

WBS	Name	Cost	M&S	Labor	M&S Cont.	Labor Cont	Level
1.2	Calorimeter Upgrades	\$1,025,308.00	\$915,952.00	\$109,356.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task for the entire calorimeter project.						
1.2.1	Central Preshower and Crack Detectors	\$759,973.00	\$676,201.00	\$83,772.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task for the central preshower/crack detector subproject.						
1.2.1.1	Start of Preshower/Crack Subproject	\$0.00	\$0.00	\$0.00	0	0	4
	<u>Notes</u> WBS Definition: Start of central preshower/crack detector subproject. (Milestone)						
1.2.1.2	Research and Development(US)	\$55,672.00	\$55,672.00	\$0.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task for the U.S. R+D for the preshower/crack subproject.						
1.2.1.3	Research and Development(Japan)	\$28,940.00	\$28,940.00	\$0.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task for the R+D in Japan for the preshower/crack subproject.						
1.2.1.4	Research and Development(Italy)	\$18,000.00	\$18,000.00	\$0.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task for the R+D in Italy for the preshower/crack subproject.						
1.2.1.5	Procure parts	\$498,993.00	\$498,993.00	\$0.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task for parts procurement common to both preshower and crack detectors.						

WBS	Name	Cost	M&S	Labor	M&S Cont.	Labor Cont	Level
1.2.1.6	Preshower Detector Assembly	\$111,646.00	\$36,108.00	\$75,538.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task for preshower detector assembly.						
1.2.1.7	Crack Detector Assembly	\$17,622.00	\$9,388.00	\$8,234.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task describing the assemble of the CDF Crack Detector.						
1.2.1.8	Fiber Bundle Assembly	\$29,100.00	\$29,100.00	\$0.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task for fiber bundle assembly.						
1.2.1.9	Physicist or Student Labor	\$0.00	\$0.00	\$0.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task for physicist and student labor testing detectors.						
1.2.1.10	Level 3 Milestones	\$0.00	\$0.00	\$0.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task for Preshower/Crack Level 3 milestones.						
1.2.1.11	Level 2 Milestones	\$0.00	\$0.00	\$0.00	0	0	0
	<u>Notes</u> WBS Definition- Summary task for Preshower/Crack Level 2 milestones. These are Level 2 milestones, so they are copies of Level 3 milestones, with schedule contingency added.						
1.2.2	Electromagnetic timing	\$265,335.00	\$239,751.00	\$25,584.00	0	0	0
	<u>Notes</u> WBS Definition- Highest level summary for electromagnetic timing project						

WBS	Name	Cost	M&S	Labor	M&S Cont.	Labor Cont	Level
1.2.2.1	Research and Development	\$12,936.00	\$12,624.00	\$312.00	0	0	0
	<u>Notes</u> WBS Definition- Summary of research and development for electromagnetic timing project						
1.2.2.2	Purchase parts for components and Produce	\$252,399.00	\$227,127.00	\$25,272.00	0	0	0
	<u>Notes</u> WBS Definition- This is high level summary for purchasing parts for the components and doing production. We note that the components for this project are: CEM Splitter harnesses, PEM cable harnesses, TB, ASD's, ASD->TDC cables and TDC's. We itemize each part here. Parts = 227,128 Labor = 15,552 Parts & Labor = 242,680 Recycling = 83,840						
1.2.3	Calorimeter Milestones	\$0.00	\$0.00	\$0.00	0	0	0
	<u>Notes</u> WBS Definition- These are the EMTiming management milestones						
1.2.3.1	PAC Review	\$0.00	\$0.00	\$0.00	0	0	4
	<u>Notes</u> WBS Definition- This is the preliminary review approval process before Stage 1 approval and before critical decision 1.						
1.2.3.2	Approval to spend Construction funds	\$0.00	\$0.00	\$0.00	0	0	3
	<u>Notes</u> WBS Definition- This is the DOE critical decision. It is used, among other things, to finalize the final Italian funding.						
1.2.3.3	Italian R&D Funding Approval	\$0.00	\$0.00	\$0.00	0	0	4
	<u>Notes</u> WBS Definition- This is the preliminary approval needed for funding of the ASD prototypes to be built by the INFN groups						
1.2.3.4	Full Italian Government Approval	\$0.00	\$0.00	\$0.00	0	0	3
	<u>Notes</u> WBS Definition- Project has to be approved by Italian Government due the Italian government funds used on the project.						

WBS	Name	Cost	M&S	Labor	M&S Cont.	Labor Cont	Level
"Full Italian Government Approval" continued							
	<u>Notes</u>						
1.2.3.5	End of Calorimetry Project: Level 3	\$0.00	\$0.00	\$0.00	0	0	3
	<u>Notes</u>						
	WBS Definition- This is the end of the calorimetry project and is the Level 3 milestone						
1.2.3.6	End of Calorimetry Project: Level 2	\$0.00	\$0.00	\$0.00	0	0	2
	<u>Notes</u>						
	WBS Definition- This is the end of the calorimetry project and is the Level 2 milestone. This milestone is coupled to the corresponding level 3 milestone with added schedule contingency.						
1.2.3.7	End of Calorimetry Project: Level 1	\$0.00	\$0.00	\$0.00	0	0	1
	<u>Notes</u>						
	WBS Definition- This is the end of the calorimetry project and is the Level 1 milestone. This milestone is coupled to the corresponding level 2 milestone with added schedule contingency.						