

DO Upgrade Schedule
Central Preshower

ID	Task Name	Duration	Start	Finish	Predecessors	Constraint	WBS	Resource Names
21	CENTRAL PRESHOWER	222.2 w	11/6/95	5/2/00		As Soon As		
22	Central Preshower Fabrication	222.2 w	11/6/95	5/2/00		As Soon As		
23	Conceptual design	10 w	11/7/95	1/19/96		Start No Ear		PhysU113[2]
24	Design Report	0 w	1/15/96	1/15/96		Start No Ear		
25	TDR Review	0 w	4/6/96	4/6/96		Start No Ear		
26	Engineering/Design	44 w	4/8/96	2/26/97	25	As Soon As f		MEF113[0.2],DesF113
27	FY96 UM MOU	0.42 w	11/6/95	11/8/95		As Soon As f	1.1.3.8	k\$[0.2],k\$[0.02]
28	Scintillator	42 w	11/6/95	9/3/96		As Soon As		PhysU113[0.5]
29	Procure scintillating materials	14 w	11/6/95	2/15/96		Start No Ear	1.1.3.2.1-1.1.3.2.3	k\$[0.09]
30	Procure die	11 w	3/12/96	5/28/96		Start No Ear	1.1.3.2.4	k\$[0.11]
31	Compounding	2 w	6/3/96	6/14/96		Start No Ear		
32	Extrusion run	4 w	6/17/96	7/15/96	30,31	As Soon As f	1.1.3.2.5	Stud113,k\$[0.16]
33	Strip wrapping	9 w	7/1/96	9/3/96	32SS+2 w	As Soon As f	1.1.3.3	MTF113,Stud113,k\$[0.1]
34	Scintillating strips ready	0 w	9/3/96	9/3/96	33	As Soon As		
35	Fibers and Connectors	87.8 w	3/1/96	12/1/97		As Soon As		PhysU113[0.5]
36	Procure fibers	10 w	3/1/96	5/9/96		Start No Ear	1.1.3.4.1	k\$[0.25]
37	Cut, polishing and silvering	19 w	5/17/96	10/1/96	36FS+1 w	As Soon As f	1.1.3.4.2	MTF113[0.2],k\$[0.05]
38	Fibers ready	0 w	10/1/96	10/1/96	37	As Soon As		
39	Connector R&D and design	13 w	4/15/96	7/16/96		Start No Ear		MEU113[0.4],MTU113[0.2],MEF113[0.05]
40	Connector manufacture	4 w	7/31/96	8/27/96	39FS+2 w	As Soon As f		MEU113[0.2],MTU113
41	First FY97 UIC MOU	1.4 w	10/1/96	10/9/96		Start No Ear	1.1.3.4.3,1.1.3.6.2,1.1.3.6.3(0.7)	k\$[0.21]
42	Fiber/connector assembly jig	16 w	12/9/96	4/9/97	25FS-10 w	As Soon As f	1.1.3.4.4	DesF113[0.5],k\$[0.02]
43	Fiber/Connector Assembly	21 w	7/1/97	11/26/97	42FS-6 w	Finish No Ea	1.1.3.4.5,1.1.3.4.8,1.1.3.4.9	MTF113,k\$[0.03]
44	Second FY97 UIC MOU	0.19 w	8/29/97	8/29/97		Start No Ear	1.1.3.6.3(0.29)	k\$[0.02]
45	Fiber/Connector assembly complete	0 w	12/1/97	12/1/97	44	As Soon As		
46	Detector Modules	197.4 w	12/96	12/17/99		As Soon As		PhysU113[2]
47	Fab slumping press	12 w	10/24/96	1/29/97	24FS-16 w	As Soon As f	1.1.3.5.3	MTF113,MTU113[0.5],k\$[0.17]
48	Heat form scintillating strips	8 w	3/6/97	4/30/97	47FS+5 w	As Soon As f		MTF113[0.5],MTU113[0.5]
49	Fab assembly tables	12 w	10/24/96	1/29/97	24FS-16 w	As Soon As f	1.1.3.5.4,1.1.3.5.5	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 Soon As f	1.1.3.5.1	k\$[0.28]
51	Fab mounting blocks	15 w	5/15/97	8/29/97	24FS-10 w	As Soon As f	1.1.3.4.6,1.1.3.4.7,1.1.3.5.2	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 No Ear	1.1.3.5.10	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 Soon As f		
54	Fab LED systems	21 w	1/2/97	5/29/97	53FS-3 w	As Soon As f		MTU113
55	Prepare Construction Facility	47 w	1/2/96	12/2/96	26FS-9 w	Start No Ear	1.1.3.5.6,1.1.3.5.7,1.1.3.5.9	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+f	As Soon As f	1.1.3.5.8(0.1)	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 Soon As		
58	Full Module Production	19 w	8/1/97	12/16/97	56	As Soon As f	1.1.3.5.8(0.9),1.1.3.5.11	MTU113,Stud113[2],k\$[0.16]
59	Transportation to Fermilab	17.5 w	8/15/97	12/19/97	58SS+2 w	As Soon As f	1.1.3.5.12	MTU113[0.1],MTF113[0.1],k\$[0.01]
60	Test Modules at DAB	6 w	1/5/98	2/13/98		Start No Ear		PhysU113[3],MTF113[0.25]
61	M2-Central Preshower Module Fabrication Complete	0 w	12/16/97	12/16/97	58	As Soon As		
62	Fabricate clear fiber waveguides	13 w	9/16/99	12/17/99		Start No Ear		
63	Calibration system	20 w	12/1/99	5/2/00		As Soon As		PhysU113[0.5]
64	Fab LED cable and control system	20 w	12/1/99	5/2/00		Start No Ear		
65	Fab temperature monitor system	20 w	12/1/99	5/2/00		Start No Ear		
66	Calibration system ready	0 w	5/2/00	5/2/00	64,65	As Soon As		
67	Install Central Preshower	29.2 w	10/15/97	5/21/98		As Soon As		
68	Procure lead pre-radiator	7 w	10/15/97	12/4/97		Start No Ear	1.1.3.9.2	k\$[0.02]
69	Fabricate mounting hardware	4.6 w	3/1/98	4/1/98		Start No Ear	1.1.3.9.1	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 Soon As f		MEF113[0.1],MTF113
71	Install detector modules	1.6 w	5/12/98	5/21/98	70,60FS-2 w	As Soon As f		MEF113[0.1],MTF113,PhysU113[0.5]
72	M2-Central Preshower Installed on Solenoid	0 w	5/21/98	5/21/98	71	As Soon As		