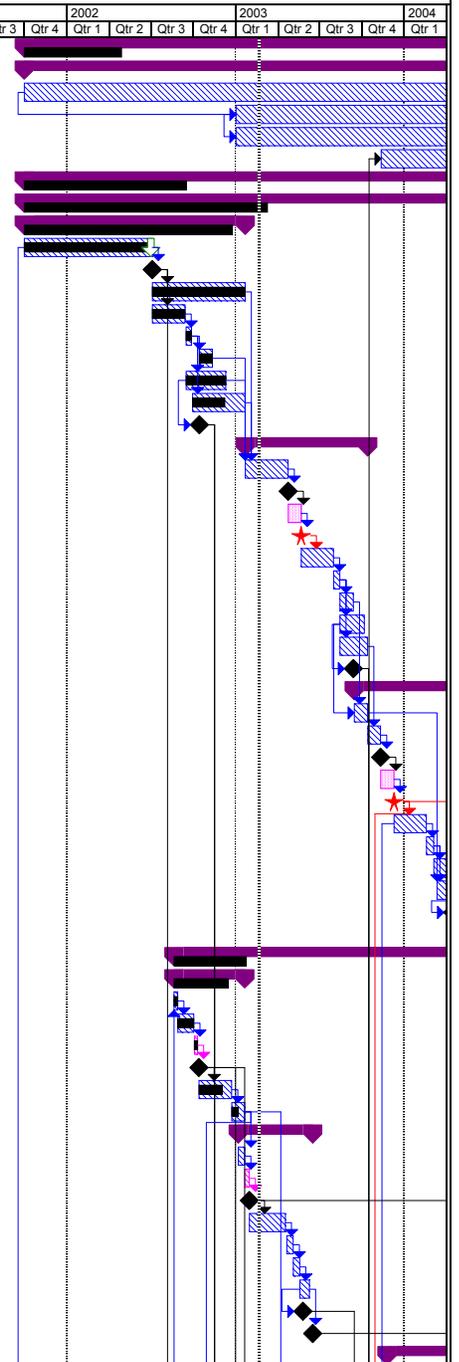


CDF Run2b Silicon Detector Schedule

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002		2003				2004	
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
1.1	<b>Run 2b Silicon Project</b>	<b>\$12,383,807</b>	<b>\$1,960,718</b>	<b>\$8,168,635</b>	<b>\$2,799,420</b>	<b>\$4,215,172</b>	<b>\$1,428,700</b>	<b>\$1,996,885</b>	<b>\$772,985</b>	<b>\$1,901,464</b>	<b>\$327,000</b>								
1.1.1	<b>Administration</b>	<b>\$354,076</b>	<b>\$0</b>	<b>\$5,000</b>	<b>\$5,000</b>	<b>\$349,076</b>	<b>\$34,908</b>	<b>\$100,721</b>	<b>\$10,869</b>	<b>\$0</b>	<b>\$0</b>								
1.1.1.1	Level 2 Project managers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.1.2	Level 3 Project managers	\$247,156	\$0	\$0	\$0	\$247,156	\$24,716	\$70,687	\$7,069	\$0	\$0								
1.1.1.3	Integration meetings	\$101,920	\$0	\$0	\$0	\$101,920	\$10,192	\$29,149	\$2,915	\$0	\$0								
1.1.1.4	Software support for parts database	\$5,000	\$0	\$5,000	\$5,000	\$0	\$0	\$885	\$885	\$0	\$0								
1.1.2	<b>DAQ</b>	<b>\$5,732,693</b>	<b>\$1,177,160</b>	<b>\$4,867,100</b>	<b>\$1,846,001</b>	<b>\$865,593</b>	<b>\$309,267</b>	<b>\$745,793</b>	<b>\$284,072</b>	<b>\$305,937</b>	<b>\$20,000</b>								
1.1.2.1	<b>SVX4 Chips</b>	<b>\$868,938</b>	<b>\$544,359</b>	<b>\$758,390</b>	<b>\$215,306</b>	<b>\$110,548</b>	<b>\$46,560</b>	<b>\$108,977</b>	<b>\$28,675</b>	<b>\$0</b>	<b>\$0</b>								
1.1.2.1.1	<b>SVX4 chip: 1st Prototype</b>	<b>\$228,552</b>	<b>\$273,228</b>	<b>\$189,812</b>	<b>\$0</b>	<b>\$38,740</b>	<b>\$1,997</b>	<b>\$44,676</b>	<b>\$571</b>	<b>\$0</b>	<b>\$0</b>								
1.1.2.1.1.1	1st chip: layout	\$130,448	\$156,257	\$105,500	\$0	\$24,948	\$0	\$25,809	\$0	\$0	\$0								
1.1.2.1.1.2	1st Chip submission (eng. Run)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.1.1.3	1st chip: documentation	\$7,500	\$8,828	\$7,500	\$0	\$0	\$0	\$1,328	\$0	\$0	\$0								
1.1.2.1.1.4	1st Chip: manufacturing	\$58,000	\$68,266	\$58,000	\$0	\$0	\$0	\$10,266	\$0	\$0	\$0								
1.1.2.1.1.5	1st Chip: post processing	\$5,000	\$5,885	\$5,000	\$0	\$0	\$0	\$885	\$0	\$0	\$0								
1.1.2.1.1.6	1st Chip: engineering evaluation at FNAL	\$8,800	\$11,317	\$0	\$0	\$8,800	\$0	\$2,517	\$0	\$0	\$0								
1.1.2.1.1.7	1st Chip: engineering evaluation at LBL	\$13,812	\$16,257	\$13,812	\$0	\$0	\$0	\$2,445	\$0	\$0	\$0								
1.1.2.1.1.8	1st Chip: evaluation and radiation tests	\$4,992	\$6,420	\$0	\$0	\$4,992	\$1,997	\$1,428	\$571	\$0	\$0								
1.1.2.1.1.9	1st Chip ready for hybrids	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.1.2	<b>SVX4 chips: 2nd prototype</b>	<b>\$225,832</b>	<b>\$271,131</b>	<b>\$192,536</b>	<b>\$64,514</b>	<b>\$33,296</b>	<b>\$29,158</b>	<b>\$43,602</b>	<b>\$19,758</b>	<b>\$0</b>	<b>\$0</b>								
1.1.2.1.2.1	2nd Chip: layout	\$80,436	\$99,248	\$54,036	\$21,614	\$26,400	\$26,400	\$17,115	\$11,376	\$0	\$0								
1.1.2.1.2.2	2nd Chip: submission (eng. Run)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.1.2.3	Contingency on 2nd chip submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.1.2.4	L2MS 2nd chip submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.1.2.5	2nd Chip: manufacturing	\$125,000	\$147,125	\$125,000	\$37,500	\$0	\$0	\$22,125	\$6,638	\$0	\$0								
1.1.2.1.2.6	2nd Chip: postprocessing	\$7,500	\$8,828	\$7,500	\$3,000	\$0	\$0	\$1,328	\$531	\$0	\$0								
1.1.2.1.2.7	2nd Chip: engineering evaluation at FNAL	\$4,400	\$5,658	\$0	\$0	\$4,400	\$1,760	\$1,258	\$503	\$0	\$0								
1.1.2.1.2.8	2nd Chip: engineering evaluation at LBL	\$6,000	\$7,062	\$6,000	\$2,400	\$0	\$0	\$1,062	\$425	\$0	\$0								
1.1.2.1.2.9	2nd Chip: evaluation and radiation test	\$2,496	\$3,210	\$0	\$0	\$2,496	\$998	\$714	\$286	\$0	\$0								
1.1.2.1.2.10	2nd Chip ready for hybrids	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.1.3	<b>SVX4 chip: production</b>	<b>\$414,554</b>	<b>\$0</b>	<b>\$376,042</b>	<b>\$150,792</b>	<b>\$38,512</b>	<b>\$15,405</b>	<b>\$20,699</b>	<b>\$8,346</b>	<b>\$0</b>	<b>\$0</b>								
1.1.2.1.3.1	Setup for production chip testing	\$9,070	\$0	\$3,750	\$1,875	\$5,320	\$2,128	\$2,185	\$941	\$0	\$0								
1.1.2.1.3.2	Production Chip: layout	\$37,192	\$0	\$32,792	\$13,117	\$4,400	\$1,760	\$7,063	\$2,825	\$0	\$0								
1.1.2.1.3.3	Production chip Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.1.3.4	Contingency on production chip submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.1.3.5	L2MS Production chip submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.1.3.6	Production Chip: manufacturing	\$325,000	\$0	\$325,000	\$130,000	\$0	\$0	\$650	\$260	\$0	\$0								
1.1.2.1.3.7	Production Chip: post processing	\$10,000	\$0	\$10,000	\$4,000	\$0	\$0	\$1,770	\$708	\$0	\$0								
1.1.2.1.3.8	Production Chip: engineering evaluation at LBL	\$4,500	\$0	\$4,500	\$1,800	\$0	\$0	\$797	\$319	\$0	\$0								
1.1.2.1.3.9	CDF chips: Test	\$28,792	\$0	\$0	\$0	\$28,792	\$11,517	\$8,235	\$3,294	\$0	\$0								
1.1.2.1.3.10	Production Chips ready for hybrids	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.1.3.11	Chip testing Complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.2	<b>Transceiver Chips</b>	<b>\$171,670</b>	<b>\$128,404</b>	<b>\$128,000</b>	<b>\$7,600</b>	<b>\$43,670</b>	<b>\$12,408</b>	<b>\$35,146</b>	<b>\$4,894</b>	<b>\$0</b>	<b>\$0</b>								
1.1.2.2.1	<b>Transceiver chip Prototype</b>	<b>\$41,010</b>	<b>\$50,995</b>	<b>\$16,000</b>	<b>\$1,600</b>	<b>\$25,010</b>	<b>\$4,944</b>	<b>\$9,985</b>	<b>\$1,697</b>	<b>\$0</b>	<b>\$0</b>								
1.1.2.2.1.1	Transceiver: specifications	\$1,650	\$2,122	\$0	\$0	\$1,650	\$0	\$472	\$0	\$0	\$0								
1.1.2.2.1.2	Transceiver: layout	\$11,000	\$14,146	\$0	\$0	\$11,000	\$0	\$3,146	\$0	\$0	\$0								
1.1.2.2.1.3	Match chip submission: transceiver layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.2.1.4	Transceiver: MPR submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.2.1.5	Transceiver: fabrication	\$21,320	\$25,674	\$16,000	\$1,600	\$5,320	\$2,128	\$4,354	\$892	\$0	\$0								
1.1.2.2.1.6	Transceiver: evaluation	\$7,040	\$9,053	\$0	\$0	\$7,040	\$2,816	\$2,013	\$805	\$0	\$0								
1.1.2.2.2	<b>Transceiver chip 2nd prototype</b>	<b>\$64,940</b>	<b>\$77,409</b>	<b>\$56,000</b>	<b>\$3,000</b>	<b>\$8,940</b>	<b>\$3,576</b>	<b>\$12,469</b>	<b>\$1,554</b>	<b>\$0</b>	<b>\$0</b>								
1.1.2.2.2.1	Transceiver: layout modification	\$4,400	\$5,658	\$0	\$0	\$4,400	\$1,760	\$1,258	\$503	\$0	\$0								
1.1.2.2.2.2	Match Chip Submission: transceiver layout modifc.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.2.2.3	Transceiver: submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.2.2.4	Transceiver: fabrication	\$50,000	\$58,850	\$50,000	\$0	\$0	\$0	\$8,850	\$0	\$0	\$0								
1.1.2.2.2.5	Transceiver: post processing	\$2,000	\$2,354	\$2,000	\$1,000	\$0	\$0	\$354	\$177	\$0	\$0								
1.1.2.2.2.6	Transceiver: evaluation	\$2,200	\$2,829	\$0	\$0	\$2,200	\$880	\$629	\$252	\$0	\$0								
1.1.2.2.2.7	Transceiver: testing	\$6,340	\$7,717	\$4,000	\$2,000	\$2,340	\$936	\$1,377	\$622	\$0	\$0								
1.1.2.2.2.8	Transceiver Chips available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.2.2.9	Transceiver Chips Complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.2.2.3	<b>Transceiver chip production</b>	<b>\$65,720</b>	<b>\$0</b>	<b>\$56,000</b>	<b>\$3,000</b>	<b>\$9,720</b>	<b>\$3,888</b>	<b>\$12,692</b>	<b>\$1,643</b>	<b>\$0</b>	<b>\$0</b>								

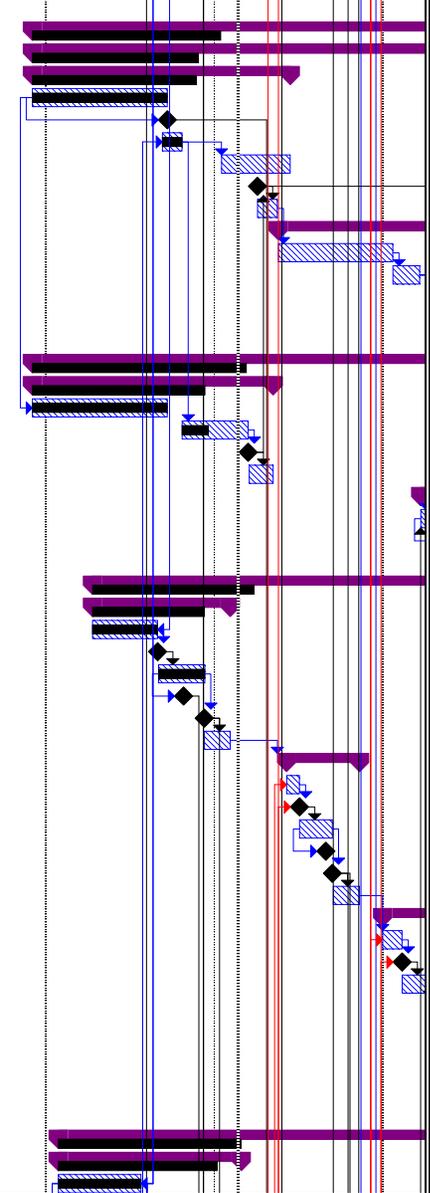


CDF Run2b Silicon Detector Schedule

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002				2003				2004			
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
1.1.2.2.3.1	Transceiver: layout modification	\$4,400	\$0	\$0	\$0	\$4,400	\$1,760	\$1,258	\$503	\$0	\$0												
1.1.2.2.3.2	Transceiver: submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.2.3.3	Transceiver: fabrication	\$50,000	\$0	\$50,000	\$0	\$0	\$0	\$8,850	\$0	\$0	\$0												
1.1.2.2.3.4	Transceiver: post processing	\$2,000	\$0	\$2,000	\$1,000	\$0	\$0	\$354	\$177	\$0	\$0												
1.1.2.2.3.5	Transceiver: evaluation	\$2,200	\$0	\$0	\$0	\$2,200	\$880	\$629	\$252	\$0	\$0												
1.1.2.2.3.6	Transceiver: testing	\$7,120	\$0	\$4,000	\$2,000	\$3,120	\$1,248	\$1,600	\$711	\$0	\$0												
1.1.2.2.3.7	Transceiver Chips available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.2.3.8	Transceiver Chips Complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3	Hybrids	\$1,685,841	\$187,721	\$1,581,481	\$625,446	\$104,360	\$39,144	\$73,703	\$17,312	\$0	\$0												
1.1.2.3.1	Outer layers	\$1,472,968	\$109,734	\$1,381,488	\$585,447	\$91,480	\$37,736	\$58,832	\$14,671	\$0	\$0												
1.1.2.3.1.1	Outer Hybrid prototypes	\$92,743	\$109,734	\$87,463	\$0	\$5,280	\$3,960	\$16,991	\$1,133	\$0	\$0												
1.1.2.3.1.1.1	Hybrid #1: Layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.1.2	Hybrid#1: Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.1.3	Hybrid #1: manufacturing	\$87,463	\$102,944	\$87,463	\$0	\$0	\$0	\$15,481	\$0	\$0	\$0												
1.1.2.3.1.1.4	Hybrid #1 ready for chips	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.1.5	Hybrid #1 assembly and evaluation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.1.6	Hybrid #1 available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.1.7	Hybrid #1: Evaluation at FNAL	\$5,280	\$6,790	\$0	\$0	\$5,280	\$3,960	\$1,510	\$1,133	\$0	\$0												
1.1.2.3.1.2	2nd round of hybrid	\$90,983	\$0	\$87,463	\$17,493	\$3,520	\$704	\$16,488	\$3,298	\$0	\$0												
1.1.2.3.1.2.1	Hybrid #2: Layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.2.2	Hybrid #2: Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.2.3	Hybrid #2: manufacturing	\$87,463	\$0	\$87,463	\$17,493	\$0	\$0	\$15,481	\$3,096	\$0	\$0												
1.1.2.3.1.2.4	Hybrid #2 ready for chips	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.2.5	Hybrid #2 assembly and evaluation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.2.6	Hybrid #2 available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.2.7	Hybrid #2: Evaluation at FNAL	\$3,520	\$0	\$0	\$0	\$3,520	\$704	\$1,007	\$201	\$0	\$0												
1.1.2.3.1.3	Hybrid Preproduction	\$381,344	\$0	\$353,264	\$141,306	\$28,080	\$11,232	\$8,737	\$3,495	\$0	\$0												
1.1.2.3.1.3.1	Setup Hybrid test stands	\$201,462	\$0	\$201,462	\$80,585	\$0	\$0	\$403	\$161	\$0	\$0												
1.1.2.3.1.3.2	Preproduction Hybrid: Testing training	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.3.3	Preproduction hybrid: Layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.3.4	Preproduction Hybrids: procurement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.3.5	Preproduction Hybrid: Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.3.6	Preproduction hybrid: manufacturing	\$151,802	\$0	\$151,802	\$60,721	\$0	\$0	\$304	\$121	\$0	\$0												
1.1.2.3.1.3.7	Preproduction Hybrid ready for chips	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.3.8	Preproduction Hybrid assembly and testing	\$14,040	\$0	\$0	\$0	\$14,040	\$5,616	\$4,015	\$1,606	\$0	\$0												
1.1.2.3.1.3.9	Preproduction Hybrid burn-in	\$14,040	\$0	\$0	\$0	\$14,040	\$5,616	\$4,015	\$1,606	\$0	\$0												
1.1.2.3.1.3.10	Preproduction Hybrid Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.3.11	Contingency on preproduction hybrid availability	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.3.12	L2MS preProduction hybrid available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.3.13	Preproduction Hybrid complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.4	Hybrid Production	\$907,898	\$0	\$853,298	\$426,649	\$54,600	\$21,840	\$16,616	\$6,746	\$0	\$0												
1.1.2.3.1.4.1	Production Hybrid: layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.4.2	Production Hybrids: procurement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.4.3	Production Hybrid Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.4.4	Production Hybrid: manufacturing	\$853,298	\$0	\$853,298	\$426,649	\$0	\$0	\$1,000	\$500	\$0	\$0												
1.1.2.3.1.4.5	Production Hybrid: assembly and testing	\$27,300	\$0	\$0	\$0	\$27,300	\$10,920	\$7,808	\$3,123	\$0	\$0												
1.1.2.3.1.4.6	Production Hybrid burn-in	\$27,300	\$0	\$0	\$0	\$27,300	\$10,920	\$7,808	\$3,123	\$0	\$0												
1.1.2.3.1.4.7	Production Hybrids Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.4.8	Contingency on Production Hybrid availability	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.4.9	L2MS Production hybrid available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.1.4.10	Hybrid Production Complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.2	Layer 0	\$212,873	\$77,987	\$199,993	\$39,999	\$12,880	\$1,408	\$14,871	\$2,640	\$0	\$0												
1.1.2.3.2.1	Hybrid Layer 0 Prototype	\$65,164	\$77,987	\$61,644	\$12,329	\$3,520	\$1,408	\$11,918	\$2,585	\$0	\$0												
1.1.2.3.2.1.1	Prototype#1 L0 hybrid: Layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.2.1.2	Prototype#1 L0 hybrid: Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.2.1.3	Prototype#1 L0 hybrid: manufacturing	\$61,644	\$72,555	\$61,644	\$12,329	\$0	\$0	\$10,911	\$2,182	\$0	\$0												
1.1.2.3.2.1.4	Prototype #1 L0 Hybrid: assembly and testing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.2.1.5	Prototype#1 L0 hybrid Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0												
1.1.2.3.2.1.6	Prototype#1 L0 hybrid: evaluation at FNAL	\$3,520	\$5,432	\$0	\$0	\$3,520	\$1,408	\$1,007	\$403	\$0	\$0												
1.1.2.3.2.2	Hybrid L0 production	\$147,709	\$0	\$138,349	\$27,670	\$9,360	\$0	\$2,954	\$55	\$0	\$0												

CDF Run2b Silicon Detector Schedule

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002				2003				2004	
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
1.1.2.3.2.2.1	Production L0 Hybrid: final layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.3.2.2.2	Production L0 Hybrid Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.3.2.2.3	Production L0 hybrid: manufacturing	\$138,349	\$0	\$138,349	\$27,670	\$0	\$0	\$277	\$55	\$0	\$0										
1.1.2.3.2.2.4	Production L0 Hybrid: assembly and testing	\$4,680	\$0	\$0	\$0	\$4,680	\$0	\$1,339	\$0	\$0	\$0										
1.1.2.3.2.2.5	Production L0 Hybrid burn-in	\$4,680	\$0	\$0	\$0	\$4,680	\$0	\$1,339	\$0	\$0	\$0										
1.1.2.3.2.2.6	Production L0 hybrid available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.3.2.2.7	Production L0 hybrid complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.4	L0 analog signal cables	\$384,120	\$35,526	\$325,937	\$130,169	\$58,183	\$14,984	\$20,180	\$27,325	\$305,937	\$0										
1.1.2.4.1	L0 cables FNAL	\$78,183	\$35,526	\$20,000	\$2,000	\$58,183	\$14,984	\$20,180	\$4,639	\$0	\$0										
1.1.2.4.1.1	L0 cable prototype (FNAL)	\$47,863	\$35,526	\$20,000	\$2,000	\$27,863	\$2,856	\$11,509	\$1,171	\$0	\$0										
1.1.2.4.1.1.1	L0 cables technology testing	\$7,403	\$9,520	\$0	\$0	\$7,403	\$0	\$2,117	\$0	\$0	\$0										
1.1.2.4.1.1.2	L0 Test cables Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.4.1.1.3	L0 cable prototype design	\$13,320	\$17,130	\$0	\$0	\$13,320	\$0	\$3,810	\$0	\$0	\$0										
1.1.2.4.1.1.4	L0 cable prototype fabrication	\$20,000	\$0	\$20,000	\$2,000	\$0	\$0	\$3,540	\$354	\$0	\$0										
1.1.2.4.1.1.5	L0 cable prototype available (in US)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.4.1.1.6	L0 cable prototype evaluation (US)	\$7,140	\$8,876	\$0	\$0	\$7,140	\$2,856	\$2,042	\$817	\$0	\$0										
1.1.2.4.1.2	L0 cable production (FNAL)	\$30,320	\$0	\$0	\$0	\$30,320	\$12,128	\$8,672	\$3,469	\$0	\$0										
1.1.2.4.1.2.1	Explicit Slack: L0 cable production	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.4.1.2.2	L0 production cable design	\$25,040	\$0	\$0	\$0	\$25,040	\$10,016	\$7,161	\$2,865	\$0	\$0										
1.1.2.4.1.2.3	L0 Cable Production Test	\$5,280	\$0	\$0	\$0	\$5,280	\$2,112	\$1,510	\$604	\$0	\$0										
1.1.2.4.1.2.4	L0 cables Available (US)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.4.1.2.5	L0 cables Complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.4.2	L0 Cable (Japan)	\$305,937	\$0	\$305,937	\$128,169	\$0	\$0	\$0	\$22,686	\$305,937	\$0										
1.1.2.4.2.1	L0 cable Prototype (Japan)	\$49,600	\$0	\$49,600	\$0	\$0	\$0	\$0	\$0	\$49,600	\$0										
1.1.2.4.2.1.1	L0 cables technology testing	\$20,000	\$0	\$20,000	\$0	\$0	\$0	\$0	\$0	\$20,000	\$0										
1.1.2.4.2.1.2	L0 prototype cable fabrication	\$29,600	\$0	\$29,600	\$0	\$0	\$0	\$0	\$0	\$29,600	\$0										
1.1.2.4.2.1.3	L0 cable prototype available (Japan)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.4.2.1.4	L0 cable prototype evaluation (Japan)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.4.2.2	L0 Production Cable Fabrication	\$256,337	\$0	\$256,337	\$128,169	\$0	\$0	\$0	\$22,686	\$256,337	\$0										
1.1.2.4.2.2.1	L0 production cable fabrication	\$256,337	\$0	\$256,337	\$128,169	\$0	\$0	\$0	\$22,686	\$256,337	\$0										
1.1.2.4.2.2.2	L0 production cables available (Japan)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.4.2.2.3	L0 Cable Production Test	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5	Bus Cables	\$43,386	\$5,614	\$43,386	\$15,446	\$0	\$0	\$7,679	\$2,734	\$0	\$0										
1.1.2.5.1	Bus Cable Prototype	\$2,385	\$5,614	\$2,385	\$0	\$0	\$0	\$422	\$0	\$0	\$0										
1.1.2.5.1.1	Prototype#1 Bus Cable: specs, design and Layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.1.2	Prototype#1 Bus Cable Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.1.3	Prototype#1 Bus Cable: Manufacturing	\$2,385	\$2,807	\$2,385	\$0	\$0	\$0	\$422	\$0	\$0	\$0										
1.1.2.5.1.4	Prototype#1 Mechanical Bus cables available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.1.5	Prototype#1 Electrical Bus Cable available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.1.6	Prototype#1 Bus Cable: Evaluation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.2	Bus Cable #2	\$2,385	\$0	\$2,385	\$0	\$0	\$0	\$422	\$0	\$0	\$0										
1.1.2.5.2.1	#2 Bus Cable: design and Layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.2.2	#2 Bus Cable Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.2.3	#2 manufacturing	\$2,385	\$2,807	\$2,385	\$0	\$0	\$0	\$422	\$0	\$0	\$0										
1.1.2.5.2.4	#2 Mechanical Bus cables available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.2.5	#2 Electrical Bus Cable available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.2.6	#2 Bus Cable: Evaluation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.3	Bus Cable Preproduction and Production	\$38,616	\$0	\$38,616	\$15,446	\$0	\$0	\$6,835	\$2,734	\$0	\$0										
1.1.2.5.3.1	Preproduction Bus Cable: layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.3.2	Preproduction Bus Cable Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.3.3	Preproduction Bus Cable: manufacturing	\$6,466	\$0	\$6,466	\$2,586	\$0	\$0	\$1,145	\$458	\$0	\$0										
1.1.2.5.3.4	Preproduction Bus Cables available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.3.5	Production Bus Cable: final design and layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.3.6	Production Bus Cable Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.3.7	Production Bus Cable: manufacturing	\$32,150	\$0	\$32,150	\$12,860	\$0	\$0	\$5,691	\$2,276	\$0	\$0										
1.1.2.5.3.8	Production Bus cables available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.5.3.9	Production Bus Cables complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.6	Mini Port Card	\$568,040	\$132,828	\$362,936	\$145,050	\$205,104	\$64,144	\$122,899	\$44,019	\$0	\$0										
1.1.2.6.1	Mini Port Card Prototypes	\$107,146	\$132,828	\$45,522	\$0	\$61,624	\$6,752	\$25,682	\$1,931	\$0	\$0										
1.1.2.6.1.1	Prototype#1 MPC: specs, design and layout	\$44,744	\$57,541	\$0	\$0	\$44,744	\$0	\$12,797	\$0	\$0	\$0										



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WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002				2003				2004	
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
1.1.2.6.1.2	Prototype#1 MPC submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.6.1.3	Prototype#1 MPC: manufacturing	\$45,522	\$53,579	\$45,522	\$0	\$0	\$0	\$8,057	\$0	\$0	\$0										
1.1.2.6.1.4	Prototype#1 MPC: assembly and evaluation	\$16,880	\$21,708	\$0	\$0	\$16,880	\$6,752	\$4,828	\$1,931	\$0	\$0										
1.1.2.6.1.5	Prototype#1 MPC Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.6.2	2nd Mini Port Card	\$83,682	\$0	\$45,522	\$9,104	\$38,160	\$15,264	\$18,971	\$5,977	\$0	\$0										
1.1.2.6.2.1	#2 MPC: design and layout	\$21,280	\$0	\$0	\$0	\$21,280	\$8,512	\$6,086	\$2,434	\$0	\$0										
1.1.2.6.2.2	#2 MPC Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.6.2.3	#2 MPC: manufacturing	\$45,522	\$0	\$45,522	\$9,104	\$0	\$0	\$8,057	\$1,612	\$0	\$0										
1.1.2.6.2.4	#2 MPC: assembly and evaluation	\$16,880	\$0	\$0	\$0	\$16,880	\$6,752	\$4,828	\$1,931	\$0	\$0										
1.1.2.6.2.5	#2 MPC Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.6.3	Mini Port Card Preproduction	\$102,792	\$0	\$63,712	\$31,856	\$39,080	\$15,632	\$22,454	\$10,109	\$0	\$0										
1.1.2.6.3.1	Preproduction MPC: design and layout	\$15,960	\$0	\$0	\$0	\$15,960	\$6,384	\$4,665	\$1,826	\$0	\$0										
1.1.2.6.3.2	Preproduction MPC Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.6.3.3	Preproduction MPC: manufacturing	\$63,712	\$0	\$63,712	\$31,856	\$0	\$0	\$11,277	\$5,639	\$0	\$0										
1.1.2.6.3.4	Preproduction MPC assembly and evaluation	\$23,120	\$0	\$0	\$0	\$23,120	\$9,248	\$6,612	\$2,645	\$0	\$0										
1.1.2.6.3.5	Preproduction MPC Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.6.4	Mini Port Card Production	\$274,420	\$0	\$208,180	\$104,090	\$66,240	\$26,496	\$55,793	\$26,002	\$0	\$0										
1.1.2.6.4.1	Production MPC: design and layout	\$8,440	\$0	\$0	\$0	\$8,440	\$3,376	\$2,414	\$966	\$0	\$0										
1.1.2.6.4.2	Production MPC go ahead	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.6.4.3	Production MPC: manufacturing	\$208,180	\$0	\$208,180	\$104,090	\$0	\$0	\$36,848	\$18,424	\$0	\$0										
1.1.2.6.4.4	Production MPC available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.6.4.5	Production MPC: assembly and evaluation	\$57,800	\$0	\$0	\$0	\$57,800	\$23,120	\$16,531	\$6,612	\$0	\$0										
1.1.2.6.4.6	Production MPC complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.7	Junction Port Cards	\$262,558	\$61,156	\$150,000	\$69,750	\$112,558	\$43,263	\$58,742	\$24,719	\$0	\$0										
1.1.2.7.1	Junction Port Card Prototypes	\$48,318	\$61,156	\$9,000	\$4,500	\$39,318	\$13,967	\$12,838	\$4,791	\$0	\$0										
1.1.2.7.1.1	JPC for milestone #1	\$4,400	\$5,658	\$0	\$0	\$4,400	\$0	\$1,258	\$0	\$0	\$0										
1.1.2.7.1.2	Explicit Slack: start JPC design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.7.1.3	Prototype#1 JPC: specs, design and layout	\$16,758	\$21,551	\$0	\$0	\$16,758	\$6,703	\$4,793	\$1,917	\$0	\$0										
1.1.2.7.1.4	Prototype#1 JPC Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.7.1.5	Prototype#1 JPC: manufacturing	\$9,000	\$10,593	\$9,000	\$4,500	\$0	\$0	\$1,593	\$797	\$0	\$0										
1.1.2.7.1.6	Prototype#1 JPC: loading and testing	\$6,880	\$8,848	\$0	\$0	\$6,880	\$2,752	\$1,968	\$787	\$0	\$0										
1.1.2.7.1.7	Prototype#1 JPC Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.7.1.8	Prototype#1JPC: evaluation	\$11,280	\$14,506	\$0	\$0	\$11,280	\$4,512	\$3,226	\$1,290	\$0	\$0										
1.1.2.7.2	2nd Junction Port Card	\$34,680	\$0	\$9,000	\$0	\$25,680	\$10,272	\$8,938	\$2,938	\$0	\$0										
1.1.2.7.2.1	#2 JPC: design and layout	\$11,280	\$0	\$0	\$0	\$11,280	\$4,512	\$3,226	\$1,290	\$0	\$0										
1.1.2.7.2.2	#2 JPC Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.7.2.3	#2 JPC: manufacturing	\$9,000	\$0	\$9,000	\$0	\$0	\$0	\$1,593	\$0	\$0	\$0										
1.1.2.7.2.4	#2 JPC: loading and testing	\$6,880	\$0	\$0	\$0	\$6,880	\$2,752	\$1,968	\$787	\$0	\$0										
1.1.2.7.2.5	#2 JPC Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.7.2.6	#2: JPC evaluation	\$7,520	\$0	\$0	\$0	\$7,520	\$3,008	\$2,151	\$860	\$0	\$0										
1.1.2.7.3	Junction Portcard Preproduction	\$56,068	\$0	\$28,500	\$14,250	\$27,568	\$11,027	\$12,929	\$5,676	\$0	\$0										
1.1.2.7.3.1	Explicit Slack: Preproduction and production JPC design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.7.3.2	Preproduction JPC: design and layout	\$15,040	\$0	\$0	\$0	\$15,040	\$6,016	\$4,301	\$1,721	\$0	\$0										
1.1.2.7.3.3	Preproduction JPC Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.7.3.4	Preproduction JPC: manufacturing	\$25,500	\$0	\$25,500	\$12,750	\$0	\$0	\$4,514	\$2,257	\$0	\$0										
1.1.2.7.3.5	Preproduction JPC: assembly	\$3,000	\$0	\$3,000	\$1,500	\$0	\$0	\$531	\$266	\$0	\$0										
1.1.2.7.3.6	Preproduction JPC: testing	\$6,880	\$0	\$0	\$0	\$6,880	\$2,752	\$1,968	\$787	\$0	\$0										
1.1.2.7.3.7	Preproduction JPC available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.7.3.8	Preproduction JPC: evaluation	\$5,648	\$0	\$0	\$0	\$5,648	\$2,259	\$1,615	\$646	\$0	\$0										
1.1.2.7.4	Junction Portcard Production	\$123,492	\$0	\$103,500	\$51,000	\$19,992	\$7,997	\$24,037	\$11,314	\$0	\$0										
1.1.2.7.4.1	Production JPC: design and layout	\$2,200	\$0	\$0	\$0	\$2,200	\$880	\$629	\$252	\$0	\$0										
1.1.2.7.4.2	Production JPC go ahead	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.7.4.3	Production JPC: manufacturing	\$102,000	\$0	\$102,000	\$51,000	\$0	\$0	\$18,054	\$9,027	\$0	\$0										
1.1.2.7.4.4	Preproduction JPC: assembly	\$1,500	\$0	\$1,500	\$0	\$0	\$0	\$266	\$0	\$0	\$0										
1.1.2.7.4.5	Production JPC: testing	\$17,792	\$0	\$0	\$0	\$17,792	\$7,117	\$5,089	\$2,035	\$0	\$0										
1.1.2.7.4.6	Production JPC Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.7.4.7	Production JPC Complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8	Cables	\$488,906	\$23,568	\$435,816	\$212,408	\$53,090	\$17,092	\$92,323	\$42,485	\$0	\$0										
1.1.2.8.1	Cables from MPC to JPC	\$198,342	\$10,019	\$173,536	\$83,768	\$24,806	\$8,162	\$37,810	\$17,161	\$0	\$0										
1.1.2.8.1.1	Cables from MPC to JPC: Prototypes	\$6,400	\$10,019	\$2,000	\$0	\$4,400	\$0	\$1,612	\$0	\$0	\$0										

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WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002				2003				2004	
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
1.1.2.8.1.1.1	Finalize cables and connectors for milestone#1	\$4,400	\$5,658	\$0	\$0	\$4,400	\$0	\$1,258	\$0	\$0	\$0										
1.1.2.8.1.1.2	Procure cables for milestone#1	\$2,000	\$2,354	\$2,000	\$0	\$0	\$0	\$354	\$0	\$0	\$0										
1.1.2.8.1.1.3	MPC-JPC Cables available for milestone#1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.1.2	Cables from MPC to JPC: Preproduction and Production	\$191,942	\$0	\$171,536	\$83,768	\$20,406	\$8,162	\$36,198	\$17,161	\$0	\$0										
1.1.2.8.1.2.1	Finalize preproduction cables and connectors	\$7,520	\$0	\$0	\$0	\$7,520	\$3,008	\$2,151	\$860	\$0	\$0										
1.1.2.8.1.2.2	MPC-JPC Preproduction Cables and Connectors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.1.2.3	Preproduction MPC-JPC cables: procure	\$11,882	\$0	\$11,882	\$5,941	\$0	\$0	\$2,103	\$1,052	\$0	\$0										
1.1.2.8.1.2.4	Preproduction MPC-JPC cable: testing	\$4,780	\$0	\$4,000	\$0	\$780	\$312	\$931	\$89	\$0	\$0										
1.1.2.8.1.2.5	MPC-JPC preproduction cables available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.1.2.6	Explicit Slack: Order cables from MPC-JPC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.1.2.7	Production go ahead on MPC - JPC cables	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.1.2.8	Production MPC-JPC cables: procure	\$157,526	\$0	\$155,654	\$77,827	\$1,872	\$749	\$28,086	\$13,990	\$0	\$0										
1.1.2.8.1.2.9	Production MPC-JPC cable: testing	\$10,234	\$0	\$0	\$0	\$10,234	\$4,093	\$2,927	\$1,171	\$0	\$0										
1.1.2.8.1.2.10	MPC-JPC production cables available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.1.2.11	Production cables complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.2	Cables from JPC to Crates	\$290,565	\$13,550	\$262,280	\$128,640	\$28,285	\$8,930	\$54,513	\$25,323	\$0	\$0										
1.1.2.8.2.1	Cables from JPC to crates: prototypes	\$10,960	\$13,550	\$5,000	\$0	\$5,960	\$0	\$2,690	\$0	\$0	\$0										
1.1.2.8.2.1.1	Finalize cables and connectors for milestone #1	\$4,400	\$5,658	\$0	\$0	\$4,400	\$0	\$1,258	\$0	\$0	\$0										
1.1.2.8.2.1.2	Procure cables for milestone #1	\$5,000	\$5,885	\$5,000	\$0	\$0	\$0	\$885	\$0	\$0	\$0										
1.1.2.8.2.1.3	cable testing for milestone #1	\$1,560	\$2,006	\$0	\$0	\$1,560	\$0	\$446	\$0	\$0	\$0										
1.1.2.8.2.1.4	JPC-Crates cables available for milestone #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.2.2	Cables from JPC to crates: PreProduction and Production	\$279,605	\$0	\$257,280	\$128,640	\$22,325	\$8,930	\$51,924	\$25,323	\$0	\$0										
1.1.2.8.2.2.1	Finalize preproduction cables and connectors	\$11,280	\$0	\$0	\$0	\$11,280	\$4,512	\$3,226	\$1,290	\$0	\$0										
1.1.2.8.2.2.2	JPC-Crates preProduction Cables Finalized	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.2.2.3	Preproduction JPC-crates cables: procure	\$19,791	\$0	\$19,791	\$9,896	\$0	\$0	\$3,503	\$1,752	\$0	\$0										
1.1.2.8.2.2.4	Preproduction JPC-crates cable: testing	\$1,560	\$0	\$0	\$0	\$1,560	\$624	\$446	\$179	\$0	\$0										
1.1.2.8.2.2.5	Preproduction JPC-Crates cables available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.2.2.6	Explicit Slack: Order Cables for JPC-Crate	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.2.2.7	Production go ahead on JPC-Crates cables	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.2.2.8	Production JPC-crates cables: procurement	\$237,489	\$0	\$237,489	\$118,745	\$0	\$0	\$42,036	\$21,018	\$0	\$0										
1.1.2.8.2.2.9	Production JPC-crates cables: testing	\$9,485	\$0	\$0	\$0	\$9,485	\$3,794	\$2,713	\$1,085	\$0	\$0										
1.1.2.8.2.2.10	Production JPC cables available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.8.2.2.11	Production JPC cables complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.9	Fiber Transition Module Replacements	\$266,868	\$566	\$165,500	\$82,750	\$101,368	\$40,371	\$58,285	\$26,193	\$0	\$0										
1.1.2.9.1	FTM Prototype	\$440	\$566	\$0	\$0	\$440	\$0	\$126	\$0	\$0	\$0										
1.1.2.9.1.1	modify existing FTM for milestone #1	\$440	\$566	\$0	\$0	\$440	\$0	\$126	\$0	\$0	\$0										
1.1.2.9.1.2	FTM ready for milestone #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.9.2	FTM - 1st Preproduction	\$51,780	\$0	\$22,500	\$11,250	\$29,280	\$11,712	\$12,357	\$5,341	\$0	\$0										
1.1.2.9.2.1	Explicit Slack: FTM design	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.9.2.2	FTM: spec, design and layout	\$21,280	\$0	\$0	\$0	\$21,280	\$8,512	\$6,086	\$2,434	\$0	\$0										
1.1.2.9.2.3	FTM Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.9.2.4	FTM: procurement and assembly	\$22,500	\$0	\$22,500	\$11,250	\$0	\$0	\$3,983	\$1,991	\$0	\$0										
1.1.2.9.2.5	FTM: test and evaluation	\$8,000	\$0	\$0	\$0	\$8,000	\$3,200	\$2,288	\$915	\$0	\$0										
1.1.2.9.2.6	FTM available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.9.3	FTM preproduction	\$69,560	\$0	\$35,000	\$17,500	\$34,560	\$13,824	\$16,079	\$7,051	\$0	\$0										
1.1.2.9.3.1	Explicit Slack: Preproduction and Production FTMs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.9.3.2	Preproduction FTM: spec, design and layout	\$22,560	\$0	\$0	\$0	\$22,560	\$9,024	\$6,452	\$2,581	\$0	\$0										
1.1.2.9.3.3	Preproduction FTM Submission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.9.3.4	Preproduction FTM: procurement and assembly	\$35,000	\$0	\$35,000	\$17,500	\$0	\$0	\$6,195	\$3,098	\$0	\$0										
1.1.2.9.3.5	Preproduction FTM: test and evaluation	\$12,000	\$0	\$0	\$0	\$12,000	\$4,800	\$3,432	\$1,373	\$0	\$0										
1.1.2.9.3.6	Preproduction FTM available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.9.4	FTM Production	\$145,088	\$0	\$108,000	\$54,000	\$37,088	\$14,835	\$29,723	\$13,801	\$0	\$0										
1.1.2.9.4.1	Production FTM: spec, design and layout	\$26,960	\$0	\$0	\$0	\$26,960	\$10,784	\$7,711	\$3,084	\$0	\$0										
1.1.2.9.4.2	Production go ahead on FTMs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.9.4.3	Production FTM: procurement and assembly	\$108,000	\$0	\$108,000	\$54,000	\$0	\$0	\$19,116	\$9,558	\$0	\$0										
1.1.2.9.4.4	Production FTM: test	\$10,128	\$0	\$0	\$0	\$10,128	\$4,051	\$2,897	\$1,159	\$0	\$0										
1.1.2.9.4.5	Production FTM available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.9.4.6	Production FTMs complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.2.10	DAQ Testing & Readiness	\$291,200	\$57,418	\$262,400	\$131,200	\$28,800	\$11,520	\$54,682	\$26,517	\$0	\$0										
1.1.2.10.1	DAQ: upper DAQ upgrade	\$140,000	\$0	\$140,000	\$70,000	\$0	\$0	\$24,780	\$12,390	\$0	\$0										

CDF Run2b Silicon Detector Schedule

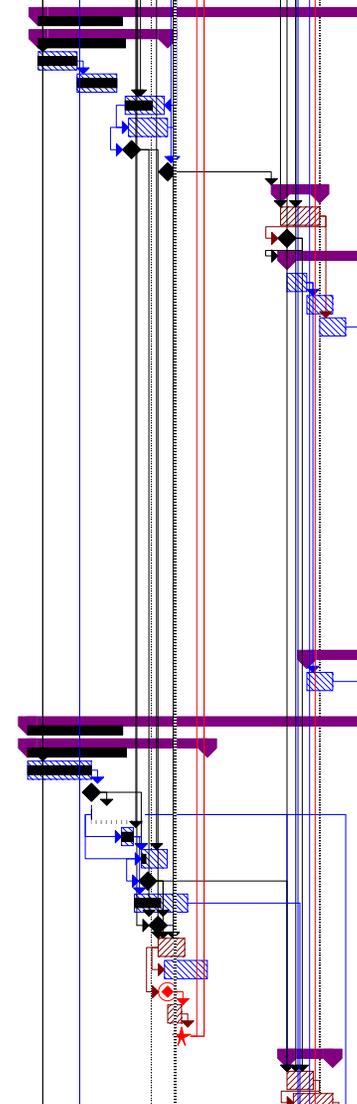
WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002				2003				2004		
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1
1.1.2.10.1.1	DAQ: SRC, FIB, VRB (FY 2003)	\$20,000	\$0	\$20,000	\$10,000	\$0	\$0	\$3,540	\$1,770	\$0	\$0											
1.1.2.10.1.2	DAQ: SRC, FIB, VRB (FY 2004)	\$60,000	\$0	\$60,000	\$30,000	\$0	\$0	\$10,620	\$5,310	\$0	\$0											
1.1.2.10.1.3	DAQ:SRC,FIB,VRB (FY 2005)	\$60,000	\$0	\$60,000	\$30,000	\$0	\$0	\$10,620	\$5,310	\$0	\$0											
1.1.2.10.2	<b>DAQ Testing Prototype</b>	<b>\$47,656</b>	<b>\$57,418</b>	<b>\$40,000</b>	<b>\$20,000</b>	<b>\$7,656</b>	<b>\$3,062</b>	<b>\$9,270</b>	<b>\$4,416</b>	<b>\$0</b>	<b>\$0</b>											
1.1.2.10.2.1	Testing of Prototype DAQ Chain	\$47,656	\$57,418	\$40,000	\$20,000	\$7,656	\$3,062	\$9,270	\$4,416	\$0	\$0											
1.1.2.10.2.2	Testing of Prototype DAQ Chain Complete-go ahead	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.10.2.3	Contingency: Go ahead for 2nd round prototypes (2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.10.2.4	L2MS Testing #1 complete-go ahead for #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.10.3	<b>DAQ Testing 2nd Round</b>	<b>\$2,928</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,928</b>	<b>\$1,171</b>	<b>\$837</b>	<b>\$335</b>	<b>\$0</b>	<b>\$0</b>											
1.1.2.10.3.1	Testing of proto #2 DAQ chain	\$2,928	\$0	\$0	\$0	\$2,928	\$1,171	\$837	\$335	\$0	\$0											
1.1.2.10.3.2	Go ahead for Preproduction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.10.3.3	Contingency: Go ahead for preproduction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.10.3.4	L2MS Go ahead for Preproduction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.10.4	<b>DAQ Testing Preproduction and Production</b>	<b>\$100,616</b>	<b>\$0</b>	<b>\$82,400</b>	<b>\$41,200</b>	<b>\$18,216</b>	<b>\$7,286</b>	<b>\$19,795</b>	<b>\$9,376</b>	<b>\$0</b>	<b>\$0</b>											
1.1.2.10.4.1	Develop a new test DAQ system	\$32,552	\$0	\$22,400	\$11,200	\$10,152	\$4,061	\$6,868	\$3,144	\$0	\$0											
1.1.2.10.4.2	Ready to test Preproduction DAQ chain	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.10.4.3	Testing of Preproduction DAQ chain	\$68,064	\$0	\$60,000	\$30,000	\$8,064	\$3,226	\$12,926	\$6,233	\$0	\$0											
1.1.2.10.4.4	DAQ Production Go-Ahead	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.10.4.5	Contingency: Go ahead for production	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.10.4.6	L2MS Goahead for DAQ production	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11	<b>Power Supply system</b>	<b>\$701,166</b>	<b>\$0</b>	<b>\$653,254</b>	<b>\$210,876</b>	<b>\$47,912</b>	<b>\$19,781</b>	<b>\$113,177</b>	<b>\$39,199</b>	<b>\$0</b>	<b>\$20,000</b>											
1.1.2.11.1	<b>Power Supplies Prototype</b>	<b>\$20,000</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$20,000</b>											
1.1.2.11.1.1	Selection of New Supplies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.1.2	Procure sample supplies	\$20,000	\$0	\$20,000	\$0	\$0	\$0	\$0	\$0	\$0	\$20,000											
1.1.2.11.1.3	Prototype Power Supplies available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.1.4	Test general features of Power supplies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.1.5	Tests at FNAL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.2	<b>Evaluation at FNAL</b>	<b>\$9,960</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$9,960</b>	<b>\$3,984</b>	<b>\$2,849</b>	<b>\$1,139</b>	<b>\$0</b>	<b>\$0</b>											
1.1.2.11.2.1	Evaluate power supplies	\$9,960	\$0	\$0	\$0	\$9,960	\$3,984	\$2,849	\$1,139	\$0	\$0											
1.1.2.11.2.2	Final Decision on Power Supply System	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.3	<b>Power Supplies Production</b>	<b>\$626,206</b>	<b>\$0</b>	<b>\$588,254</b>	<b>\$188,376</b>	<b>\$37,952</b>	<b>\$15,797</b>	<b>\$102,363</b>	<b>\$34,077</b>	<b>\$0</b>	<b>\$0</b>											
1.1.2.11.3.1	Explicit Slack on Production power supplies and pai	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.3.2	Patch Panel: design and test	\$3,760	\$0	\$2,000	\$2,000	\$1,760	\$1,320	\$857	\$732	\$0	\$0											
1.1.2.11.3.3	Power supply Production go ahead	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.3.4	Power Supply: procurement	\$571,254	\$0	\$571,254	\$171,376	\$0	\$0	\$88,500	\$26,550	\$0	\$0											
1.1.2.11.3.5	Power Supply: Test Stand development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.3.6	Production Power Supply Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.3.7	Power Supply: Testing	\$34,320	\$0	\$0	\$0	\$34,320	\$13,728	\$9,816	\$3,926	\$0	\$0											
1.1.2.11.3.8	Power Supply Complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.3.9	Patch Panel: production	\$16,872	\$0	\$15,000	\$15,000	\$1,872	\$749	\$3,190	\$2,869	\$0	\$0											
1.1.2.11.4	<b>Power Supply Control system</b>	<b>\$45,000</b>	<b>\$0</b>	<b>\$45,000</b>	<b>\$22,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,965</b>	<b>\$3,983</b>	<b>\$0</b>	<b>\$0</b>											
1.1.2.11.4.1	Explicit Slack on Power supply control system	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.4.2	Design prototype control system	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.4.3	procure parts for PS controls	\$35,000	\$0	\$35,000	\$17,500	\$0	\$0	\$6,195	\$3,098	\$0	\$0											
1.1.2.11.4.4	Develop PS control software	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.2.11.4.5	Monitor/update power supply control system	\$10,000	\$0	\$10,000	\$5,000	\$0	\$0	\$1,770	\$885	\$0	\$0											
1.1.2.11.4.6	Integrate with interlock system at B0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.3	<b>Sensors</b>	<b>\$1,661,768</b>	<b>\$171,107</b>	<b>\$1,612,728</b>	<b>\$173,819</b>	<b>\$49,040</b>	<b>\$10,579</b>	<b>\$155,471</b>	<b>\$33,792</b>	<b>\$813,602</b>	<b>\$0</b>											
1.1.3.1	<b>Outer layers</b>	<b>\$1,565,011</b>	<b>\$171,107</b>	<b>\$1,521,619</b>	<b>\$148,301</b>	<b>\$43,392</b>	<b>\$8,320</b>	<b>\$138,800</b>	<b>\$28,629</b>	<b>\$807,552</b>	<b>\$0</b>											
1.1.3.1.1	<b>Outer Sensors Prototypes (FNAL)</b>	<b>\$142,705</b>	<b>\$171,107</b>	<b>\$113,873</b>	<b>\$15,627</b>	<b>\$28,832</b>	<b>\$2,496</b>	<b>\$28,402</b>	<b>\$3,480</b>	<b>\$0</b>	<b>\$0</b>											
1.1.3.1.1.1	Dummy Sensors: layout	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.3.1.1.2	Dummy Sensors: manufacturing	\$13,200	\$15,536	\$13,200	\$3,960	\$0	\$0	\$2,336	\$701	\$0	\$0											
1.1.3.1.1.3	Prototype Sensor Layout	\$22,592	\$29,053	\$0	\$0	\$22,592	\$0	\$6,461	\$0	\$0	\$0											
1.1.3.1.1.4	Prototype Sensors: submission (SAS)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.3.1.1.5	Prototype Sensor manufacturing (SAS)	\$96,673	\$113,784	\$96,673	\$9,667	\$0	\$0	\$17,111	\$1,711	\$0	\$0											
1.1.3.1.1.6	Prototype Sensors Available (Axials in US))	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.3.1.1.7	Prototype Sensors Available (SAS in US))	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.3.1.1.8	Prototype Sensor evaluation and Radiation tests	\$10,240	\$12,733	\$4,000	\$2,000	\$6,240	\$2,496	\$2,493	\$1,068	\$0	\$0											
1.1.3.1.2	<b>Outer Sensors Production (FNAL)</b>	<b>\$614,754</b>	<b>\$0</b>	<b>\$600,194</b>	<b>\$60,019</b>	<b>\$14,560</b>	<b>\$5,824</b>	<b>\$110,399</b>	<b>\$12,289</b>	<b>\$0</b>	<b>\$0</b>											
1.1.3.1.2.1	Explicit Slack: production sensor order	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											

CDF Run2b Silicon Detector Schedule

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002		2003				2004
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1
1.1.3.1.2.2	Sensor final design work (Axials)	\$7,280	\$0	\$0	\$0	\$7,280	\$2,912	\$2,082	\$833	\$0	\$0							
1.1.3.1.2.3	Sensor final design work (SAS)	\$7,280	\$0	\$0	\$0	\$7,280	\$2,912	\$2,082	\$833	\$0	\$0							
1.1.3.1.2.4	<b>Production Sensor submission</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.1.2.5	Production Sensors manufacturing	\$300,097	\$0	\$300,097	\$30,010	\$0	\$0	\$53,117	\$5,312	\$0	\$0							
1.1.3.1.2.6	Production Sensors manufacturing	\$300,097	\$0	\$300,097	\$30,010	\$0	\$0	\$53,117	\$5,312	\$0	\$0							
1.1.3.1.2.7	Production Sensors Available (in US)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.1.2.8	Production Sensors Complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.1.3	<b>Outer Sensors (Japan - Prototyping)</b>	\$81,010	\$0	\$81,010	\$0	\$0	\$0	\$0	\$0	\$81,010	\$0							
1.1.3.1.3.1	Prototype Sensors: submission (Axials)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.1.3.2	Prototype Sensor manufacturing	\$81,010	\$0	\$81,010	\$0	\$0	\$0	\$0	\$0	\$81,010	\$0							
1.1.3.1.3.3	Prototype Sensors Available (Axials in Japan)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.1.3.4	Prototype Sensors Available (SAS in Japan)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.1.3.5	Prototype Sensors tests	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.1.4	<b>Outer Sensors (Japan - Production)</b>	\$726,542	\$0	\$726,542	\$72,654	\$0	\$0	\$0	\$12,860	\$726,542	\$0							
1.1.3.1.4.1	Production Sensors manufacturing	\$363,271	\$0	\$363,271	\$36,327	\$0	\$0	\$0	\$6,430	\$363,271	\$0							
1.1.3.1.4.2	Production sensor manufacturing	\$363,271	\$0	\$363,271	\$36,327	\$0	\$0	\$0	\$6,430	\$363,271	\$0							
1.1.3.1.4.3	Production Sensors Available (Japan)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.1.4.4	Sensor Testing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.2	<b>Layer 0</b>	\$96,757	\$0	\$91,109	\$25,518	\$5,648	\$2,259	\$16,671	\$5,163	\$6,050	\$0							
1.1.3.2.1	<b>layer L0</b>	\$90,707	\$0	\$85,059	\$25,518	\$5,648	\$2,259	\$16,671	\$5,163	\$0	\$0							
1.1.3.2.1.1	<i>Explicit slack on L0 sensor design</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.2.1.2	L0 Sensor final design work	\$5,648	\$0	\$0	\$0	\$5,648	\$2,259	\$1,615	\$646	\$0	\$0							
1.1.3.2.1.3	L0 Production sensor order	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.2.1.4	L0 sensors production	\$85,059	\$0	\$85,059	\$25,518	\$0	\$0	\$15,055	\$4,517	\$0	\$0							
1.1.3.2.1.5	Sensor Testing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.2.1.6	L0 Sensors Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.2.1.7	L0 Sensors Complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.3.2.2	<b>layer L00 left over</b>	\$6,050	\$0	\$6,050	\$0	\$0	\$0	\$0	\$0	\$6,050	\$0							
1.1.3.2.2.1	L00 sensors purchase	\$6,050	\$0	\$6,050	\$0	\$0	\$0	\$0	\$0	\$6,050	\$0							
1.1.4	<b>Cooling and Monitoring</b>	\$354,304	\$0	\$240,000	\$100,000	\$114,304	\$45,722	\$75,171	\$30,776	\$0	\$0							
1.1.4.1	<b>Cooling system SiDet</b>	\$43,392	\$0	\$20,000	\$10,000	\$23,392	\$9,357	\$10,230	\$4,446	\$0	\$0							
1.1.4.1.1	Build system for cooling staves during burn-in	\$14,352	\$0	\$10,000	\$5,000	\$4,352	\$1,741	\$3,015	\$1,383	\$0	\$0							
1.1.4.1.2	Update SiDet barrel cooling system	\$29,040	\$0	\$10,000	\$5,000	\$19,040	\$7,616	\$7,215	\$3,063	\$0	\$0							
1.1.4.2	<b>Cooling Manifolds and chiller components</b>	\$141,568	\$0	\$60,000	\$30,000	\$81,568	\$32,627	\$33,949	\$14,641	\$0	\$0							
1.1.4.2.1	Build internal manifolds and tubing	\$58,560	\$0	\$20,000	\$10,000	\$38,560	\$15,424	\$14,568	\$6,181	\$0	\$0							
1.1.4.2.2	<i>Explicit slack: build external manifolds, chiller parts</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.4.2.3	Build external manifolds	\$18,736	\$0	\$10,000	\$5,000	\$8,736	\$3,494	\$4,269	\$1,884	\$0	\$0							
1.1.4.2.4	production chiller components, manifolds, control valves	\$64,272	\$0	\$30,000	\$15,000	\$34,272	\$13,709	\$15,112	\$6,576	\$0	\$0							
1.1.4.3	<b>Interlocks</b>	\$100,000	\$0	\$100,000	\$30,000	\$0	\$0	\$17,700	\$5,310	\$0	\$0							
1.1.4.3.1	Upgrade existing system	\$100,000	\$0	\$100,000	\$30,000	\$0	\$0	\$17,700	\$5,310	\$0	\$0							
1.1.4.4	<b>Position Monitoring</b>	\$20,000	\$0	\$20,000	\$10,000	\$0	\$0	\$3,540	\$1,770	\$0	\$0							
1.1.4.4.1	<b>prototype Rasniks</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.4.4.1.1	Rasnik Prototype manufacturing and test	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.4.4.2	<b>production rasnik</b>	\$20,000	\$0	\$20,000	\$10,000	\$0	\$0	\$3,540	\$1,770	\$0	\$0							
1.1.4.4.2.1	Rasnik Production	\$20,000	\$0	\$20,000	\$10,000	\$0	\$0	\$3,540	\$1,770	\$0	\$0							
1.1.4.4.2.2	<b>Rasniks Complete</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.4.5	<b>Radiation Monitoring</b>	\$49,344	\$0	\$40,000	\$20,000	\$9,344	\$3,738	\$9,752	\$4,609	\$0	\$0							
1.1.4.5.1	Radiation monitors for inner(SVX and ISL) detector	\$24,672	\$0	\$20,000	\$10,000	\$4,672	\$1,869	\$4,876	\$2,305	\$0	\$0							
1.1.4.5.2	External radiation monitors and beam abort system	\$24,672	\$0	\$20,000	\$10,000	\$4,672	\$1,869	\$4,876	\$2,305	\$0	\$0							
1.1.5	<b>Construction of Modules, Staves and L0</b>	\$1,925,884	\$453,492	\$592,700	\$251,550	\$1,333,184	\$474,150	\$477,349	\$180,131	\$0	\$50,000							
1.1.5.1	<b>Beginning of Mechanical Project</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.5.2	<b>L0 Module Construction</b>	\$206,136	\$16,528	\$69,600	\$34,800	\$136,536	\$54,614	\$51,369	\$21,779	\$0	\$0							
1.1.5.2.1	<b>Layer 0 Module R&amp;D</b>	\$12,240	\$16,528	\$0	\$0	\$12,240	\$4,896	\$3,501	\$1,400	\$0	\$0							
1.1.5.2.1.1	L0 modules R&D and Prototype	\$12,240	\$16,528	\$0	\$0	\$12,240	\$4,896	\$3,501	\$1,400	\$0	\$0							
1.1.5.2.2	<b>L0 Module Preproduction</b>	\$73,210	\$0	\$23,200	\$11,600	\$50,010	\$20,004	\$18,409	\$7,774	\$0	\$0							
1.1.5.2.2.1	<i>Explicit Slack: L0 module preproduction fixture desi</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							
1.1.5.2.2.2	L0 module: fixtures design	\$34,378	\$0	\$0	\$0	\$34,378	\$13,751	\$9,832	\$3,933	\$0	\$0							
1.1.5.2.2.3	L0 module: material and fixtures	\$23,200	\$0	\$23,200	\$11,600	\$0	\$0	\$4,106	\$2,053	\$0	\$0							
1.1.5.2.2.4	L0 prototype module construction	\$10,952	\$0	\$0	\$0	\$10,952	\$4,381	\$3,132	\$1,253	\$0	\$0							
1.1.5.2.2.5	<b>L0 Prototype modules available</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0							

CDF Run2b Silicon Detector Schedule

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002				2003				2004	
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
1.1.5.2.2.6	L0 prototype modules evaluation	\$4,680	\$0	\$0	\$0	\$4,680	\$1,872	\$1,339	\$535	\$0	\$0										
1.1.5.2.2.7	L0 prototype modules complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.2.2.8	L2MS L0 prototype modules complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.2.3	Layer 0 Module Production	\$120,686	\$0	\$46,400	\$23,200	\$74,286	\$29,715	\$29,459	\$12,605	\$0	\$0										
1.1.5.2.3.1	Explicit slack: L0 module production	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.2.3.2	Production L0 module: fixture design	\$37,242	\$0	\$0	\$0	\$37,242	\$14,897	\$10,651	\$4,261	\$0	\$0										
1.1.5.2.3.3	Production L0 module: material and fixtures	\$46,400	\$0	\$46,400	\$23,200	\$0	\$0	\$8,213	\$4,106	\$0	\$0										
1.1.5.2.3.4	L0 Module production	\$37,044	\$0	\$0	\$0	\$37,044	\$14,818	\$10,595	\$4,238	\$0	\$0										
1.1.5.2.3.5	L0 Production Modules Available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.2.3.6	L0 Production Modules Complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.3	Outer layer modules	\$574,664	\$117,637	\$130,600	\$30,500	\$444,064	\$165,544	\$141,269	\$52,744	\$0	\$50,000										
1.1.5.3.1	Outer Layers Module Prototype	\$93,136	\$117,637	\$19,600	\$0	\$73,536	\$17,332	\$24,501	\$4,957	\$0	\$0										
1.1.5.3.1.1	Prototype Module: fixtures design	\$38,088	\$48,981	\$0	\$0	\$38,088	\$0	\$10,893	\$0	\$0	\$0										
1.1.5.3.1.2	Prototype Module: material and fixtures	\$19,600	\$23,069	\$19,600	\$0	\$0	\$0	\$3,469	\$0	\$0	\$0										
1.1.5.3.1.3	Prototype Module: Assembling	\$30,936	\$39,784	\$0	\$0	\$30,936	\$15,528	\$8,848	\$4,441	\$0	\$0										
1.1.5.3.1.4	Prototype Module testing	\$4,512	\$5,802	\$0	\$0	\$4,512	\$1,805	\$1,290	\$516	\$0	\$0										
1.1.5.3.1.5	Prototype modules available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.3.1.6	Prototype modules complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.3.2	Outer Layer Modules Round 2	\$30,936	\$0	\$0	\$0	\$30,936	\$12,374	\$8,848	\$3,539	\$0	\$0										
1.1.5.3.2.1	Module #2: Assembling	\$30,936	\$0	\$0	\$0	\$30,936	\$12,374	\$8,848	\$3,539	\$0	\$0										
1.1.5.3.2.2	modules # 2 available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.3.3	Outer Layers Module Preproduction	\$158,180	\$0	\$42,000	\$21,000	\$116,180	\$46,472	\$40,662	\$17,008	\$0	\$0										
1.1.5.3.3.1	Preproduction Module: fixtures design	\$19,452	\$0	\$0	\$0	\$19,452	\$7,781	\$5,563	\$2,225	\$0	\$0										
1.1.5.3.3.2	Preproduction Module: material and fixtures	\$48,944	\$0	\$42,000	\$21,000	\$6,944	\$2,778	\$9,420	\$4,511	\$0	\$0										
1.1.5.3.3.3	Preproduction module: Assembling training	\$23,504	\$0	\$0	\$0	\$23,504	\$9,402	\$6,722	\$2,689	\$0	\$0										
1.1.5.3.3.4	Preproduction module: Assembling	\$58,760	\$0	\$0	\$0	\$58,760	\$23,504	\$16,805	\$6,722	\$0	\$0										
1.1.5.3.3.5	Preproduction Module testing	\$7,520	\$0	\$0	\$0	\$7,520	\$3,008	\$2,151	\$860	\$0	\$0										
1.1.5.3.3.6	Preproduction modules available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.3.3.7	Preproduction modules complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.3.4	Outer Layers Module Production	\$242,412	\$0	\$19,000	\$9,500	\$223,412	\$89,365	\$67,259	\$27,240	\$0	\$0										
1.1.5.3.4.1	Production Module: fixtures design	\$8,544	\$0	\$0	\$0	\$8,544	\$3,418	\$2,444	\$977	\$0	\$0										
1.1.5.3.4.2	Production modules: material and fixtures	\$23,224	\$0	\$19,000	\$9,500	\$4,224	\$1,690	\$4,571	\$2,165	\$0	\$0										
1.1.5.3.4.3	Production Modules: Assembling	\$193,704	\$0	\$0	\$0	\$193,704	\$77,482	\$55,399	\$22,160	\$0	\$0										
1.1.5.3.4.4	Production Module testing	\$16,940	\$0	\$0	\$0	\$16,940	\$6,776	\$4,845	\$1,938	\$0	\$0										
1.1.5.3.4.5	Production modules available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.3.4.6	1st production module available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.3.4.7	Contingency on production module	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.3.4.8	L2MS Production module available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.3.4.9	Module Production complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.3.5	Outer Layer Module Fixtures	\$50,000	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000										
1.1.5.3.5.1	Bologna contribution to preproduction	\$38,000	\$0	\$38,000	\$0	\$0	\$0	\$0	\$0	\$0	\$38,000										
1.1.5.3.5.2	Bologna contribution to production	\$12,000	\$0	\$12,000	\$0	\$0	\$0	\$0	\$0	\$0	\$12,000										
1.1.5.4	Outer layer Staves	\$1,145,084	\$319,328	\$392,500	\$186,250	\$752,584	\$253,992	\$284,712	\$105,608	\$0	\$0										
1.1.5.4.1	Outer Layer Stave Prototype	\$254,684	\$319,328	\$83,500	\$31,750	\$171,184	\$29,880	\$63,738	\$14,165	\$0	\$0										
1.1.5.4.1.1	Prototype stave :Structural and cooling R&D	\$119,000	\$150,854	\$20,000	\$0	\$99,000	\$0	\$31,854	\$0	\$0	\$0										
1.1.5.4.1.2	Prototype Stave Design complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.4.1.3	Prototype Stave: material and fixtures	\$63,500	\$74,740	\$63,500	\$31,750	\$0	\$0	\$11,240	\$5,620	\$0	\$0										
1.1.5.4.1.4	Prototype Stave: mechanical core construction	\$6,120	\$7,870	\$0	\$0	\$6,120	\$0	\$1,750	\$0	\$0	\$0										
1.1.5.4.1.5	Prototype Stave: electrical core construction	\$12,240	\$15,741	\$0	\$0	\$12,240	\$6,150	\$3,501	\$1,759	\$0	\$0										
1.1.5.4.1.6	Prototype Stave: Electrical Cores available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.4.1.7	Prototype Stave: mechanical testing	\$21,120	\$27,160	\$0	\$0	\$21,120	\$10,649	\$6,040	\$3,046	\$0	\$0										
1.1.5.4.1.8	Ready to begin Prototype Electrical Stave Construc	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.4.1.9	Prototype Stave: electrical assembly	\$22,144	\$28,477	\$0	\$0	\$22,144	\$8,858	\$6,333	\$2,533	\$0	\$0										
1.1.5.4.1.10	Prototype Stave: electrical evaluation and Radiation Tes	\$10,560	\$14,486	\$0	\$0	\$10,560	\$4,224	\$3,020	\$1,208	\$0	\$0										
1.1.5.4.1.11	Prototype Stave #1 available	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.4.1.12	Contingency on Prototype Stave #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.4.1.13	L2MS Prototype stave #1 complete	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.5.4.2	Outer layer Staves round 2	\$32,704	\$0	\$0	\$0	\$32,704	\$13,082	\$9,353	\$3,741	\$0	\$0										
1.1.5.4.2.1	#2 Stave: electrical assembly	\$22,144	\$0	\$0	\$0	\$22,144	\$8,858	\$6,333	\$2,533	\$0	\$0										
1.1.5.4.2.2	#2 Stave: electrical testing and Rad. Tests	\$10,560	\$0	\$0	\$0	\$10,560	\$4,224	\$3,020	\$1,208	\$0	\$0										





CDF Run2b Silicon Detector Schedule

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002		2003				2004	
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
1.1.6.1.3.1.2	Barrel outer screen preproduction fabrication	\$26,000	\$0	\$26,000	\$13,000	\$0	\$0	\$4,602	\$2,301	\$0	\$0								
1.1.6.1.3.1.3	Barrel outer screen mount fabrication	\$2,000	\$0	\$2,000	\$1,000	\$0	\$0	\$354	\$177	\$0	\$0								
1.1.6.1.3.1.4	Test outer screen and mounts	\$8,520	\$0	\$0	\$0	\$8,520	\$3,408	\$2,437	\$975	\$0	\$0								
1.1.6.1.3.2	<b>Outer Screens Production</b>	<b>\$51,280</b>	<b>\$0</b>	<b>\$44,000</b>	<b>\$22,000</b>	<b>\$7,280</b>	<b>\$2,912</b>	<b>\$9,870</b>	<b>\$4,727</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.3.2.1	Design final outer screen and mounts	\$7,280	\$0	\$0	\$0	\$7,280	\$2,912	\$2,082	\$833	\$0	\$0								
1.1.6.1.3.2.2	Barrel outer screen production mount fabrication	\$4,000	\$0	\$4,000	\$2,000	\$0	\$0	\$708	\$354	\$0	\$0								
1.1.6.1.3.2.3	Barrel outer screen: production fabrication	\$40,000	\$0	\$40,000	\$20,000	\$0	\$0	\$7,080	\$3,540	\$0	\$0								
1.1.6.1.4	<b>Inner Screens</b>	<b>\$66,952</b>	<b>\$44,237</b>	<b>\$30,000</b>	<b>\$15,000</b>	<b>\$36,952</b>	<b>\$14,781</b>	<b>\$15,878</b>	<b>\$6,882</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.4.1	<b>Inner Screen Prototypes</b>	<b>\$35,416</b>	<b>\$44,237</b>	<b>\$12,000</b>	<b>\$6,000</b>	<b>\$23,416</b>	<b>\$9,366</b>	<b>\$8,821</b>	<b>\$3,741</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.4.1.1	Design inner screen and mounts	\$11,360	\$14,609	\$0	\$0	\$11,360	\$4,544	\$3,249	\$1,300	\$0	\$0								
1.1.6.1.4.1.2	Inner Screen prototype fabrication	\$10,536	\$12,786	\$7,000	\$3,500	\$3,536	\$1,414	\$2,250	\$1,024	\$0	\$0								
1.1.6.1.4.1.3	Barrel inner screen mount fabrication	\$5,000	\$5,885	\$5,000	\$2,500	\$0	\$0	\$885	\$443	\$0	\$0								
1.1.6.1.4.1.4	Test inner screen and mounts	\$8,520	\$10,957	\$0	\$0	\$8,520	\$3,408	\$2,437	\$975	\$0	\$0								
1.1.6.1.4.2	<b>Inner Screens Production</b>	<b>\$31,536</b>	<b>\$0</b>	<b>\$18,000</b>	<b>\$9,000</b>	<b>\$13,536</b>	<b>\$5,414</b>	<b>\$7,057</b>	<b>\$3,142</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.4.2.1	Design final inner screen and mounts	\$7,280	\$0	\$0	\$0	\$7,280	\$2,912	\$2,082	\$833	\$0	\$0								
1.1.6.1.4.2.2	Barrel inner screen production mount fabrication	\$10,000	\$0	\$10,000	\$5,000	\$0	\$0	\$1,770	\$885	\$0	\$0								
1.1.6.1.4.2.3	Inner screen production fabrication	\$14,256	\$0	\$8,000	\$4,000	\$6,256	\$2,502	\$3,205	\$1,424	\$0	\$0								
1.1.6.1.5	<b>Analysis of Barrel structure</b>	<b>\$33,360</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$33,360</b>	<b>\$0</b>	<b>\$9,541</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.5.1	analysis of barrel structure	\$16,320	\$0	\$0	\$0	\$16,320	\$0	\$4,668	\$0	\$0	\$0								
1.1.6.1.5.2	Test structural stiffness	\$17,040	\$0	\$0	\$0	\$17,040	\$0	\$4,873	\$0	\$0	\$0								
1.1.6.1.6	<b>Bulkhead alignment fixture</b>	<b>\$50,880</b>	<b>\$32,497</b>	<b>\$10,000</b>	<b>\$5,000</b>	<b>\$40,880</b>	<b>\$11,168</b>	<b>\$13,462</b>	<b>\$4,079</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.6.1	<b>Prototype bulkhead alignment fixture</b>	<b>\$29,280</b>	<b>\$32,497</b>	<b>\$5,000</b>	<b>\$2,500</b>	<b>\$24,280</b>	<b>\$9,712</b>	<b>\$7,829</b>	<b>\$3,220</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.6.1.1	design prototype bulkhead alignment fixtures	\$14,560	\$18,724	\$0	\$0	\$14,560	\$5,824	\$4,164	\$1,666	\$0	\$0								
1.1.6.1.6.1.2	Fabricate prototype fixture	\$5,000	\$5,885	\$5,000	\$2,500	\$0	\$0	\$885	\$443	\$0	\$0								
1.1.6.1.6.1.3	Test bulkhead alignment fixture	\$9,720	\$7,887	\$0	\$0	\$9,720	\$3,888	\$2,780	\$1,112	\$0	\$0								
1.1.6.1.6.2	<b>Production fixture</b>	<b>\$21,600</b>	<b>\$0</b>	<b>\$5,000</b>	<b>\$2,500</b>	<b>\$16,600</b>	<b>\$1,456</b>	<b>\$5,633</b>	<b>\$859</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.6.2.1	Design production fixture	\$3,640	\$0	\$0	\$0	\$3,640	\$1,456	\$1,041	\$416	\$0	\$0								
1.1.6.1.6.2.2	Fabricate production fixture	\$17,960	\$0	\$5,000	\$2,500	\$12,960	\$0	\$4,592	\$443	\$0	\$0								
1.1.6.1.7	<b>Outer Screen Installation Fixture</b>	<b>\$38,160</b>	<b>\$0</b>	<b>\$10,000</b>	<b>\$5,000</b>	<b>\$28,160</b>	<b>\$5,824</b>	<b>\$9,824</b>	<b>\$2,551</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.7.1	<b>preproduction screen installation fixture</b>	<b>\$19,080</b>	<b>\$0</b>	<b>\$5,000</b>	<b>\$2,500</b>	<b>\$14,080</b>	<b>\$2,912</b>	<b>\$4,912</b>	<b>\$1,275</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.7.1.1	Design preproduction screen installation fixture	\$7,280	\$0	\$0	\$0	\$7,280	\$2,912	\$2,082	\$833	\$0	\$0								
1.1.6.1.7.1.2	Fabricate preproduction screen installation fixture	\$11,800	\$0	\$5,000	\$2,500	\$6,800	\$0	\$2,830	\$443	\$0	\$0								
1.1.6.1.7.2	<b>production screen installation fixture</b>	<b>\$19,080</b>	<b>\$0</b>	<b>\$5,000</b>	<b>\$2,500</b>	<b>\$14,080</b>	<b>\$2,912</b>	<b>\$4,912</b>	<b>\$1,275</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.7.2.1	Design Production screen installation fixture	\$7,280	\$0	\$0	\$0	\$7,280	\$2,912	\$2,082	\$833	\$0	\$0								
1.1.6.1.7.2.2	Fabricate production screen installation fixture	\$11,800	\$0	\$5,000	\$2,500	\$6,800	\$0	\$2,830	\$443	\$0	\$0								
1.1.6.1.8	<b>Axle Removal Fixture</b>	<b>\$46,556</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$10,000</b>	<b>\$26,556</b>	<b>\$6,270</b>	<b>\$11,135</b>	<b>\$3,563</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.8.1	<b>preproduction axle fixture</b>	<b>\$29,660</b>	<b>\$0</b>	<b>\$10,000</b>	<b>\$5,000</b>	<b>\$19,660</b>	<b>\$5,688</b>	<b>\$7,393</b>	<b>\$2,512</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.8.1.1	Design axle removal fixture	\$10,480	\$0	\$0	\$0	\$10,480	\$4,192	\$2,997	\$1,199	\$0	\$0								
1.1.6.1.8.1.2	Fabricate axle removal fixture	\$15,440	\$0	\$10,000	\$5,000	\$5,440	\$0	\$3,326	\$885	\$0	\$0								
1.1.6.1.8.1.3	Test axle removal fixture	\$3,740	\$0	\$0	\$0	\$3,740	\$1,496	\$1,070	\$428	\$0	\$0								
1.1.6.1.8.2	<b>production axle fixture</b>	<b>\$16,896</b>	<b>\$0</b>	<b>\$10,000</b>	<b>\$5,000</b>	<b>\$6,896</b>	<b>\$582</b>	<b>\$3,742</b>	<b>\$1,052</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.8.2.1	Design Production axle removal fixture	\$1,456	\$0	\$0	\$0	\$1,456	\$582	\$416	\$167	\$0	\$0								
1.1.6.1.8.2.2	Fabricate production axle removal fixture	\$15,440	\$0	\$10,000	\$5,000	\$5,440	\$0	\$3,326	\$885	\$0	\$0								
1.1.6.1.9	<b>Barrel into Spacetube Fixture</b>	<b>\$52,670</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$10,000</b>	<b>\$32,670</b>	<b>\$8,716</b>	<b>\$12,884</b>	<b>\$4,263</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.9.1	<b>preproduction fixture</b>	<b>\$31,990</b>	<b>\$0</b>	<b>\$10,000</b>	<b>\$5,000</b>	<b>\$21,990</b>	<b>\$6,620</b>	<b>\$8,059</b>	<b>\$2,778</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.9.1.1	<i>Explicit Slack: design barrel to spacetube fixtur</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.6.1.9.1.2	Design fixture	\$11,790	\$0	\$0	\$0	\$11,790	\$4,716	\$3,372	\$1,349	\$0	\$0								
1.1.6.1.9.1.3	Fabricate fixture	\$15,440	\$0	\$10,000	\$5,000	\$5,440	\$0	\$3,326	\$885	\$0	\$0								
1.1.6.1.9.1.4	Test fixture	\$4,760	\$0	\$0	\$0	\$4,760	\$1,904	\$1,361	\$545	\$0	\$0								
1.1.6.1.9.2	<b>production fixture</b>	<b>\$20,680</b>	<b>\$0</b>	<b>\$10,000</b>	<b>\$5,000</b>	<b>\$10,680</b>	<b>\$2,096</b>	<b>\$4,825</b>	<b>\$1,485</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.9.2.1	Design Production fixture	\$5,240	\$0	\$0	\$0	\$5,240	\$2,096	\$1,499	\$600	\$0	\$0								
1.1.6.1.9.2.2	Fabricate production fixture	\$15,440	\$0	\$10,000	\$5,000	\$5,440	\$0	\$3,326	\$885	\$0	\$0								
1.1.6.1.10	<b>Spacetube and cradle and rails</b>	<b>\$198,994</b>	<b>\$0</b>	<b>\$95,000</b>	<b>\$47,500</b>	<b>\$103,994</b>	<b>\$41,598</b>	<b>\$46,557</b>	<b>\$20,305</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.10.1	<b>Spacetube preproduction</b>	<b>\$62,640</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$10,000</b>	<b>\$42,640</b>	<b>\$17,056</b>	<b>\$15,735</b>	<b>\$6,648</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.10.1.1	<i>Explicit Slack: start preproduction space tube d</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.6.1.10.1.2	Design spacetube	\$22,720	\$0	\$0	\$0	\$22,720	\$9,088	\$6,498	\$2,599	\$0	\$0								
1.1.6.1.10.1.3	Fabricate preproduction spacetube	\$20,000	\$0	\$20,000	\$10,000	\$0	\$0	\$3,540	\$1,770	\$0	\$0								
1.1.6.1.10.1.4	Test preproduction spacetube	\$19,920	\$0	\$0	\$0	\$19,920	\$7,968	\$5,697	\$2,279	\$0	\$0								
1.1.6.1.10.2	<b>Spacetube Production</b>	<b>\$66,512</b>	<b>\$0</b>	<b>\$50,000</b>	<b>\$25,000</b>	<b>\$16,512</b>	<b>\$6,805</b>	<b>\$13,572</b>	<b>\$6,314</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.10.2.1	<i>explicit slack: start production space tube desig</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								

CDF Run2b Silicon Detector Schedule

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002		2003				2004	
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
1.1.6.1.10.2.2	Design production spacetube	\$5,680	\$0	\$0	\$0	\$5,680	\$2,272	\$1,625	\$650	\$0	\$0								
1.1.6.1.10.2.3	Fabricate production Spacetube	\$50,000	\$0	\$50,000	\$25,000	\$0	\$0	\$8,850	\$4,425	\$0	\$0								
1.1.6.1.10.2.4	Test production spacetube	\$10,832	\$0	\$0	\$0	\$10,832	\$4,333	\$3,098	\$1,239	\$0	\$0								
1.1.6.1.10.3	<b>Support Cradle</b>	<b>\$39,890</b>	<b>\$0</b>	<b>\$15,000</b>	<b>\$7,500</b>	<b>\$24,890</b>	<b>\$9,956</b>	<b>\$9,774</b>	<b>\$4,175</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.10.3.1	Design support cradle	\$11,100	\$0	\$0	\$0	\$11,100	\$4,440	\$3,175	\$1,270	\$0	\$0								
1.1.6.1.10.3.2	Fabricate support cradle	\$28,790	\$0	\$15,000	\$7,500	\$13,790	\$5,516	\$6,599	\$2,905	\$0	\$0								
1.1.6.1.10.4	<b>Update cradle support rail system</b>	<b>\$29,952</b>	<b>\$0</b>	<b>\$10,000</b>	<b>\$5,000</b>	<b>\$19,952</b>	<b>\$7,981</b>	<b>\$7,476</b>	<b>\$3,168</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.10.4.1	rail system: Design	\$10,752	\$0	\$0	\$0	\$10,752	\$4,301	\$3,075	\$1,230	\$0	\$0								
1.1.6.1.10.4.2	rail system: Fabrication	\$10,000	\$0	\$10,000	\$5,000	\$0	\$0	\$1,770	\$885	\$0	\$0								
1.1.6.1.10.4.3	rail system: assembly and alignment	\$9,200	\$0	\$0	\$0	\$9,200	\$3,680	\$2,631	\$1,053	\$0	\$0								
1.1.6.1.11	<b>Layer 0 CF structure</b>	<b>\$374,043</b>	<b>\$0</b>	<b>\$133,000</b>	<b>\$66,500</b>	<b>\$241,043</b>	<b>\$78,903</b>	<b>\$92,479</b>	<b>\$34,337</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.11.1	<b>Layer 0 CF support R&amp;D</b>	<b>\$87,570</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$87,570</b>	<b>\$17,514</b>	<b>\$25,045</b>	<b>\$5,009</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.11.1.1	CF Support R&D	\$87,570	\$0	\$0	\$0	\$87,570	\$17,514	\$25,045	\$5,009	\$0	\$0								
1.1.6.1.11.2	<b>LO CF support Proproduction</b>	<b>\$132,290</b>	<b>\$0</b>	<b>\$66,500</b>	<b>\$33,250</b>	<b>\$65,790</b>	<b>\$26,316</b>	<b>\$30,586</b>	<b>\$13,412</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.11.2.1	<i>Explicit Slack: CF Support manufacturing evalu</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.6.1.11.2.2	CF Support Design	\$46,998	\$0	\$0	\$0	\$46,998	\$18,799	\$13,441	\$5,377	\$0	\$0								
1.1.6.1.11.2.3	CF Support Preproduction: manufacturing	\$66,500	\$0	\$66,500	\$33,250	\$0	\$0	\$11,771	\$5,885	\$0	\$0								
1.1.6.1.11.2.4	CF Support: evaluation and testing	\$18,792	\$0	\$0	\$0	\$18,792	\$7,517	\$5,375	\$2,150	\$0	\$0								
1.1.6.1.11.2.5	<i>preproduction CF support ready and tested</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.6.1.11.3	<b>Layer 0 CF support production</b>	<b>\$154,163</b>	<b>\$0</b>	<b>\$66,500</b>	<b>\$33,250</b>	<b>\$87,683</b>	<b>\$35,073</b>	<b>\$36,848</b>	<b>\$15,916</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.1.11.3.1	CF Support: Design	\$46,163	\$0	\$0	\$0	\$46,163	\$18,465	\$13,203	\$5,281	\$0	\$0								
1.1.6.1.11.3.2	CF Support: manufacturing	\$66,500	\$0	\$66,500	\$33,250	\$0	\$0	\$11,771	\$5,885	\$0	\$0								
1.1.6.1.11.3.3	<i>Explicit Slack: CF Support manufacturing evalu</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.6.1.11.3.4	CF Support: assembly and test	\$41,520	\$0	\$0	\$0	\$41,520	\$16,608	\$11,875	\$4,750	\$0	\$0								
1.1.6.1.11.3.5	<b>L0 Supports Complete</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2	<b>Integration Fixtures</b>	<b>\$444,732</b>	<b>\$0</b>	<b>\$148,000</b>	<b>\$74,000</b>	<b>\$296,732</b>	<b>\$107,813</b>	<b>\$111,061</b>	<b>\$43,933</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2.1	<b>Inner detector installation fixtures</b>	<b>\$100,600</b>	<b>\$0</b>	<b>\$40,000</b>	<b>\$20,000</b>	<b>\$60,600</b>	<b>\$24,240</b>	<b>\$24,412</b>	<b>\$10,473</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2.1.1	<b>LO inst. Fixture Preproduction</b>	<b>\$57,580</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$10,000</b>	<b>\$37,580</b>	<b>\$15,032</b>	<b>\$14,288</b>	<b>\$6,069</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2.1.1.1	<i>Explicit Slack: Inner detector installation fixture</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.6.2.1.1.2	Preproduction Inner Detector Installation Fixtures: c	\$30,940	\$0	\$0	\$0	\$30,940	\$12,376	\$8,849	\$3,540	\$0	\$0								
1.1.6.2.1.1.3	Preproduction Inner Detector Installation Fixtures: f	\$20,000	\$0	\$20,000	\$10,000	\$0	\$0	\$3,540	\$1,770	\$0	\$0								
1.1.6.2.1.1.4	Preproduction Inner Detector Installation Fixtures: t	\$6,640	\$0	\$0	\$0	\$6,640	\$2,656	\$1,899	\$760	\$0	\$0								
1.1.6.2.1.2	<b>LO inst. Fixture Production</b>	<b>\$43,020</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$10,000</b>	<b>\$23,020</b>	<b>\$9,208</b>	<b>\$10,124</b>	<b>\$4,404</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2.1.2.1	Inner Detector Installation Fixtures: Final Design	\$16,380	\$0	\$0	\$0	\$16,380	\$6,552	\$4,685	\$1,874	\$0	\$0								
1.1.6.2.1.2.2	Inner Detector Installation Fixtures: fabrication	\$20,000	\$0	\$20,000	\$10,000	\$0	\$0	\$3,540	\$1,770	\$0	\$0								
1.1.6.2.1.2.3	Inner Detector Installation Fixtures: test	\$6,640	\$0	\$0	\$0	\$6,640	\$2,656	\$1,899	\$760	\$0	\$0								
1.1.6.2.1.2.4	<i>Ready to integrate inner and outer detectors</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.6.2.2	<b>Beampipe supports</b>	<b>\$53,276</b>	<b>\$0</b>	<b>\$25,000</b>	<b>\$12,500</b>	<b>\$28,276</b>	<b>\$11,310</b>	<b>\$12,512</b>	<b>\$5,447</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2.2.1	<b>Beampipe supports preproduction</b>	<b>\$30,608</b>	<b>\$0</b>	<b>\$10,000</b>	<b>\$5,000</b>	<b>\$20,608</b>	<b>\$8,243</b>	<b>\$7,664</b>	<b>\$3,243</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2.2.1.1	<i>Explicit Slack: start beampipe support design</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.6.2.2.1.2	Design preproduction beampipe supports	\$7,280	\$0	\$0	\$0	\$7,280	\$2,912	\$2,082	\$833	\$0	\$0								
1.1.6.2.2.1.3	Fabricate preproduction beampipe supports	\$15,848	\$0	\$10,000	\$5,000	\$5,848	\$2,339	\$3,443	\$1,554	\$0	\$0								
1.1.6.2.2.1.4	Test preproduction beampipe supports	\$7,480	\$0	\$0	\$0	\$7,480	\$2,992	\$2,139	\$856	\$0	\$0								
1.1.6.2.2.2	<b>Beampipe Supports (production)</b>	<b>\$22,668</b>	<b>\$0</b>	<b>\$15,000</b>	<b>\$7,500</b>	<b>\$7,668</b>	<b>\$3,067</b>	<b>\$4,848</b>	<b>\$2,205</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2.2.2.1	Design final beampipe supports	\$1,820	\$0	\$0	\$0	\$1,820	\$728	\$521	\$208	\$0	\$0								
1.1.6.2.2.2.2	Fabricate final beampipe supports	\$20,848	\$0	\$15,000	\$7,500	\$5,848	\$2,339	\$4,328	\$1,997	\$0	\$0								
1.1.6.2.3	<b>Beampipe Installation Fixtures</b>	<b>\$20,080</b>	<b>\$0</b>	<b>\$6,000</b>	<b>\$3,000</b>	<b>\$14,080</b>	<b>\$5,632</b>	<b>\$5,089</b>	<b>\$2,142</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2.3.1	Beampipe installation fixture: Design	\$7,280	\$0	\$0	\$0	\$7,280	\$2,912	\$2,082	\$833	\$0	\$0								
1.1.6.2.3.2	Beampipe installation fixture: fabrication	\$5,000	\$0	\$5,000	\$2,500	\$0	\$0	\$885	\$443	\$0	\$0								
1.1.6.2.3.3	procure mockup beampipe	\$1,000	\$0	\$1,000	\$500	\$0	\$0	\$177	\$89	\$0	\$0								
1.1.6.2.3.4	Beampipe installation fixture: test	\$6,800	\$0	\$0	\$0	\$6,800	\$2,720	\$1,945	\$778	\$0	\$0								
1.1.6.2.4	<b>Transportation Fixtures</b>	<b>\$99,440</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$10,000</b>	<b>\$79,440</b>	<b>\$27,424</b>	<b>\$26,260</b>	<b>\$9,613</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2.4.1	transportation fixture: update design	\$40,000	\$0	\$0	\$0	\$40,000	\$16,000	\$11,440	\$4,576	\$0	\$0								
1.1.6.2.4.2	transportation fixture: fabrication	\$30,880	\$0	\$20,000	\$10,000	\$10,880	\$0	\$6,652	\$1,770	\$0	\$0								
1.1.6.2.4.3	transportation fixture: final assembly and test	\$28,560	\$0	\$0	\$0	\$28,560	\$11,424	\$8,168	\$3,267	\$0	\$0								
1.1.6.2.5	<b>Positioning system (inchworms)</b>	<b>\$45,032</b>	<b>\$0</b>	<b>\$17,000</b>	<b>\$8,500</b>	<b>\$28,032</b>	<b>\$11,213</b>	<b>\$11,026</b>	<b>\$4,711</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2.5.1	<b>Positioning System preproduction</b>	<b>\$22,960</b>	<b>\$0</b>	<b>\$2,000</b>	<b>\$1,000</b>	<b>\$20,960</b>	<b>\$8,384</b>	<b>\$6,349</b>	<b>\$2,575</b>	<b>\$0</b>	<b>\$0</b>								
1.1.6.2.5.1.1	<i>Explicit Slack: Design replacement for inchworm</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0								
1.1.6.2.5.1.2	positioning jacks(inchworms): design	\$20,960	\$0	\$0	\$0	\$20,960	\$8,384	\$5,995	\$2,398	\$0	\$0								
1.1.6.2.5.1.3	positioning jack prototype manufacturing	\$2,000	\$0	\$2,000	\$1,000	\$0	\$0	\$354	\$177	\$0	\$0								

CDF Run2b Silicon Detector Schedule

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002				2003				2004	
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
1.1.6.2.5.1.4	Preproduction positioning jack testing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.6.2.5.2	<b>Positioning System Production</b>	<b>\$22,072</b>	<b>\$0</b>	<b>\$15,000</b>	<b>\$7,500</b>	<b>\$7,072</b>	<b>\$2,829</b>	<b>\$4,678</b>	<b>\$2,137</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.2.5.2.1	positioning jacks: manufacturing	\$15,000	\$0	\$15,000	\$7,500	\$0	\$0	\$2,655	\$1,328	\$0	\$0										
1.1.6.2.5.2.2	positioning jacks: Assemble and test	\$7,072	\$0	\$0	\$0	\$7,072	\$2,829	\$2,023	\$809	\$0	\$0										
1.1.6.2.6	<b>Installation fixture for SVXIIb into ISL</b>	<b>\$126,304</b>	<b>\$0</b>	<b>\$40,000</b>	<b>\$20,000</b>	<b>\$86,304</b>	<b>\$27,994</b>	<b>\$31,763</b>	<b>\$11,546</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.2.6.1	Design Fixtures for removal of SVXII and installation of f	\$40,000	\$0	\$0	\$0	\$40,000	\$16,000	\$11,440	\$4,576	\$0	\$0										
1.1.6.2.6.2	Fabricate fixtures for SVX removal and installation of SV	\$46,320	\$0	\$30,000	\$15,000	\$16,320	\$0	\$9,978	\$2,655	\$0	\$0										
1.1.6.2.6.3	Assemble and Test fixtures for SVX removal and install	\$13,280	\$0	\$0	\$0	\$13,280	\$5,312	\$3,798	\$1,519	\$0	\$0										
1.1.6.2.6.4	Design and fabricate parts for ISL extension cylinder	\$26,704	\$0	\$10,000	\$5,000	\$16,704	\$6,682	\$6,547	\$2,796	\$0	\$0										
1.1.6.3	<b>Final Assembly (Stave Installation, L0 module inst.)</b>	<b>\$567,793</b>	<b>\$0</b>	<b>\$177,100</b>	<b>\$88,550</b>	<b>\$390,693</b>	<b>\$168,993</b>	<b>\$143,085</b>	<b>\$64,006</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1	<b>Stave Installation (Outer)</b>	<b>\$364,840</b>	<b>\$0</b>	<b>\$100,000</b>	<b>\$50,000</b>	<b>\$264,840</b>	<b>\$105,936</b>	<b>\$93,444</b>	<b>\$39,148</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1.1	<b>Stave Installation Fixture Preproduction</b>	<b>\$101,360</b>	<b>\$0</b>	<b>\$30,000</b>	<b>\$15,000</b>	<b>\$71,360</b>	<b>\$28,544</b>	<b>\$25,719</b>	<b>\$10,819</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1.1.1	<i>Explicit Slack: tests of Stave installation and as</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>										
1.1.6.3.1.1.2	Preproduction stave installation fixture: Design	\$37,280	\$0	\$0	\$0	\$37,280	\$14,912	\$10,662	\$4,265	\$0	\$0										
1.1.6.3.1.1.3	Preproduction stave installation fixture: fabrication	\$30,000	\$0	\$30,000	\$15,000	\$0	\$0	\$5,310	\$2,655	\$0	\$0										
1.1.6.3.1.1.4	Preproduction stave installation fixture: setup and te	\$34,080	\$0	\$0	\$0	\$34,080	\$13,632	\$9,747	\$3,899	\$0	\$0										
1.1.6.3.1.1.5	<b>Milestone: all tests of stave installation, screen</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1.2	<b>Stave Installation Fixture Production</b>	<b>\$186,864</b>	<b>\$0</b>	<b>\$70,000</b>	<b>\$35,000</b>	<b>\$116,864</b>	<b>\$46,746</b>	<b>\$45,813</b>	<b>\$19,564</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1.2.1	Stave installation fixtures: design	\$20,960	\$0	\$0	\$0	\$20,960	\$8,384	\$5,995	\$2,398	\$0	\$0										
1.1.6.3.1.2.2	Stave installation fixtures: fabrication	\$70,000	\$0	\$70,000	\$35,000	\$0	\$0	\$12,390	\$6,195	\$0	\$0										
1.1.6.3.1.2.3	Stave installation fixture: setup and Alignment	\$66,720	\$0	\$0	\$0	\$66,720	\$26,688	\$19,082	\$7,633	\$0	\$0										
1.1.6.3.1.2.4	Bulkhead installation and alignment	\$29,184	\$0	\$0	\$0	\$29,184	\$11,674	\$8,347	\$3,339	\$0	\$0										
1.1.6.3.1.2.5	<b>Ready for stave installation</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1.3	<b>Stave Installation</b>	<b>\$76,616</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$76,616</b>	<b>\$30,646</b>	<b>\$21,912</b>	<b>\$8,765</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1.3.1	<b>Stave installation begins</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1.3.2	<i>Contingency on Stave Installation begins</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>										
1.1.6.3.1.3.3	<b>L2MS Stave Installation Begins</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1.3.4	Installation of staves	\$31,536	\$0	\$0	\$0	\$31,536	\$12,614	\$9,019	\$3,608	\$0	\$0										
1.1.6.3.1.3.5	Installation of Stave: electrical testing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
1.1.6.3.1.3.6	<b>Stave installation complete</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1.3.7	<i>Contingency on Stave Installation</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>										
1.1.6.3.1.3.8	<b>L2MS Stave Installation Complete</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1.3.9	Final system tests	\$20,920	\$0	\$0	\$0	\$20,920	\$8,368	\$5,983	\$2,393	\$0	\$0										
1.1.6.3.1.3.10	installation of outer screen	\$3,400	\$0	\$0	\$0	\$3,400	\$1,360	\$972	\$389	\$0	\$0										
1.1.6.3.1.3.11	remove axle	\$5,280	\$0	\$0	\$0	\$5,280	\$2,112	\$1,510	\$604	\$0	\$0										
1.1.6.3.1.3.12	Installation of barrel in spacetube	\$8,680	\$0	\$0	\$0	\$8,680	\$3,472	\$2,483	\$993	\$0	\$0										
1.1.6.3.1.3.13	dressing of cables and cooling	\$6,800	\$0	\$0	\$0	\$6,800	\$2,720	\$1,945	\$778	\$0	\$0										
1.1.6.3.1.3.14	<b>Outer Detector Complete</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.1.3.15	<i>Contingency on Completion of outer detector</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>										
1.1.6.3.1.3.16	<b>Outer detector complete</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.2	<b>L0 Module Installation</b>	<b>\$202,953</b>	<b>\$0</b>	<b>\$77,100</b>	<b>\$38,550</b>	<b>\$125,853</b>	<b>\$63,057</b>	<b>\$49,641</b>	<b>\$24,858</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.2.1	<b>L0 installation fixture preproduction</b>	<b>\$66,981</b>	<b>\$0</b>	<b>\$25,700</b>	<b>\$12,850</b>	<b>\$41,281</b>	<b>\$20,707</b>	<b>\$16,355</b>	<b>\$8,197</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.2.1.1	<i>Explicit Slack: L0 Module installation fixture des</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>										
1.1.6.3.2.1.2	L0 module installation fixtures: design	\$14,721	\$0	\$0	\$0	\$14,721	\$7,316	\$4,210	\$2,092	\$0	\$0										
1.1.6.3.2.1.3	L0 module installation fixtures: fabrication	\$25,700	\$0	\$25,700	\$12,850	\$0	\$0	\$4,549	\$2,275	\$0	\$0										
1.1.6.3.2.1.4	L0 module installation fixtures: assembly and test	\$26,560	\$0	\$0	\$0	\$26,560	\$13,392	\$7,596	\$3,830	\$0	\$0										
1.1.6.3.2.2	<b>L0 installation fixture Production</b>	<b>\$80,664</b>	<b>\$0</b>	<b>\$51,400</b>	<b>\$25,700</b>	<b>\$29,264</b>	<b>\$14,706</b>	<b>\$17,467</b>	<b>\$8,755</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.2.2.1	L0 module installation fixtures: design	\$6,784	\$0	\$0	\$0	\$6,784	\$3,371	\$1,940	\$964	\$0	\$0										
1.1.6.3.2.2.2	L0 module installation fixtures: fabrication	\$51,400	\$0	\$51,400	\$25,700	\$0	\$0	\$9,098	\$4,549	\$0	\$0										
1.1.6.3.2.2.3	L0 module installation fixtures: assembly and setup	\$22,480	\$0	\$0	\$0	\$22,480	\$11,334	\$6,429	\$3,242	\$0	\$0										
1.1.6.3.2.3	<b>L0 installation</b>	<b>\$55,308</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$55,308</b>	<b>\$27,644</b>	<b>\$15,818</b>	<b>\$7,906</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.2.3.1	<i>Explicit slack: inner detector complete</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>										
1.1.6.3.2.3.2	Installation of L0 Modules	\$45,600	\$0	\$0	\$0	\$45,600	\$22,776	\$13,042	\$6,514	\$0	\$0										
1.1.6.3.2.3.3	L0 System Tests	\$7,328	\$0	\$0	\$0	\$7,328	\$3,684	\$2,096	\$1,054	\$0	\$0										
1.1.6.3.2.3.4	Installation of Screens	\$2,380	\$0	\$0	\$0	\$2,380	\$1,184	\$681	\$339	\$0	\$0										
1.1.6.3.2.3.5	<b>Inner Detector Complete</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.3.2.3.6	<b>L2MS inner detector complete</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.4	<b>Detector Integration</b>	<b>\$97,680</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$97,680</b>	<b>\$48,656</b>	<b>\$27,937</b>	<b>\$13,916</b>	<b>\$0</b>	<b>\$0</b>										
1.1.6.4.1	Combine Inner and Outer Detectors	\$24,160	\$0	\$0	\$0	\$24,160	\$12,021	\$6,910	\$3,438	\$0	\$0										
1.1.6.4.2	Install Beampipe and supports	\$21,120	\$0	\$0	\$0	\$21,120	\$10,508	\$6,040	\$3,005	\$0	\$0										

CDF Run2b Silicon Detector Schedule

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	2002				2003				2004		
												Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1
1.1.6.4.3	Final survey	\$21,120	\$0	\$0	\$0	\$21,120	\$10,531	\$6,040	\$3,012	\$0	\$0											
1.1.6.4.4	Final Cooling and electrical Tests	\$13,920	\$0	\$0	\$0	\$13,920	\$6,946	\$3,981	\$1,987	\$0	\$0											
1.1.6.4.5	Close top of spacetube (final dressing, position monitors)	\$17,360	\$0	\$0	\$0	\$17,360	\$8,650	\$4,965	\$2,474	\$0	\$0											
1.1.6.4.6	SVX2b Ready for Installation into ISL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.6.4.7	Contingency on closing spacetube	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.6.4.8	L2MS SVX2b Ready for Installation into ISL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
1.1.7	<b>Italy Buy Backs</b>	\$3	(\$24,999)	\$3	\$0	\$0	\$0	\$1	\$0	\$0	\$257,000											
1.1.7.1	I-BB - on 1st chip layout	\$1	(\$24,999)	\$1	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000											
1.1.7.2	I-BB on Production SVX4 chip manufacturing	\$1	\$0	\$1	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000											
1.1.7.3	I-BB on Power Supplies Procurement	\$1	\$0	\$1	\$0	\$0	\$0	\$0	\$0	\$0	\$132,000											
1.1.8	<b>Japan Buy Backs</b>	\$4	(\$96,672)	\$4	\$0	\$0	\$0	(\$138,400)	\$0	\$781,925	\$0											
1.1.8.1	J-BB on prototype sensors manufacturing	\$1	(\$96,672)	\$1	\$0	\$0	\$0	(\$17,111)	\$0	\$96,673	\$0											
1.1.8.2	J-BB on production sensors manufacturing I	\$1	\$0	\$1	\$0	\$0	\$0	(\$66,964)	\$0	\$378,327	\$0											
1.1.8.3	J-BB on production sensors manufacturing II	\$1	\$0	\$1	\$0	\$0	\$0	(\$39,270)	\$0	\$221,866	\$0											
1.1.8.4	J-BB on LO production sensors manufacturing	\$1	\$0	\$1	\$0	\$0	\$0	(\$15,055)	\$0	\$85,059	\$0											

