrel	52.6 w	Mon 7/21/03	Fri 8/6/04						
508	1.1.3.4.1.3.1	L1 structures	52.6 w	Mon 7/21/03	Fri 8/6/04						
509	1.1.3.4.1.3.1.1	Fabricate north layer 1 mechanical assemb	6 w	Mon 7/21/03	Fri 8/29/03	403					MEU,MTU,PHYSU[40%]
510	1.1.3.4.1.3.1.2	Verify mechanical dimensions and precisic	3 w	Tue 9/9/03	Mon 9/29/03	509FS+1 w					PHYSU[50%],PHYSF[50%],MEU[50%],CMMT[50%
511	1.1.3.4.1.3.1.3	L1 North Mechanical Assemblies Complet	0 w	Mon 9/29/03	Mon 9/29/03	510					
512	1.1.3.4.1.3.1.4	Mount sensor modules for layer 1, north	10 w	Thu 5/13/04	Fri 7/23/04	510,653SS+8 w					PHYSF,MTF,CMMT,PHYSU,DESF[25%]
513	1.1.3.4.1.3.1.5	Verify sensor alignment	1 w	Mon 7/26/04	Fri 7/30/04	512					PHYSF[50%],MTF,CMMT,PHYSU[50%],DESF[10%
514	1.1.3.4.1.3.1.6	Final electrical test of readout	1 w	Mon 8/2/04	Fri 8/6/04	513					PHYSF,PHYSU,SASEQTestStandF
515	1.1.3.4.1.4	L1 North Complete	0 w	Fri 8/6/04	Fri 8/6/04	514					
516	1.1.3.4.2	Mate layer 0 with layer 1, north	1 w	Tue 10/12/04	Mon 10/18/04	505,514					PHYSF,MTF,CMMT,PHYSU,CMML
517	1.1.3.4.3	Final electrical test of layers 0-1 north	1 w	Tue 10/19/04	Mon 10/25/04	516					PHYSF,PHYSU,SASEQTestStandF
518	1.1.3.4.4	L0-L1 North Complete	0 w	Mon 10/25/04	Mon 10/25/04	517					
519	1.1.3.4.5	L2-L5 barrel assembly	74.2 w	Wed 9/17/03	Thu 3/17/05						
520	1.1.3.4.5.1	Staves	69.6 w	Wed 9/17/03	Mon 2/14/05						
521	1.1.3.4.5.1.1	Stave cores	6 w	Fri 12/19/03	Mon 2/9/04						
522	1.1.3.4.5.1.1.1	L4-L5 stave core fabrication	6 w	Fri 12/19/03	Mon 2/9/04						
523	1.1.3.4.5.1.1.1.1	Fabricate stave cores	4 w	Fri 12/19/03	Mon 1/26/04	441					MTF[150%],MEF[10%]
524	1.1.3.4.5.1.1.1.2	QC stave cores	2 w	Tue 1/27/04	Mon 2/9/04	523					CMMT[50%],MTF[50%],MEF[50%],CMMS
525	1.1.3.4.5.1.1.2	L4-L5 Cores For North Complete	0 w	Mon 2/9/04	Mon 2/9/04	524					
526	1.1.3.4.5.1.1.3	L2-L3 stave core fabrication	6 w	Fri 12/19/03	Mon 2/9/04						
527	1.1.3.4.5.1.1.3.1	Fabricate stave cores	4 w	Fri 12/19/03	Mon 1/26/04	447					MTF[150%],MEF[10%]
528	1.1.3.4.5.1.1.3.2	QC stave cores	2 w	Tue 1/27/04	Mon 2/9/04	527					CMMT[50%],MTF[50%],MEF[50%],CMMS
529	1.1.3.4.5.1.1.4	L2-L3 Cores For North Complete	0 w	Mon 2/9/04	Mon 2/9/04	528					
530	1.1.3.4.5.1.2	Stave core/hybrid modules	18 w	Wed 9/8/04	Mon 1/24/05						
531	1.1.3.4.5.1.2.1	L4-L5	14.6 w	Wed 9/8/04	Tue 12/21/04						
532	1.1.3.4.5.1.2.1.1	Install axial sensor modules on cores	5 w	Wed 9/8/04	Tue 10/12/04	524,455,681FS					PHYSF[50%],MTF[50%],CMMT[50%],CMML
533	1.1.3.4.5.1.2.1.2	Verify alignment of sensor modules	2 w	Wed 10/13/04	Tue 10/26/04	532					PHYSF,CMMT,CMML
534	1.1.3.4.5.1.2.1.3	Install stereo sensor modules on core	3 w	Mon 11/15/04	Tue 12/7/04	533,457,750FS					PHYSF[50%],MTF[50%],CMMT[50%],CMML
535	1.1.3.4.5.1.2.1.4	Verify alignment of sensor modules	2 w	Wed 12/8/04	Tue 12/21/04	534					PHYSF,CMMT,CMML
536	1.1.3.4.5.1.2.2	L4-L5 Core/Hybrid Modules For North Com	0 w	Tue 12/21/04	Tue 12/21/04	535					
537	1.1.3.4.5.1.2.3	L2-L3	12 w	Wed 10/20/04	Mon 1/24/05						
538	1.1.3.4.5.1.2.3.1	Install axial sensor modules on cores	5 w	Wed 10/20/04	Tue 11/23/04	528,461,681FS					PHYSF[50%],MTF[50%],CMMT[50%],CMML
539	1.1.3.4.5.1.2.3.2	Verify alignment of sensor modules	2 w	Wed 11/24/04	Thu 12/9/04	538					PHYSF,CMMT,CMML
540	1.1.3.4.5.1.2.3.3	Install stereo sensor modules on core	3 w	Fri 12/10/04	Mon 1/10/05	539,463,750FS					PHYSF[50%],MTF[50%],CMMT[50%],CMML
541	1.1.3.4.5.1.2.3.4	Verify alignment of sensor modules	2 w	Tue 1/11/05	Mon 1/24/05	540					PHYSF,CMMT,CMML
542	1.1.3.4.5.1.2.4	L2-L3 Core/Hybrid Modules For North Com	0 w	Mon 1/24/05	Mon 1/24/05	541					
543	1.1.3.4.5.1.3	Stave shells	8 w	Wed 9/17/03	Tue 11/11/03						
544	1.1.3.4.5.1.3.1	Fabricate stave shells	5 w	Wed 9/17/03	Tue 10/21/03	474					MTF,MEF[10%]
545	1.1.3.4.5.1.3.2	QC stave shells	3 w	Wed 10/22/03	Tue 11/11/03	544					MTF,PHYSF[25%]
546	1.1.3.4.5.1.4	Stave Shells For North Complete	0 w	Tue 11/11/03	Tue 11/11/03	545					
547	1.1.3.4.5.1.5	Fabricate L2-L3 staves	4 w	Tue 1/11/05	Mon 2/7/05	539,541FF+2 w					MTF,CMMT,PHYSU,PHYSF,CMML
548	1.1.3.4.5.1.6	Test L2-L3 staves	3 w	Tue 1/25/05	Mon 2/14/05	547FF+1 w					PHYSU,PHYSF,SASEQTestStandF
549	1.1.3.4.5.1.7	Fabricate L4-L5 staves	4 w	Wed 12/8/04	Thu 1/13/05	533,535FF+2 w					MTF,CMMT,PHYSU,PHYSF,CMML
550	1.1.3.4.5.1.8	Test L4-L5 staves	3 w	Wed 12/22/04	Thu 1/20/05	549FF+1 w					PHYSU,PHYSF,SASEQTestStandF
551	1.1.3.4.5.2	North Staves Complete	0 w	Mon 2/7/05	Mon 2/7/05	547,549					
552	1.1.3.4.5.3	Align north support cylinder in fixture on CMM	1 w	Fri 1/14/05	Thu 1/20/05	549					PHYSF,MTF,CMMT,CMML

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
553	1.1.3.4.5.4	Install staves in north support cylinder	4 w	Fri 1/21/05	Thu 2/17/05	552					MEF[25%],MTF[50%],CMMT[50%],CMML,PHYSF[2
554	1.1.3.4.5.5	Verify stave alignment	1 w	Fri 2/18/05	Thu 2/24/05	553					MTF[50%],CMMT[50%],CMML,PHYSF[25%],PHYS
555	1.1.3.4.5.6	Final electrical test of north layers 2-5	3 w	Fri 2/25/05	Thu 3/17/05	554					PHYSF,PHYSU,SASEQTestStandF
556	1.1.3.4.6	Layer 2-5 North Complete	0 w	Thu 3/17/05	Thu 3/17/05	555					
557	1.1.3.4.7	Mate L0-L1 with L2-L5, north	2 w	Fri 3/18/05	Thu 3/31/05	516,555					PHYSF[150%],MEF[150%],MTF[150%],CMMT[150%
558	1.1.3.4.8	Install purge gas system, north	0.6 w	Fri 4/1/05	Tue 4/5/05	557,623					MEF,MTF
559	1.1.3.4.9	Install dew point sensors, north	0.2 w	Wed 4/6/05	Wed 4/6/05	558,624					MEF,MTF
560	1.1.3.4.10	Install and check cooling system, north	2 w	Thu 4/7/05	Wed 4/20/05	559,621					PHYSF,MEF,MTF
561	1.1.3.4.11	Final electrical test of north silicon	3 w	Thu 4/21/05	Wed 5/11/05	560					PHYSF,PHYSU,SASEQTestStandF
562	1.1.3.5	North Silicon Complete	0 w	Wed 5/11/05	Wed 5/11/05	561					
563	1.1.3.6	Prepare for shipment	1 w	Thu 5/12/05	Wed 5/18/05	561,494					MTF[200%],MEF,PHYSF
564	1.1.3.7	Silicon Ready To Move To DAB	0 w	Wed 5/18/05	Wed 5/18/05	563					
565	1.1.3.8	Cylinders	102 w	Mon 4/15/02	Thu 4/29/04						
612	1.1.3.9	Support Structures Within CFT Barrel 3	16 w	Mon 6/17/02	Tue 10/8/02						
615	1.1.3.10	Develop cable routing plan	12 w	Thu 12/13/01	Fri 3/15/02	262FF-2 w					PHYSU[25%],MEF[25%],DESF[25%],PHYSF[10%]
616	1.1.3.11	Coolant distribution system	54 w	Wed 9/4/02	Thu 10/2/03						
622	1.1.3.12	Dry gas distribution system	6 w	Fri 10/3/03	Thu 11/13/03						
624	1.1.3.13	Prepare controls, monitoring, and interlocks	6 w	Fri 11/14/03	Wed 1/7/04	621,623	1.1.3.10	EQ			PHYSF,MEF,MTF
625	1.1.3.14	Cooling And Dry Gas Systems Ready For Installation	0 w	Wed 1/7/04	Wed 1/7/04	624					
626	1.1.3.15	Review mechanical systems for pORC	2 w	Tue 12/16/03	Wed 1/7/04	625SF					
627	1.1.4	Detector Production and Testing	153.8 w	Mon 10/29/01	Tue 11/30/04						
628	1.1.4.1	Develop module burn-in stands	8 w	Tue 8/19/03	Tue 10/14/03	288	1.1.4.3-1.1.4.5	EQ			PHYSF,EEF,MTF,ETF,DESF[50%]
629	1.1.4.2	L0 Modules	64.4 w	Fri 5/16/03	Fri 8/27/04						
630	1.1.4.2.1	Develop module prototype	12 w	Fri 5/16/03	Mon 8/11/03	39,118,103,191	1.1.4.6(0.67),1.1.4.8	EQ			PHYSF,MTF,MEF[50%],DESF[50%]
631	1.1.4.2.2	L0 Module Production Begun	0 w	Tue 2/10/04	Tue 2/10/04	632SS					
632	1.1.4.2.3	Align and glue sensor to flex cable	16 w	Tue 2/10/04	Tue 6/1/04	50SS+2 w,197,					MTF[20%],PHYSF[25%]
633	1.1.4.2.4	Perform sensor-to-flex cable wirebonds	16 w	Wed 2/11/04	Wed 6/2/04	632SS+1 d					WBNDR[50%],WBNDRT[50%],PHYSF[25%]
634	1.1.4.2.5	Attach end hybrids to flex cable	16 w	Tue 3/23/04	Wed 7/14/04	633SS+2 d,135					
635	1.1.4.2.6	Wirebond end hybrid to flex cable	16 w	Wed 3/24/04	Thu 7/15/04	634SS+1 d					WBNDR[50%],WBNDRT[50%],PHYSF[25%]
636	1.1.4.2.7	L0 Module Production Complete	0 w	Thu 7/15/04	Thu 7/15/04	635					
637	1.1.4.2.8	Develop sensor module burn-in tests	2 w	Thu 3/18/04	Thu 4/1/04	628,639SF					PHYSU,EEU[20%],ModuleBurnInStand
638	1.1.4.2.9	Debug sensor modules	16 w	Thu 3/25/04	Fri 7/16/04	635SS+1 d					PHYSF[50%],MTF[50%],SASEQTestStandF[50%]
639	1.1.4.2.10	Burn-in sensor modules	16 w	Thu 4/1/04	Fri 7/23/04	638SS+1 w					PHYSU[20%],ModuleBurnInStand[20%]
640	1.1.4.2.11	Evaluate and repair sensor modules	17 w	Thu 4/15/04	Fri 8/13/04	639SS+2 w					PHYSU[200%],ETF,SASEQTestStandF[200%],W
641	1.1.4.2.12	Perform quality assurance tests	17 w	Thu 4/29/04	Fri 8/27/04	640SS+2 w					PHYSU[200%],ETF[50%],SASEQTestStandF[200
642	1.1.4.2.13	L0 Module Testing Complete	0 w	Fri 8/27/04	Fri 8/27/04	641					
643	1.1.4.3	L1 Modules	98.4 w	Fri 7/5/02	Thu 6/24/04						
655	1.1.4.4	Fabricate mechanical module prototypes	4 w	Tue 6/25/02	Tue 7/23/02	165					PHYSF,MTF,MEF[50%],DESF[25%],CMMS
656	1.1.4.5	Fabricate south axial 20 cm sensor gangs	5 w	Tue 8/19/03	Tue 9/23/03	96SS+15%					CMMS[600%],CMMT[60%],MTF[60%],PHYSF[50%]
657	1.1.4.6	Fabricate south stereo 20 cm sensor gangs	5 w	Mon 10/27/03	Tue 12/2/03	656,96SS+30%					CMMS[600%],CMMT[60%],MTF[60%],PHYSF[50%]
658	1.1.4.7	Fabricate north axial 20 cm sensor gangs	5 w	Thu 5/27/04	Thu 7/1/04	96SS+75%,759					CMMS[600%],CMMT[60%],MTF[60%],PHYSF[50%]
659	1.1.4.8	Fabricate north stereo 20 cm sensor gangs	5 w	Thu 8/5/04	Thu 9/9/04	658,96SS+90%					CMMS[600%],CMMT[60%],MTF[60%],PHYSF[50%]
660	1.1.4.9	10/10 Axial Modules	98 w	Mon 9/30/02	Thu 9/16/04						
661	1.1.4.9.1	Develop electrical module prototype	12 w	Mon 9/30/02	Thu 1/2/03	85SS+2 w,169	1.1.4.10	EQ			PHYSF,MTF,MEF[50%],DESF[50%]
662	1.1.4.9.2	Develop sensor module burn-in tests	2 w	Wed 10/15/03	Tue 10/28/03	661,628	1.1.4.7(0.88)	EQ			PHYSU,EEU[20%],ModuleBurnInStand
663	1.1.4.9.3	South	12.4 w	Tue 2/3/04	Wed 4/28/04						
664	1.1.4.9.3.1	10/10 South Axial Module Production Begun	0 w	Tue 2/3/04	Tue 2/3/04	665SS					
665	1.1.4.9.3.2	Align and glue sensors to hybrid	8 w	Tue 2/3/04	Mon 3/29/04	661,96SS+15%					PHYSF[50%],CMMS[200%],CMMT[25%],MTF[25%]
666	1.1.4.9.3.3	Wirebond sensors to hybrid	8 w	Wed 2/4/04	Tue 3/30/04	665SS+1 d					WBNDR[50%],WBNDRT[50%],PHYSF[25%],MTF[
667	1.1.4.9.3.4	10/10 South Axial Module Production Complete	0 w	Tue 3/30/04	Tue 3/30/04	666					
668	1.1.4.9.3.5	Debug sensor module	8 w	Thu 2/5/04	Wed 3/31/04	666SS+1 d					PHYSF[50%],MTF[25%],SASEQTestStandF[50%]
669	1.1.4.9.3.6	Burn-in sensor modules	8 w	Thu 2/12/04	Wed 4/7/04	668SS+1 w					PHYSU,ModuleBurnInStand[50%]
670	1.1.4.9.3.7	Evaluate and repair sensor modules	7 w	Thu 2/26/04	Wed 4/14/04	669SS+2 w					PHYSU[50%],ETF[50%],SASEQTestStandF[50%]
671	1.1.4.9.3.8	Perform quality assurance tests	7 w	Thu 3/11/04	Wed 4/28/04	670SS+2 w					PHYSU[50%],ETF[25%],SASEQTestStandF[50%]
672	1.1.4.9.3.9	10/10 South Axial Module Testing Complete	0 w	Wed 4/28/04	Wed 4/28/04	671					
673	1.1.4.9.4	North	12.4 w	Mon 6/21/04	Thu 9/16/04						
674	1.1.4.9.4.1	10/10 North Axial Module Production Begun	0 w	Mon 6/21/04	Mon 6/21/04	675SS					
675	1.1.4.9.4.2	Align and glue sensors to hybrid	8 w	Mon 6/21/04	Mon 8/16/04	759,96SS+80%					PHYSF[50%],CMMS[200%],CMMT[25%],MTF[25%]
676	1.1.4.9.4.3	Wirebond sensors to hybrid	8 w	Tue 6/22/04	Tue 8/17/04	675SS+1 d					WBNDR[50%],WBNDRT[50%],PHYSF[25%],MTF[
677	1.1.4.9.4.4	10/10 North Axial Module Production Complete	0 w	Tue 8/17/04	Tue 8/17/04	676					
678	1.1.4.9.4.5	Debug sensor modules	8 w	Wed 6/23/04	Wed 8/18/04	676SS+1 d					PHYSF[50%],MTF[25%],SASEQTestStandF[50%]
679	1.1.4.9.4.6	Burn-in sensor modules	8 w	Wed 6/30/04	Wed 8/25/04	678SS+1 w					PHYSU,ModuleBurnInStand[50%]
680	1.1.4.9.4.7	Evaluate and repair sensor modules	7 w	Thu 7/15/04	Wed 9/1/04	679SS+2 w					PHYSU[50%],ETF[50%],WBNDRT[10%],WBNDR[
681	1.1.4.9.4.8	Perform quality assurance tests	7 w	Thu 7/29/04	Thu 9/16/04	680SS+2 w					PHYSU[50%],ETF[25%],SASEQTestStandF[50%]
682	1.1.4.9.4.9	10/10 North Axial Module Testing Complete	0 w	Thu 9/16/04	Thu 9/16/04	681					
683	1.1.4.10	10/20 Axial Modules	100.6 w	Mon 10/28/02	Tue 11/2/04						
684	1.1.4.10.1	Develop electrical module prototype	4 w	Mon 10/28/02	Fri 11/22/02	85SS+2 w,169					PHYSF,MTF,MEF[50%],DESF[50%]
685	1.1.4.10.2	Develop sensor module burn-in tests	2 w	Wed 10/15/03	Tue 10/28/03	684,628					PHYSU,EEU[20%]
686	1.1.4.10.3	South	9.4 w	Tue 3/2/04	Wed 5/5/04						

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
687	1.1.4.10.3.1	10/20 South Axial Module Production Begun	0 w	Tue 3/2/04	Tue 3/2/04	688SS					
688	1.1.4.10.3.2	Align and glue sensors to hybrid	5 w	Tue 3/2/04	Mon 4/5/04	684,96SS+50%					PHYSF[50%],CMMS[200%],CMMT[25%],MTF[25%]
689	1.1.4.10.3.3	Wirebond sensors to hybrid	5 w	Wed 3/3/04	Tue 4/6/04	688SS+1 d					WBNDR[50%],WBNDRT[50%],PHYSF[25%],MTF[
690	1.1.4.10.3.4	10/20 South Axial Module Production Complete	0 w	Tue 4/6/04	Tue 4/6/04	689					
691	1.1.4.10.3.5	Debug sensor module	5 w	Thu 3/4/04	Wed 4/7/04	689SS+1 d					PHYSF[50%],MTF[25%],SASEQTestStandF[50%]
692	1.1.4.10.3.6	Burn-in sensor modules	5 w	Thu 3/11/04	Wed 4/14/04	691SS+1 w,628					PHYSU,ModuleBurnInStand[50%]
693	1.1.4.10.3.7	Evaluate and repair sensor modules	4 w	Thu 3/25/04	Wed 4/21/04	692SS+2 w					PHYSU[50%],ETF[50%],WBNDRT[10%],WBNDR[
694	1.1.4.10.3.8	Perform quality assurance tests	4 w	Thu 4/8/04	Wed 5/5/04	693SS+2 w					ETF[25%],PHYSU[50%],SASEQTestStandF[50%]
695	1.1.4.10.3.9	10/20 South Axial Module Testing Complete	0 w	Wed 5/5/04	Wed 5/5/04	694					
696	1.1.4.10.4	North	9.4 w	Fri 8/27/04	Tue 11/2/04						
697	1.1.4.10.4.1	10/20 North Axial Module Production Begun	0 w	Fri 8/27/04	Fri 8/27/04	698SS					
698	1.1.4.10.4.2	Align and glue sensors to hybrid	5 w	Fri 8/27/04	Fri 10/1/04	96SS+95%,186					PHYSF[50%],CMMS[200%],CMMT[25%],MTF[25%]
699	1.1.4.10.4.3	Wirebond sensors to hybrid	5 w	Mon 8/30/04	Mon 10/4/04	698SS+1 d					WBNDR[50%],WBNDRT[50%],PHYSF[25%],MTF[
700	1.1.4.10.4.4	10/20 North Axial Module Production Complete	0 w	Mon 10/4/04	Mon 10/4/04	699					
701	1.1.4.10.4.5	Debug sensor module	5 w	Tue 8/31/04	Tue 10/5/04	699SS+1 d					PHYSF[50%],MTF[25%],SASEQTestStandF[50%]
702	1.1.4.10.4.6	Burn-in sensor modules	5 w	Wed 9/8/04	Tue 10/12/04	701SS+1 w					PHYSU,ModuleBurnInStand[50%]
703	1.1.4.10.4.7	Evaluate and repair sensor modules	4 w	Wed 9/22/04	Tue 10/19/04	702SS+2 w					PHYSU[50%],ETF[50%],WBNDRT[10%],WBNDR[
704	1.1.4.10.4.8	Perform quality assurance tests	4 w	Wed 10/6/04	Tue 11/2/04	703SS+2 w					ETF[25%],PHYSU[50%],SASEQTestStandF[50%]
705	1.1.4.10.4.9	10/20 North Axial Module Testing Complete	0 w	Tue 11/2/04	Tue 11/2/04	704					
706	1.1.4.11	20/20 Axial Modules	96.6 w	Mon 10/14/02	Tue 9/21/04						
707	1.1.4.11.1	Develop electrical module prototype	4 w	Mon 10/14/02	Fri 11/8/02	85SS+2 w,169	1.1.4.11	EQ			PHYSF,MTF,MEF[50%],DESF[50%]
708	1.1.4.11.2	Develop sensor module burn-in tests	2 w	Wed 10/15/03	Tue 10/28/03	707,628					PHYSU,EEU,MTU
709	1.1.4.11.3	South	11.2 w	Tue 2/10/04	Tue 4/27/04						
710	1.1.4.11.3.1	20/20 South Axial Module Production Begun	0 w	Tue 2/10/04	Tue 2/10/04	711SS					
711	1.1.4.11.3.2	Align and glue sensors to hybrid	4 w	Tue 2/10/04	Mon 3/8/04	707,186SS+4 w					PHYSF,CMMS[400%],CMMT[50%],MTF[50%]
712	1.1.4.11.3.3	Wirebond sensors to hybrid	4 w	Tue 2/24/04	Mon 3/22/04	711SS+2 w					WBNDR,WBNDRT,PHYSF[25%],MTF[50%]
713	1.1.4.11.3.4	20/20 South Axial Module Production Complete	0 w	Mon 3/22/04	Mon 3/22/04	712					
714	1.1.4.11.3.5	Debug sensor modules	4 w	Wed 2/25/04	Tue 3/23/04	712SS+1 d					PHYSF,MTF[50%],SASEQTestStandF
715	1.1.4.11.3.6	Burn-in sensor modules	4 w	Wed 3/3/04	Tue 3/30/04	714SS+1 w					PHYSU[200%],ModuleBurnInStand
716	1.1.4.11.3.7	Evaluate and repair sensor modules	4 w	Wed 3/17/04	Tue 4/13/04	715SS+2 w					PHYSU,ETF,WBNDRT[20%],WBNDR[20%],SASE
717	1.1.4.11.3.8	Perform quality assurance tests	4 w	Wed 3/31/04	Tue 4/27/04	716SS+2 w					PHYSU,ETF[50%],SASEQTestStandF
718	1.1.4.11.3.9	20/20 South Axial Module Testing Complete	0 w	Tue 4/27/04	Tue 4/27/04	717					
719	1.1.4.11.4	North	11.2 w	Mon 7/5/04	Tue 9/21/04						
720	1.1.4.11.4.1	20/20 North Axial Module Production Begun	0 w	Mon 7/5/04	Mon 7/5/04	721SS					
721	1.1.4.11.4.2	Align and glue sensors to hybrid	4 w	Mon 7/5/04	Fri 7/30/04	658,186SS+12					PHYSF,CMMS[400%],CMMT[50%],MTF[50%]
722	1.1.4.11.4.3	Wirebond sensors to hybrid	4 w	Mon 7/19/04	Fri 8/13/04	721SS+2 w					WBNDR,WBNDRT,PHYSF[25%],MTF[50%]
723	1.1.4.11.4.4	20/20 North Axial Module Production Complete	0 w	Fri 8/13/04	Fri 8/13/04	722					
724	1.1.4.11.4.5	Debug sensor modules	4 w	Tue 7/20/04	Mon 8/16/04	722SS+1 d					PHYSF,MTF[50%],SASEQTestStandF
725	1.1.4.11.4.6	Burn-in sensor modules	4 w	Tue 7/27/04	Mon 8/23/04	724SS+1 w					PHYSU[200%],ModuleBurnInStand
726	1.1.4.11.4.7	Evaluate and repair sensor modules	4 w	Tue 8/10/04	Tue 9/7/04	725SS+2 w					PHYSU,ETF,WBNDRT[20%],WBNDR[20%],SASE
727	1.1.4.11.4.8	Perform quality assurance tests	4 w	Tue 8/24/04	Tue 9/21/04	726SS+2 w					PHYSU,ETF[50%],SASEQTestStandF
728	1.1.4.11.4.9	20/20 North Axial Module Testing Complete	0 w	Tue 9/21/04	Tue 9/21/04	727					
729	1.1.4.12	10/10 Stereo Modules	95.4 w	Fri 1/3/03	Mon 11/22/04						
730	1.1.4.12.1	Develop electrical module prototype	8 w	Fri 1/3/03	Thu 2/27/03	85SS+2 w,169					PHYSF,MTF,MEF[50%],DESF[50%]
731	1.1.4.12.2	Develop sensor module burn-in tests	2 w	Wed 10/15/03	Tue 10/28/03	730,628					PHYSU,EEU[20%],MTO[20%]
732	1.1.4.12.3	South	12.2 w	Wed 3/31/04	Thu 6/24/04						
733	1.1.4.12.3.1	10/10 South Stereo Module Production Begun	0 w	Wed 3/31/04	Wed 3/31/04	734SS					
734	1.1.4.12.3.2	Align and glue sensors to hybrid	7 w	Wed 3/31/04	Tue 5/18/04	730,96SS+50%					PHYSF[50%],CMMS[200%],CMMT[25%],MTF[25%]
735	1.1.4.12.3.3	Wirebond sensors to hybrid	7 w	Wed 4/7/04	Tue 5/25/04	734SS+1 w					WBNDR[50%],WBNDRT[50%],PHYSF[25%],MTF[
736	1.1.4.12.3.4	10/10 South Stereo Production Complete	0 w	Tue 5/25/04	Tue 5/25/04	735					
737	1.1.4.12.3.5	Debug sensor modules	7 w	Thu 4/8/04	Wed 5/26/04	735SS+1 d					PHYSF[50%],MTF[25%],SASEQTestStandF[50%]
738	1.1.4.12.3.6	Burn-in sensor modules	7 w	Thu 4/15/04	Thu 6/3/04	737SS+1 w					PHYSU,ModuleBurnInStand[50%]
739	1.1.4.12.3.7	Evaluate and repair sensor modules	6 w	Thu 4/29/04	Thu 6/10/04	738SS+2 w					PHYSU[50%],ETF[50%],WBNDRT[10%],WBNDR[
740	1.1.4.12.3.8	Perform quality assurance tests	6 w	Thu 5/13/04	Thu 6/24/04	739SS+2 w					ETF[25%],PHYSU[50%],SASEQTestStandF[50%]
741	1.1.4.12.3.9	10/10 South Stereo Module Testing Complete	0 w	Thu 6/24/04	Thu 6/24/04	740					
742	1.1.4.12.4	North	12.2 w	Fri 8/27/04	Mon 11/22/04						
743	1.1.4.12.4.1	10/10 North Stereo Module Production Begun	0 w	Fri 8/27/04	Fri 8/27/04	744SS					
744	1.1.4.12.4.2	Align and glue sensors to hybrid	7 w	Fri 8/27/04	Fri 10/15/04	658,677,96SS+					PHYSF[50%],CMMS[200%],CMMT[25%],MTF[25%]
745	1.1.4.12.4.3	Wirebond sensors to hybrid	7 w	Fri 9/3/04	Fri 10/22/04	744SS+1 w					WBNDR[50%],WBNDRT[50%],PHYSF[25%],MTF[
746	1.1.4.12.4.4	10/10 North Stereo Production Complete	0 w	Fri 10/22/04	Fri 10/22/04	745					
747	1.1.4.12.4.5	Debug sensor modules	7 w	Tue 9/7/04	Mon 10/25/04	745SS+1 d					PHYSF[50%],MTF[25%],SASEQTestStandF[50%]
748	1.1.4.12.4.6	Burn-in sensor modules	7 w	Tue 9/14/04	Mon 11/1/04	747SS+1 w					PHYSU,ModuleBurnInStand[50%]
749	1.1.4.12.4.7	Evaluate and repair sensor modules	6 w	Tue 9/28/04	Mon 11/8/04	748SS+2 w					PHYSU[50%],ETF[50%],WBNDRT[10%],WBNDR[
750	1.1.4.12.4.8	Perform quality assurance tests	6 w	Tue 10/12/04	Mon 11/22/04	749SS+2 w					ETF[25%],PHYSU[50%],SASEQTestStandF[50%]
751	1.1.4.12.4.9	10/10 North Stereo Module Testing Complete	0 w	Mon 11/22/04	Mon 11/22/04	750					
752	1.1.4.13	10/20 Stereo Modules	92 w	Fri 1/31/03	Mon 11/29/04						
753	1.1.4.13.1	Develop electrical module prototype	8 w	Fri 1/31/03	Thu 3/27/03	85SS+2 w,169					PHYSF,MTF,MEF[50%],DESF[50%]
754	1.1.4.13.2	Develop sensor module burn-in tests	2 w	Wed 10/15/03	Tue 10/28/03	753,628					PHYSU,EEU[20%],MTO[20%]
755	1.1.4.13.3	South	9.6 w	Tue 3/9/04	Thu 5/13/04						

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
756	1.1.4.13.3.1	10/20 South Stereo Module Production Begun	0 w	Tue 3/9/04	Tue 3/9/04	757SS					
757	1.1.4.13.3.2	Align and glue sensors to hybrid	5 w	Tue 3/9/04	Mon 4/12/04	753,96SS+50%					PHYSF[50%],CMMS[200%],CMMT[25%],MTF[25%]
758	1.1.4.13.3.3	Wirebond sensors to hybrid	5 w	Thu 3/11/04	Wed 4/14/04	757SS+2 d					WBNDR[50%],WBNDRT[50%],PHYSF[25%],MTF[
759	1.1.4.13.3.4	10/20 South Module Production Complete	0 w	Wed 4/14/04	Wed 4/14/04	758					
760	1.1.4.13.3.5	Debug sensor modules	5 w	Fri 3/12/04	Thu 4/15/04	758SS+1 d					PHYSF[50%],MTF[25%],SASEQTestStandF[50%]
761	1.1.4.13.3.6	Burn-in sensor modules	5 w	Fri 3/19/04	Thu 4/22/04	760SS+1 w					PHYSU,ModuleBurnInStand[50%]
762	1.1.4.13.3.7	Evaluate and repair sensor modules	4 w	Fri 4/2/04	Thu 4/29/04	761SS+2 w					PHYSU[50%],ETF[50%],WBNDRT[10%],WBNDR[
763	1.1.4.13.3.8	Perform quality assurance tests	4 w	Fri 4/16/04	Thu 5/13/04	762SS+2 w					PHYSU[50%],ETF[25%],SASEQTestStandF[50%]
764	1.1.4.13.3.9	10/20 South Module Testing Complete	0 w	Thu 5/13/04	Thu 5/13/04	763					
765	1.1.4.13.4	North	9.6 w	Tue 9/21/04	Mon 11/29/04						
766	1.1.4.13.4.1	10/20 North Stereo Module Production Begun	0 w	Tue 9/21/04	Tue 9/21/04	767SS					
767	1.1.4.13.4.2	Align and glue sensors to hybrid	5 w	Tue 9/21/04	Mon 10/25/04	96,186,759,659					PHYSF[50%],CMMS[200%],CMMT[25%],MTF[25%]
768	1.1.4.13.4.3	Wirebond sensors to hybrid	5 w	Thu 9/23/04	Wed 10/27/04	767SS+2 d					WBNDR[50%],WBNDRT[50%],PHYSF[25%],MTF[
769	1.1.4.13.4.4	10/20 North Module Production Complete	0 w	Wed 10/27/04	Wed 10/27/04	768					
770	1.1.4.13.4.5	Debug sensor modules	5 w	Fri 9/24/04	Thu 10/28/04	768SS+1 d					PHYSF[50%],MTF[25%],SASEQTestStandF[50%]
771	1.1.4.13.4.6	Burn-in sensor modules	5 w	Fri 10/1/04	Thu 11/4/04	770SS+1 w					PHYSU,ModuleBurnInStand[50%]
772	1.1.4.13.4.7	Evaluate and repair sensor modules	4 w	Fri 10/15/04	Thu 11/11/04	771SS+2 w					PHYSU[50%],ETF[50%],WBNDRT[10%],WBNDR[
773	1.1.4.13.4.8	Perform quality assurance tests	4 w	Fri 10/29/04	Mon 11/29/04	772SS+2 w					PHYSU[50%],ETF[25%],SASEQTestStandF[50%]
774	1.1.4.13.4.9	10/20 North Module Testing Complete	0 w	Mon 11/29/04	Mon 11/29/04	773					
775	1.1.4.14	20/20 Stereo Modules	94.2 w	Fri 1/17/03	Tue 11/30/04						
776	1.1.4.14.1	Develop electrical module prototype	4 w	Fri 1/17/03	Thu 2/13/03	85SS+2 w,103,					PHYSF,MTF,MEF[50%],DESF[50%]
777	1.1.4.14.2	Develop sensor module burn-in tests	2 w	Wed 10/15/03	Tue 10/28/03	776,628					PHYSU,EEU[20%],MTO[20%]
778	1.1.4.14.3	South	11 w	Tue 2/17/04	Mon 5/3/04						
779	1.1.4.14.3.1	20/20 South Stereo Module Production Begun	0 w	Tue 2/17/04	Tue 2/17/04	780SS					
780	1.1.4.14.3.2	Align and glue sensors to hybrid	4 w	Tue 2/17/04	Mon 3/15/04	776,186SS+5 w					PHYSF,CMMS[400%],CMMT[50%],MTF[50%]
781	1.1.4.14.3.3	Wirebond sensors to hybrid	4 w	Tue 3/2/04	Mon 3/29/04	780SS+2 w					WBNDR,WBNDRT,PHYSF[25%],MTF[50%]
782	1.1.4.14.3.4	20/20 South Stereo Module Production Complete	0 w	Mon 3/29/04	Mon 3/29/04	781					
783	1.1.4.14.3.5	Debug sensor modules	4 w	Wed 3/3/04	Tue 3/30/04	781SS+1 d					PHYSF,MTF[50%],SASEQTestStandF
784	1.1.4.14.3.6	Burn-in sensor modules	4 w	Tue 3/9/04	Mon 4/5/04	781SS+1 w					PHYSU[200%],ModuleBurnInStand
785	1.1.4.14.3.7	Evaluate and repair sensor modules	4 w	Tue 3/23/04	Mon 4/19/04	784SS+2 w					PHYSU,ETF,WBNDRT[20%],WBNDR[20%],SASE
786	1.1.4.14.3.8	Perform quality assurance tests	4 w	Tue 4/6/04	Mon 5/3/04	785SS+2 w					PHYSU,ETF[50%],SASEQTestStandF
787	1.1.4.14.3.9	20/20 South Stereo Module Testing Complete	0 w	Mon 5/3/04	Mon 5/3/04	786					
788	1.1.4.14.4	North	11.2 w	Fri 9/10/04	Tue 11/30/04						
789	1.1.4.14.4.1	20/20 North Stereo Module Production Begun	0 w	Fri 9/10/04	Fri 9/10/04	790SS					
790	1.1.4.14.4.2	Align and glue sensors to hybrid	4 w	Fri 9/10/04	Thu 10/7/04	659,186SS+13					MTF[50%],PHYSF,CMMS[400%],CMMT[50%]
791	1.1.4.14.4.3	Wirebond sensors to hybrid	4 w	Fri 9/24/04	Thu 10/21/04	790SS+2 w					WBNDR,WBNDRT,PHYSF[25%],MTF[50%]
792	1.1.4.14.4.4	20/20 North Stereo Module Production Complete	0 w	Thu 10/21/04	Thu 10/21/04	791					
793	1.1.4.14.4.5	Debug sensor modules	4 w	Mon 9/27/04	Fri 10/22/04	791SS+1 d					PHYSF,MTF[50%],SASEQTestStandF
794	1.1.4.14.4.6	Burn-in sensor modules	4 w	Mon 10/4/04	Fri 10/29/04	793SS+1 w					PHYSU[200%],ModuleBurnInStand
795	1.1.4.14.4.7	Evaluate and repair sensor modules	4 w	Mon 10/18/04	Fri 11/12/04	794SS+2 w					PHYSU,ETF,WBNDRT[20%],WBNDR[20%],SASE
796	1.1.4.14.4.8	Perform quality assurance tests	4 w	Mon 11/1/04	Tue 11/30/04	795SS+2 w					PHYSU,ETF[50%],SASEQTestStandF
797	1.1.4.14.4.9	20/20 North Stereo Module Testing Complete	0 w	Tue 11/30/04	Tue 11/30/04	796					
798	1.1.4.15	Design database	16 w	Mon 10/29/01	Thu 2/28/02	55					PHYSU,COMPF
799	1.1.4.16	Design travelers	16 w	Mon 10/29/01	Thu 2/28/02	798SS					PHYSU,COMPF
800	1.1.4.17	Construct database	14 w	Fri 3/1/02	Fri 6/7/02	798	1.1.7.3				PHYSU,COMPF
801	1.1.4.18	Maintain database	100 w	Mon 6/10/02	Thu 6/10/04	800					PHYSU[10%],COMPF
802	1.1.5	Monitoring	190.2 w	Mon 10/2/00	Fri 7/23/04						
803	1.1.5.1	Radiation Monitors	90.2 w	Tue 10/1/02	Fri 7/23/04						
804	1.1.5.1.1	Design system	8 w	Tue 10/1/02	Mon 11/25/02						PHYSU[25%],PHYSF[10%],MEF[10%],EEU
805	1.1.5.1.2	Produce diodes	20 w	Tue 11/26/02	Fri 4/25/03	804,84SS	.1.3(0.1),1.1.5.1.4(0.1),1.1.5.1.5(0.1)	EQ			PHYSU[10%]
806	1.1.5.1.3	Test diodes	8 w	Mon 4/28/03	Mon 6/23/03	805					ETU,PHYSU[50%]
807	1.1.5.1.4	Design sensor boards	8 w	Tue 6/24/03	Tue 8/19/03	806					DESU[50%],EEU[50%]
808	1.1.5.1.5	Procure prototype parts	4 w	Wed 8/20/03	Wed 9/17/03	807	.1.3(0.9),1.1.5.1.4(0.9),1.1.5.1.5(0.9)	EQ			PHYSU[10%],EEU[10%]
809	1.1.5.1.6	Fabriacte prototypes	8 w	Thu 9/18/03	Wed 11/12/03	808					ETU
810	1.1.5.1.7	Test prototypes	4 w	Thu 11/13/03	Fri 12/12/03	809					EEU
811	1.1.5.1.8	Decide on final system	0 w	Fri 12/12/03	Fri 12/12/03	810					
812	1.1.5.1.9	Procure final system	4 w	Mon 12/15/03	Tue 1/20/04	811					EEU[10%]
813	1.1.5.1.10	Fabricate final system	12 w	Wed 1/21/04	Tue 4/13/04	812					PHYSU[10%]
814	1.1.5.1.11	Radiation Monitoring System Fabricated	0 w	Tue 4/13/04	Tue 4/13/04	813					
815	1.1.5.1.12	Test radiation monitoring system	8 w	Wed 4/14/04	Wed 6/9/04	814					EEU,PHYSU[10%]
816	1.1.5.1.13	Install radiation monitors	2 w	Mon 7/12/04	Fri 7/23/04	815,463					MTF,PHYSU[50%]
817	1.1.5.1.14	Radiation Monitoring System Installed	0 w	Fri 7/23/04	Fri 7/23/04	816					
818	1.1.5.2	Temperature Monitors	98 w	Mon 10/2/00	Mon 9/16/02						
819	1.1.5.2.1	Design system	30 w	Mon 10/2/00	Mon 5/7/01						
820	1.1.5.2.2	Procure prototype parts	12 w	Tue 5/8/01	Wed 8/1/01	819	.1.3(0.1),1.1.5.1.4(0.1),1.1.5.1.5(0.1)	EQ			
821	1.1.5.2.3	Develop protoypes	12 w	Thu 8/2/01	Thu 10/25/01	820					
822	1.1.5.2.4	Procure parts for final system	6 w	Fri 10/26/01	Mon 12/10/01	821	.1.3(0.9),1.1.5.1.4(0.9),1.1.5.1.5(0.9)	EQ			
823	1.1.5.2.5	Fabricate final system	16 w	Tue 12/11/01	Wed 4/10/02	822					
824	1.1.5.2.6	Temperature Monitoring System Fabricated	0 w	Wed 4/10/02	Wed 4/10/02	823					

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	MandS Items	Fundir	Work Pr	Risk	Resource Names
825	1.1.5.2.7	Test temperature monitoring system	12 w	Thu 4/11/02	Fri 7/5/02	824					
826	1.1.5.2.8	Install temperature monitors	10 w	Mon 7/8/02	Mon 9/16/02	825					
827	**1.1.5.2.9**	**Temperature Monitoring System Installed**	**0 w**	**Mon 9/16/02**	**Mon 9/16/02**	**826**					
828	**1.1.6**	**Installation**	**100 w**	**Wed 10/1/03**	**Wed 9/28/05**						
829	1.1.6.1	Design transport fixtures	4 w	Wed 10/1/03	Tue 10/28/03		1.1.6.1	EQ			PHYSF,MEF,DESF
830	1.1.6.2	Fabricate transportation fixtures	1 w	Wed 10/29/03	Tue 11/4/03	829					MEF,MTF
831	1.1.6.3	Test transportation fixtures	1 w	Wed 11/5/03	Tue 11/11/03	830					MEF,MTF,PHYSF
832	1.1.6.4	Design installation fixtures	6 w	Wed 11/12/03	Mon 1/5/04	831	1.1.6.2	EQ			MEF,PHYSF,DESF
833	1.1.6.5	Fabricate installation fixtures	6 w	Tue 1/6/04	Mon 2/16/04	832					MEF[20%],MTF[20%]
834	1.1.6.6	Test installation fixtures	1 w	Tue 2/17/04	Mon 2/23/04	833					MEF,MTF,PHYSF
835	1.1.6.7	Design alignment fixtures	4 w	Tue 2/24/04	Mon 3/22/04	834					MEF,PHYSF,DESF
836	1.1.6.8	Fabricate alignment fixtures	6 w	Tue 3/23/04	Mon 5/3/04	835					MEF[20%],MTF[20%]
837	**1.1.6.9**	**Shutdown for Installation Begins**	**0 w**	**Wed 3/2/05**	**Wed 3/2/05**	**840SF,838SF**					
838	1.1.6.10	Install and check out chiller	4 w	Wed 3/2/05	Wed 3/30/05	841SF	1.1.6.3	EQ			MEF,MTF[200%],PHYSF[25%],EEF[25%]
839	1.1.6.11	Install and check out piping	9 w	Wed 3/30/05	Tue 5/31/05	838,625					MEF,MTF[200%],PHYSF[25%]
840	1.1.6.12	Uncable	4 w	Wed 3/2/05	Wed 3/30/05	841SF					PHYSF[200%],MTF[400%],PHYSU[200%]
841	1.1.6.13	Drain coolant and dry passages	2 w	Wed 3/30/05	Wed 4/13/05	842SF					PHYSF,MEF,MTF[200%]
842	1.1.6.14	Remove H-disks	2 w	Wed 4/13/05	Wed 4/27/05	843SF					PHYSF,MEF,MTF[200%]
843	1.1.6.15	Decouple beryllium beam pipe	0.2 w	Wed 4/27/05	Thu 4/28/05	844SF					PHYSF[30%],MEF,MTF[200%]
844	1.1.6.16	Remove EC flanges and bellows	0.2 w	Thu 4/28/05	Fri 4/29/05	845SF					PHYSF[30%],MEF,MTF[200%]
845	1.1.6.17	Remove beryllium beam pipe	0.6 w	Fri 4/29/05	Wed 5/4/05	846SF					PHYSF,MEF,MTF[300%]
846	1.1.6.18	Remove SMT-North	0.4 w	Wed 5/4/05	Fri 5/6/05	847SF					PHYSF,MEF,MTF[300%]
847	1.1.6.19	Remove SMT-South	0.4 w	Fri 5/6/05	Tue 5/10/05	848SF					PHYSF,MEF,MTF[300%]
848	1.1.6.20	Verify mating of ball mount rings with those on the ends of CFT	0.4 w	Tue 5/10/05	Thu 5/12/05	849SF					PHYSF,MEF,MTF
849	1.1.6.21	Install alignment fixtures	1 w	Thu 5/12/05	Thu 5/19/05	850SF,836					MEF,MTF[300%],PHYSF
850	1.1.6.22	Transport silicon detector to DAB	0.4 w	Thu 5/19/05	Fri 5/20/05	831,834,564					PHYSF[200%],MTF[300%],MEF[200%]
851	1.1.6.23	Install silicon detector at DAB	2 w	Mon 5/23/05	Fri 6/3/05	850					MEF,PHYSF,MTF[300%]
852	**1.1.6.24**	**Detector Installed In Fiber Tracker**	**0 w**	**Fri 6/3/05**	**Fri 6/3/05**	**851,346**					
853	1.1.6.25	Make and test cooling and dry gas connections	1 w	Mon 6/6/05	Fri 6/10/05	852,839					MEF,PHYSF,MTF[300%]
854	1.1.6.26	Install beam tube	0.6 w	Mon 6/13/05	Wed 6/15/05	853					
855	1.1.6.27	Install and dress new twisted pair cables	4 w	Thu 6/16/05	Wed 7/13/05	274,854					PHYSU[200%],PHYSF[200%],EEF,MTF[400%]
856	1.1.6.28	Make beam tube connections	1 w	Thu 7/14/05	Wed 7/20/05	855					MEF,PHYSF,MTF[300%]
857	**1.1.6.29**	**Ready To Begin Cabling And Commissioning Detector**	**0 w**	**Wed 7/20/05**	**Wed 7/20/05**	**856**					
858	1.1.6.30	Connect cabling and commission detector	10 w	Thu 7/21/05	Wed 9/28/05	857,314					EEF,PHYSF[300%],PHYSU[300%],MTF[500%]
859	**1.1.7**	**Readout Software**	**50 w**	**Tue 9/3/02**	**Wed 9/3/03**						
860	1.1.7.1	1553 Code	50 w	Tue 9/3/02	Wed 9/3/03		1.1.7.1,1.1.7.2	EQ			PHYSU[50%]
861	1.1.7.2	CPU Code	50 w	Tue 9/3/02	Wed 9/3/03						COMPF[50%],PHYSU[50%]
862	1.1.7.3	Level 3 Examine	50 w	Tue 9/3/02	Wed 9/3/03						PHYSU[50%]
863	1.1.7.4	EPICS Code	50 w	Tue 9/3/02	Wed 9/3/03						PHYSU[50%]