

CDF Run 2B Data Acquisition and Trigger Upgrade

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	Fixed Cost
1.31	Start of Run 2b DAQ and Trigger Project	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3	Run 2b DAQ and Trigger Project	\$4,113,571.00	\$711,942.00	\$3,958,243.00	\$2,079,373.90	\$155,328.00	\$126,188.00	\$720,429.82	\$384,403.45	\$0.00	\$84,000.00	\$0.00
1.3.1	Run 2b TDC Project	\$1,183,030.00	\$369,565.00	\$1,085,982.00	\$795,236.00	\$97,048.00	\$97,048.00	\$219,974.54	\$168,512.50	\$0.00	\$0.00	\$0.00
1.3.1.1	Start Run 2b TDC Subproject	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.2	Specification & Development	\$50,840.00	\$50,840.00	\$44,240.00	\$44,240.00	\$6,600.00	\$6,600.00	\$9,718.08	\$9,718.08	\$0.00	\$0.00	\$0.00
1.3.1.2.1	Formal Specification	\$1,120.00	\$1,120.00	\$1,120.00	\$1,120.00	\$0.00	\$0.00	\$198.24	\$198.24	\$0.00	\$0.00	\$0.00
1.3.1.2.1.1	Block Diagram	\$1,120.00	\$1,120.00	\$1,120.00	\$1,120.00	\$0.00	\$0.00	\$198.24	\$198.24	\$0.00	\$0.00	\$0.00
1.3.1.2.1.2	Physics Justification	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.2.2	Interface Specification	\$17,800.00	\$17,800.00	\$11,200.00	\$11,200.00	\$6,600.00	\$6,600.00	\$3,870.00	\$3,870.00	\$0.00	\$0.00	\$0.00
1.3.1.2.2.1	Trigger	\$6,600.00	\$6,600.00	\$0.00	\$0.00	\$6,600.00	\$6,600.00	\$1,887.60	\$1,887.60	\$0.00	\$0.00	\$0.00
1.3.1.2.2.2	ASDQ	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.2.2.3	Crate - Hardware	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.2.2.4	Data Transmission	\$11,200.00	\$11,200.00	\$11,200.00	\$11,200.00	\$0.00	\$0.00	\$1,982.40	\$1,982.40	\$0.00	\$0.00	\$0.00
1.3.1.2.3	Front End Timing	\$17,920.00	\$17,920.00	\$17,920.00	\$17,920.00	\$0.00	\$0.00	\$3,171.84	\$3,171.84	\$0.00	\$0.00	\$0.00
1.3.1.2.3.1	Simulation	\$6,720.00	\$6,720.00	\$6,720.00	\$6,720.00	\$0.00	\$0.00	\$1,189.44	\$1,189.44	\$0.00	\$0.00	\$0.00
1.3.1.2.3.2	Test Board	\$11,200.00	\$11,200.00	\$11,200.00	\$11,200.00	\$0.00	\$0.00	\$1,982.40	\$1,982.40	\$0.00	\$0.00	\$0.00
1.3.1.2.4	Buffer Management	\$6,440.00	\$6,440.00	\$6,440.00	\$6,440.00	\$0.00	\$0.00	\$1,139.88	\$1,139.88	\$0.00	\$0.00	\$0.00
1.3.1.2.4.1	Simulation	\$2,240.00	\$2,240.00	\$2,240.00	\$2,240.00	\$0.00	\$0.00	\$396.48	\$396.48	\$0.00	\$0.00	\$0.00
1.3.1.2.4.2	Trial Implementation	\$4,200.00	\$4,200.00	\$4,200.00	\$4,200.00	\$0.00	\$0.00	\$743.40	\$743.40	\$0.00	\$0.00	\$0.00
1.3.1.2.5	VME Interface	\$5,880.00	\$5,880.00	\$5,880.00	\$5,880.00	\$0.00	\$0.00	\$1,040.76	\$1,040.76	\$0.00	\$0.00	\$0.00
1.3.1.2.5.1	Simulation	\$1,680.00	\$1,680.00	\$1,680.00	\$1,680.00	\$0.00	\$0.00	\$297.36	\$297.36	\$0.00	\$0.00	\$0.00
1.3.1.2.5.2	Trial Implementation	\$4,200.00	\$4,200.00	\$4,200.00	\$4,200.00	\$0.00	\$0.00	\$743.40	\$743.40	\$0.00	\$0.00	\$0.00
1.3.1.2.6	Design Review	\$1,680.00	\$1,680.00	\$1,680.00	\$1,680.00	\$0.00	\$0.00	\$297.36	\$297.36	\$0.00	\$0.00	\$0.00
1.3.1.3	Detailed Design	\$126,060.00	\$126,060.00	\$98,560.00	\$98,560.00	\$27,500.00	\$27,500.00	\$25,310.12	\$25,310.12	\$0.00	\$0.00	\$0.00
1.3.1.3.1	Front End	\$11,200.00	\$11,200.00	\$11,200.00	\$11,200.00	\$0.00	\$0.00	\$1,982.40	\$1,982.40	\$0.00	\$0.00	\$0.00
1.3.1.3.2	Trigger Interface	\$11,200.00	\$11,200.00	\$11,200.00	\$11,200.00	\$0.00	\$0.00	\$1,982.40	\$1,982.40	\$0.00	\$0.00	\$0.00
1.3.1.3.3	Compression	\$8,400.00	\$8,400.00	\$8,400.00	\$8,400.00	\$0.00	\$0.00	\$1,486.80	\$1,486.80	\$0.00	\$0.00	\$0.00
1.3.1.3.4	Buffers	\$8,400.00	\$8,400.00	\$8,400.00	\$8,400.00	\$0.00	\$0.00	\$1,486.80	\$1,486.80	\$0.00	\$0.00	\$0.00
1.3.1.3.5	VME	\$5,600.00	\$5,600.00	\$5,600.00	\$5,600.00	\$0.00	\$0.00	\$991.20	\$991.20	\$0.00	\$0.00	\$0.00
1.3.1.3.6	Test Paths	\$5,600.00	\$5,600.00	\$5,600.00	\$5,600.00	\$0.00	\$0.00	\$991.20	\$991.20	\$0.00	\$0.00	\$0.00
1.3.1.3.7	Board Layout	\$16,800.00	\$16,800.00	\$16,800.00	\$16,800.00	\$0.00	\$0.00	\$2,973.60	\$2,973.60	\$0.00	\$0.00	\$0.00
1.3.1.3.8	Board Simulation	\$16,800.00	\$16,800.00	\$16,800.00	\$16,800.00	\$0.00	\$0.00	\$2,973.60	\$2,973.60	\$0.00	\$0.00	\$0.00
1.3.1.3.9	Documentation	\$14,000.00	\$14,000.00	\$14,000.00	\$14,000.00	\$0.00	\$0.00	\$2,478.00	\$2,478.00	\$0.00	\$0.00	\$0.00
1.3.1.3.10	Firmware development	\$27,500.00	\$27,500.00	\$0.00	\$0.00	\$27,500.00	\$27,500.00	\$7,865.00	\$7,865.00	\$0.00	\$0.00	\$0.00
1.3.1.3.11	Design Review	\$560.00	\$560.00	\$560.00	\$560.00	\$0.00	\$0.00	\$99.12	\$99.12	\$0.00	\$0.00	\$0.00
1.3.1.3.12	TDC Design Review	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.4	Prototype - V1.0	\$143,265.00	\$143,265.00	\$143,265.00	\$112,592.50	\$0.00	\$0.00	\$25,357.91	\$19,928.87	\$0.00	\$0.00	\$0.00
1.3.1.4.1	ASDQ test stand	\$35,000.00	\$35,000.00	\$35,000.00	\$17,500.00	\$0.00	\$0.00	\$6,195.00	\$3,097.50	\$0.00	\$0.00	\$0.00
1.3.1.4.2	Develop Test Protocols	\$33,600.00	\$33,600.00	\$33,600.00	\$33,600.00	\$0.00	\$0.00	\$5,947.20	\$5,947.20	\$0.00	\$0.00	\$0.00
1.3.1.4.3	Board Fabrication	\$5,055.00	\$5,055.00	\$5,055.00	\$2,527.50	\$0.00	\$0.00	\$894.74	\$447.37	\$0.00	\$0.00	\$0.00
1.3.1.4.4	Parts Procurement	\$19,540.00	\$19,540.00	\$19,540.00	\$9,770.00	\$0.00	\$0.00	\$3,458.58	\$1,729.29	\$0.00	\$0.00	\$0.00
1.3.1.4.5	First Board Assembly	\$350.00	\$350.00	\$350.00	\$175.00	\$0.00	\$0.00	\$61.95	\$30.98	\$0.00	\$0.00	\$0.00
1.3.1.4.6	First Prototype TDC available for testing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.4.7	Bench Tests	\$23,648.00	\$23,648.00	\$23,648.00	\$23,648.00	\$0.00	\$0.00	\$4,185.70	\$4,185.70	\$0.00	\$0.00	\$0.00
1.3.1.4.8	Multiple Board Assy	\$1,400.00	\$1,400.00	\$1,400.00	\$700.00	\$0.00	\$0.00	\$247.80	\$123.90	\$0.00	\$0.00	\$0.00
1.3.1.4.9	Bench Tests	\$5,912.00	\$5,912.00	\$5,912.00	\$5,912.00	\$0.00	\$0.00	\$1,046.42	\$1,046.42	\$0.00	\$0.00	\$0.00
1.3.1.4.10	B0 Tests	\$8,400.00	\$8,400.00	\$8,400.00	\$8,400.00	\$0.00	\$0.00	\$1,486.80	\$1,486.80	\$0.00	\$0.00	\$0.00
1.3.1.4.11	Documentation	\$9,800.00	\$9,800.00	\$9,800.00	\$9,800.00	\$0.00	\$0.00	\$1,734.60	\$1,734.60	\$0.00	\$0.00	\$0.00
1.3.1.4.12	Design Review	\$560.00	\$560.00	\$560.00	\$560.00	\$0.00	\$0.00	\$99.12	\$99.12	\$0.00	\$0.00	\$0.00
1.3.1.4.13	Design Review Milestone	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.5	Preproduction	\$151,441.00	\$0.00	\$151,441.00	\$100,892.50	\$0.00	\$0.00	\$26,805.06	\$17,857.97	\$0.00	\$0.00	\$0.00

CDF Run 2B Data Acquisition and Trigger Upgrade

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	Fixed Cost
1.3.1.5.1	TDC crate power supplies	\$2,000.00	\$0.00	\$2,000.00	\$1,000.00	\$0.00	\$0.00	\$354.00	\$177.00	\$0.00	\$0.00	\$0.00
1.3.1.5.2	Production test equipment	\$40,000.00	\$0.00	\$40,000.00	\$20,000.00	\$0.00	\$0.00	\$7,080.00	\$3,540.00	\$0.00	\$0.00	\$0.00
1.3.1.5.3	Layout Modification	\$8,400.00	\$0.00	\$8,400.00	\$8,400.00	\$0.00	\$0.00	\$1,486.80	\$1,486.80	\$0.00	\$0.00	\$0.00
1.3.1.5.4	Board Fabrication	\$5,297.00	\$0.00	\$5,297.00	\$2,648.50	\$0.00	\$0.00	\$937.57	\$468.78	\$0.00	\$0.00	\$0.00
1.3.1.5.5	Parts Procurement	\$50,800.00	\$0.00	\$50,800.00	\$25,400.00	\$0.00	\$0.00	\$8,991.60	\$4,495.80	\$0.00	\$0.00	\$0.00
1.3.1.5.6	First Board Assembly	\$150.00	\$0.00	\$150.00	\$75.00	\$0.00	\$0.00	\$26.55	\$13.28	\$0.00	\$0.00	\$0.00
1.3.1.5.7	Bench Tests	\$23,648.00	\$0.00	\$23,648.00	\$23,648.00	\$0.00	\$0.00	\$4,185.70	\$4,185.70	\$0.00	\$0.00	\$0.00
1.3.1.5.8	Multiple Board Assy	\$2,850.00	\$0.00	\$2,850.00	\$1,425.00	\$0.00	\$0.00	\$504.45	\$252.23	\$0.00	\$0.00	\$0.00
1.3.1.5.9	Bench Tests	\$2,800.00	\$0.00	\$2,800.00	\$2,800.00	\$0.00	\$0.00	\$495.60	\$495.60	\$0.00	\$0.00	\$0.00
1.3.1.5.10	B0 Tests	\$5,136.00	\$0.00	\$5,136.00	\$5,136.00	\$0.00	\$0.00	\$909.07	\$909.07	\$0.00	\$0.00	\$0.00
1.3.1.5.11	Documentation	\$9,800.00	\$0.00	\$9,800.00	\$9,800.00	\$0.00	\$0.00	\$1,734.60	\$1,734.60	\$0.00	\$0.00	\$0.00
1.3.1.5.12	Design Review	\$560.00	\$0.00	\$560.00	\$560.00	\$0.00	\$0.00	\$99.12	\$99.12	\$0.00	\$0.00	\$0.00
1.3.1.5.13	Beginning of TDC Production	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.6	Production	\$480,898.00	\$0.00	\$471,850.00	\$262,325.00	\$9,048.00	\$9,048.00	\$86,105.18	\$49,019.25	\$0.00	\$0.00	\$0.00
1.3.1.6.1	TDC crate power supplies	\$28,000.00	\$0.00	\$28,000.00	\$14,000.00	\$0.00	\$0.00	\$4,956.00	\$2,478.00	\$0.00	\$0.00	\$0.00
1.3.1.6.2	Bid Documentation	\$8,400.00	\$0.00	\$8,400.00	\$8,400.00	\$0.00	\$0.00	\$1,486.80	\$1,486.80	\$0.00	\$0.00	\$0.00
1.3.1.6.3	Board Fabrication	\$50,400.00	\$0.00	\$50,400.00	\$25,200.00	\$0.00	\$0.00	\$8,920.80	\$4,460.40	\$0.00	\$0.00	\$0.00
1.3.1.6.4	Parts Procurement	\$295,150.00	\$0.00	\$295,150.00	\$147,575.00	\$0.00	\$0.00	\$52,241.55	\$26,120.78	\$0.00	\$0.00	\$0.00
1.3.1.6.5	Board Assembly	\$45,500.00	\$0.00	\$45,500.00	\$22,750.00	\$0.00	\$0.00	\$8,053.50	\$4,026.75	\$0.00	\$0.00	\$0.00
1.3.1.6.6	Board Test	\$53,448.00	\$0.00	\$44,400.00	\$44,400.00	\$9,048.00	\$9,048.00	\$10,446.53	\$10,446.53	\$0.00	\$0.00	\$0.00
1.3.1.6.6.1	Production Test Stands	\$38,800.00	\$0.00	\$38,800.00	\$38,800.00	\$0.00	\$0.00	\$6,867.60	\$6,867.60	\$0.00	\$0.00	\$0.00
1.3.1.6.6.2	Test Software Revision	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.6.6.3	Test Data Base	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.6.6.4	First Pass Tests	\$5,920.00	\$0.00	\$2,800.00	\$2,800.00	\$3,120.00	\$3,120.00	\$1,387.92	\$1,387.92	\$0.00	\$0.00	\$0.00
1.3.1.6.6.5	Rework	\$5,920.00	\$0.00	\$2,800.00	\$2,800.00	\$3,120.00	\$3,120.00	\$1,387.92	\$1,387.92	\$0.00	\$0.00	\$0.00
1.3.1.6.6.6	Second Pass	\$2,808.00	\$0.00	\$0.00	\$0.00	\$2,808.00	\$2,808.00	\$803.09	\$803.09	\$0.00	\$0.00	\$0.00
1.3.1.6.6.7	Production Board testing complete	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.7	Data Concentrator	\$230,526.00	\$49,400.00	\$176,626.00	\$176,626.00	\$53,900.00	\$53,900.00	\$46,678.20	\$46,678.20	\$0.00	\$0.00	\$0.00
1.3.1.7.1	Readout Evaluation System	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$0.00	\$0.00	\$531.00	\$531.00	\$0.00	\$0.00	\$0.00
1.3.1.7.2	Design	\$17,600.00	\$17,600.00	\$0.00	\$0.00	\$17,600.00	\$17,600.00	\$5,033.60	\$5,033.60	\$0.00	\$0.00	\$0.00
1.3.1.7.3	Layout	\$8,800.00	\$8,800.00	\$0.00	\$0.00	\$8,800.00	\$8,800.00	\$2,516.80	\$2,516.80	\$0.00	\$0.00	\$0.00
1.3.1.7.4	Prototype fabrication	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$0.00	\$0.00	\$3,540.00	\$3,540.00	\$0.00	\$0.00	\$0.00
1.3.1.7.5	Test	\$9,900.00	\$0.00	\$0.00	\$0.00	\$9,900.00	\$9,900.00	\$2,831.40	\$2,831.40	\$0.00	\$0.00	\$0.00
1.3.1.7.6	Layout modification	\$8,800.00	\$0.00	\$0.00	\$0.00	\$8,800.00	\$8,800.00	\$2,516.80	\$2,516.80	\$0.00	\$0.00	\$0.00
1.3.1.7.7	Data Concentrator Preproduction Review	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.7.8	Preproduction fabrication	\$20,000.00	\$0.00	\$20,000.00	\$20,000.00	\$0.00	\$0.00	\$3,540.00	\$3,540.00	\$0.00	\$0.00	\$0.00
1.3.1.7.9	Preproduction checkout	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.7.10	Layout modification	\$8,800.00	\$0.00	\$0.00	\$0.00	\$8,800.00	\$8,800.00	\$2,516.80	\$2,516.80	\$0.00	\$0.00	\$0.00
1.3.1.7.11	Data Concentrator Production Review	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.7.12	Production fabrication	\$125,000.00	\$0.00	\$125,000.00	\$125,000.00	\$0.00	\$0.00	\$22,125.00	\$22,125.00	\$0.00	\$0.00	\$0.00
1.3.1.7.13	Production checkout	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.7.14	Purchase optical fibers	\$8,626.00	\$0.00	\$8,626.00	\$8,626.00	\$0.00	\$0.00	\$1,526.80	\$1,526.80	\$0.00	\$0.00	\$0.00
1.3.1.7.15	Data Concentrator Production Completed	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.1.8	Run 2b TDC Ready for Installation	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.2	Run 2b Level 2 Project	\$292,819.00	\$0.00	\$292,819.00	\$92,125.70	\$0.00	\$0.00	\$42,093.96	\$11,438.75	\$0.00	\$0.00	\$0.00
1.3.2.1	Start of Run 2b Level 2 Project	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.2.2	Testing and Software work existing L2 Pulsar test stand	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.2.3	Commission L2 Pulsar for each data path - proof of principle tests	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.2.4	Preproduction run of Pulsar L2 system	\$130,515.00	\$0.00	\$130,515.00	\$43,434.50	\$0.00	\$0.00	\$13,366.16	\$2,820.41	\$0.00	\$0.00	\$0.00
1.3.2.4.1	Preproduction Readiness Review Pulsar L2 system	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.2.4.2	Engineering on preproduction L2 system	\$22,400.00	\$0.00	\$22,400.00	\$0.00	\$0.00	\$0.00	\$3,964.80	\$0.00	\$0.00	\$0.00	\$0.00

CDF Run 2B Data Acquisition and Trigger Upgrade

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	Fixed Cost
1.3.2.4.3	Motherboards Fabrication	\$18,600.00	\$0.00	\$18,600.00	\$5,580.00	\$0.00	\$0.00	\$3,292.20	\$987.66	\$0.00	\$0.00	\$0.00
1.3.2.4.4	Mezzanine boards Fabrication	\$13,000.00	\$0.00	\$13,000.00	\$3,900.00	\$0.00	\$0.00	\$2,301.00	\$690.30	\$0.00	\$0.00	\$0.00
1.3.2.4.5	S-link Auxiliary boards	\$900.00	\$0.00	\$900.00	\$270.00	\$0.00	\$0.00	\$159.30	\$47.79	\$0.00	\$0.00	\$0.00
1.3.2.4.6	LSC/LDL + fiber boards	\$6,828.00	\$0.00	\$6,828.00	\$2,048.40	\$0.00	\$0.00	\$1,208.56	\$362.57	\$0.00	\$0.00	\$0.00
1.3.2.4.7	PCI-> S-link boards	\$2,574.00	\$0.00	\$2,574.00	\$772.20	\$0.00	\$0.00	\$455.60	\$136.68	\$0.00	\$0.00	\$0.00
1.3.2.4.8	S-link -> PCI boards	\$3,213.00	\$0.00	\$3,213.00	\$963.90	\$0.00	\$0.00	\$568.70	\$170.61	\$0.00	\$0.00	\$0.00
1.3.2.4.9	L2 decision processor	\$8,000.00	\$0.00	\$8,000.00	\$2,400.00	\$0.00	\$0.00	\$1,416.00	\$424.80	\$0.00	\$0.00	\$0.00
1.3.2.4.10	software development/memory management	\$55,000.00	\$0.00	\$55,000.00	\$27,500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.2.5	Vertical Slice Test	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.2.6	Production run of Pulsar L2 system	\$162,304.00	\$0.00	\$162,304.00	\$48,691.20	\$0.00	\$0.00	\$28,727.81	\$8,618.34	\$0.00	\$0.00	\$0.00
1.3.2.6.1	Production Readiness Review for Level 2 Pulsar system	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.2.6.2	Begin production of Level2 Pulsar system	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.2.6.3	Motherboards Fabrication	\$80,600.00	\$0.00	\$80,600.00	\$24,180.00	\$0.00	\$0.00	\$14,266.20	\$4,279.86	\$0.00	\$0.00	\$0.00
1.3.2.6.4	Mezzanine boards Fabrication	\$32,500.00	\$0.00	\$32,500.00	\$9,750.00	\$0.00	\$0.00	\$5,752.50	\$1,725.75	\$0.00	\$0.00	\$0.00
1.3.2.6.5	S-link Auxiliary boards	\$3,900.00	\$0.00	\$3,900.00	\$1,170.00	\$0.00	\$0.00	\$690.30	\$207.09	\$0.00	\$0.00	\$0.00
1.3.2.6.6	LSC/LDL + fiber boards	\$29,588.00	\$0.00	\$29,588.00	\$8,876.40	\$0.00	\$0.00	\$5,237.08	\$1,571.12	\$0.00	\$0.00	\$0.00
1.3.2.6.7	PCI-> S-link boards	\$3,432.00	\$0.00	\$3,432.00	\$1,029.60	\$0.00	\$0.00	\$607.46	\$182.24	\$0.00	\$0.00	\$0.00
1.3.2.6.8	S-link -> PCI boards	\$4,284.00	\$0.00	\$4,284.00	\$1,285.20	\$0.00	\$0.00	\$758.27	\$227.48	\$0.00	\$0.00	\$0.00
1.3.2.6.9	L2 decision processor	\$8,000.00	\$0.00	\$8,000.00	\$2,400.00	\$0.00	\$0.00	\$1,416.00	\$424.80	\$0.00	\$0.00	\$0.00
1.3.2.7	System Integration standalone w/ test stand	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.2.8	Pulsar Level 2 subproject ready for installation	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3	Run 2b XFTII Project	\$1,529,842.00	\$340,497.00	\$1,529,842.00	\$708,012.20	\$0.00	\$0.00	\$270,782.03	\$125,318.16	\$0.00	\$0.00	\$0.00
1.3.3.1	Start of XFTII Project	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2	Finder Boards	\$638,480.00	\$133,140.00	\$638,480.00	\$304,240.00	\$0.00	\$0.00	\$113,010.96	\$53,850.48	\$0.00	\$0.00	\$0.00
1.3.3.2.1	Finder Board FPGA chip Firmware development	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2.2	Prototype Finder boards	\$133,140.00	\$133,140.00	\$133,140.00	\$59,070.00	\$0.00	\$0.00	\$23,565.78	\$10,455.39	\$0.00	\$0.00	\$0.00
1.3.3.2.2.1	Study existing boards	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2.2.2	Prototype Finder 1/3 Board Schematic Design	\$11,520.00	\$11,520.00	\$11,520.00	\$5,760.00	\$0.00	\$0.00	\$2,039.04	\$1,019.52	\$0.00	\$0.00	\$0.00
1.3.3.2.2.3	Prototype Finder 1/3 board layout	\$22,400.00	\$22,400.00	\$22,400.00	\$11,200.00	\$0.00	\$0.00	\$3,964.80	\$1,982.40	\$0.00	\$0.00	\$0.00
1.3.3.2.2.4	Fabrication of Prototype Finder 1/3 board	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2.2.5	Fabricate Prototype Finder 1/3 board	\$12,500.00	\$12,500.00	\$12,500.00	\$3,750.00	\$0.00	\$0.00	\$2,212.50	\$663.75	\$0.00	\$0.00	\$0.00
1.3.3.2.2.6	Test Stand Setup	\$25,400.00	\$25,400.00	\$25,400.00	\$12,700.00	\$0.00	\$0.00	\$4,495.80	\$2,247.90	\$0.00	\$0.00	\$0.00
1.3.3.2.2.7	Finder 1/3 board Prototype Testing	\$2,400.00	\$2,400.00	\$2,400.00	\$1,200.00	\$0.00	\$0.00	\$424.80	\$212.40	\$0.00	\$0.00	\$0.00
1.3.3.2.2.8	Prototype Finder 2/4 Board Schematic Design	\$5,760.00	\$5,760.00	\$5,760.00	\$2,880.00	\$0.00	\$0.00	\$1,019.52	\$509.76	\$0.00	\$0.00	\$0.00
1.3.3.2.2.9	Prototype Finder SL7 Board Schematic Design	\$5,760.00	\$5,760.00	\$5,760.00	\$2,880.00	\$0.00	\$0.00	\$1,019.52	\$509.76	\$0.00	\$0.00	\$0.00
1.3.3.2.2.10	Prototype Finder 2/4 board layout	\$9,600.00	\$9,600.00	\$9,600.00	\$4,800.00	\$0.00	\$0.00	\$1,699.20	\$849.60	\$0.00	\$0.00	\$0.00
1.3.3.2.2.11	Prototype Finder SL7 board layout	\$9,600.00	\$9,600.00	\$9,600.00	\$4,800.00	\$0.00	\$0.00	\$1,699.20	\$849.60	\$0.00	\$0.00	\$0.00
1.3.3.2.2.12	Fabrication of Prototype Finder 2/4 board	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2.2.13	Fabricate Prototype Finder 2/4 board	\$12,500.00	\$12,500.00	\$12,500.00	\$3,750.00	\$0.00	\$0.00	\$2,212.50	\$663.75	\$0.00	\$0.00	\$0.00
1.3.3.2.2.14	Fabrication of Prototype Finder SL7 board	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2.2.15	Fabricate Prototype Finder SL7 board	\$12,500.00	\$12,500.00	\$12,500.00	\$3,750.00	\$0.00	\$0.00	\$2,212.50	\$663.75	\$0.00	\$0.00	\$0.00
1.3.3.2.2.16	Finder 2/4 board Prototype Testing	\$1,600.00	\$1,600.00	\$1,600.00	\$800.00	\$0.00	\$0.00	\$283.20	\$141.60	\$0.00	\$0.00	\$0.00
1.3.3.2.2.17	Finder SL 7 board Prototype Testing	\$1,600.00	\$1,600.00	\$1,600.00	\$800.00	\$0.00	\$0.00	\$283.20	\$141.60	\$0.00	\$0.00	\$0.00
1.3.3.2.3	Preproduction Finder Boards	\$53,700.00	\$0.00	\$53,700.00	\$19,350.00	\$0.00	\$0.00	\$9,504.90	\$3,424.95	\$0.00	\$0.00	\$0.00
1.3.3.2.3.1	Finder Board FPGA chip Firmware refinement	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2.3.2	Modification of Finder 1/3 board Schematic and Layout	\$9,600.00	\$0.00	\$9,600.00	\$4,800.00	\$0.00	\$0.00	\$1,699.20	\$849.60	\$0.00	\$0.00	\$0.00
1.3.3.2.3.3	Preproduction Finder1/3 board Fabrication	\$12,500.00	\$0.00	\$12,500.00	\$3,750.00	\$0.00	\$0.00	\$2,212.50	\$663.75	\$0.00	\$0.00	\$0.00
1.3.3.2.3.4	Testing Finder 1/3 preproduction boards	\$800.00	\$0.00	\$800.00	\$400.00	\$0.00	\$0.00	\$141.60	\$70.80	\$0.00	\$0.00	\$0.00
1.3.3.2.3.5	Modification of Finder 2/4 Board Schematic and Layout	\$3,200.00	\$0.00	\$3,200.00	\$1,600.00	\$0.00	\$0.00	\$566.40	\$283.20	\$0.00	\$0.00	\$0.00
1.3.3.2.3.6	Preproduction Finder 2/4 board Fabrication	\$12,500.00	\$0.00	\$12,500.00	\$3,750.00	\$0.00	\$0.00	\$2,212.50	\$663.75	\$0.00	\$0.00	\$0.00
1.3.3.2.3.7	Testing Finder 2/4 preproduction boards	\$800.00	\$0.00	\$800.00	\$400.00	\$0.00	\$0.00	\$141.60	\$70.80	\$0.00	\$0.00	\$0.00

CDF Run 2B Data Acquisition and Trigger Upgrade

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	Fixed Cost
1.3.3.2.3.8	Modification of Finder SL7 board Schematic and Layout	\$1,000.00	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$177.00	\$88.50	\$0.00	\$0.00	\$0.00
1.3.3.2.3.9	Preproduction Finder SL7 board Fabrication	\$12,500.00	\$0.00	\$12,500.00	\$3,750.00	\$0.00	\$0.00	\$2,212.50	\$663.75	\$0.00	\$0.00	\$0.00
1.3.3.2.3.10	Testing Finder SL7 preproduction boards	\$800.00	\$0.00	\$800.00	\$400.00	\$0.00	\$0.00	\$141.60	\$70.80	\$0.00	\$0.00	\$0.00
1.3.3.2.4	Production Finder boards	\$446,640.00	\$0.00	\$446,640.00	\$223,320.00	\$0.00	\$0.00	\$79,055.28	\$39,527.64	\$0.00	\$0.00	\$0.00
1.3.3.2.4.1	Production Readiness Review - Finder 1/3 boards	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2.4.2	Production of Finder 1/3 boards	\$156,000.00	\$0.00	\$156,000.00	\$78,000.00	\$0.00	\$0.00	\$27,612.00	\$13,806.00	\$0.00	\$0.00	\$0.00
1.3.3.2.4.3	Test Production Finder 1/3 boards	\$2,400.00	\$0.00	\$2,400.00	\$1,200.00	\$0.00	\$0.00	\$424.80	\$212.40	\$0.00	\$0.00	\$0.00
1.3.3.2.4.4	Production Readiness Review - Finder 2/4 boards	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2.4.5	Production of Finder 2/4 boards	\$174,240.00	\$0.00	\$174,240.00	\$87,120.00	\$0.00	\$0.00	\$30,840.48	\$15,420.24	\$0.00	\$0.00	\$0.00
1.3.3.2.4.6	Test Production Finder 2/4 boards	\$2,400.00	\$0.00	\$2,400.00	\$1,200.00	\$0.00	\$0.00	\$424.80	\$212.40	\$0.00	\$0.00	\$0.00
1.3.3.2.4.7	Production Readiness Review - Finder SL 7 boards	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2.4.8	Begin Production Finder SL7 boards	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2.4.9	Production of Finder SL7 boards	\$109,200.00	\$0.00	\$109,200.00	\$54,600.00	\$0.00	\$0.00	\$19,328.40	\$9,664.20	\$0.00	\$0.00	\$0.00
1.3.3.2.4.10	Test Production Finder SL7 boards	\$2,400.00	\$0.00	\$2,400.00	\$1,200.00	\$0.00	\$0.00	\$424.80	\$212.40	\$0.00	\$0.00	\$0.00
1.3.3.2.5	Finder3D backplane	\$5,000.00	\$0.00	\$5,000.00	\$2,500.00	\$0.00	\$0.00	\$885.00	\$442.50	\$0.00	\$0.00	\$0.00
1.3.3.2.5.1	Finder3d backplane Layout	\$1,000.00	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$177.00	\$88.50	\$0.00	\$0.00	\$0.00
1.3.3.2.5.2	Finder3d Backplane Production Readiness Review	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.2.5.3	Finder3d backplane Fabrication and Stuffing	\$4,000.00	\$0.00	\$4,000.00	\$2,000.00	\$0.00	\$0.00	\$708.00	\$354.00	\$0.00	\$0.00	\$0.00
1.3.3.3	Test equipment	\$25,000.00	\$0.00	\$25,000.00	\$12,500.00	\$0.00	\$0.00	\$4,425.00	\$2,212.50	\$0.00	\$0.00	\$0.00
1.3.3.4	TDC Transition Module	\$31,400.00	\$0.00	\$31,400.00	\$15,700.00	\$0.00	\$0.00	\$5,557.80	\$2,778.90	\$0.00	\$0.00	\$0.00
1.3.3.4.1	TDC Transition Module Production Readiness Review	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.4.2	TDC Transition Module board Fabrication	\$29,000.00	\$0.00	\$29,000.00	\$14,500.00	\$0.00	\$0.00	\$5,133.00	\$2,566.50	\$0.00	\$0.00	\$0.00
1.3.3.4.3	TDC Transition Module board production checkout	\$2,400.00	\$0.00	\$2,400.00	\$1,200.00	\$0.00	\$0.00	\$424.80	\$212.40	\$0.00	\$0.00	\$0.00
1.3.3.5	Finder Transition Module	\$21,600.00	\$0.00	\$21,600.00	\$10,800.00	\$0.00	\$0.00	\$3,823.20	\$1,911.60	\$0.00	\$0.00	\$0.00
1.3.3.5.1	Production Readiness Review - Finder Transition board	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.5.2	Finder Transition board Fabrication	\$20,000.00	\$0.00	\$20,000.00	\$10,000.00	\$0.00	\$0.00	\$3,540.00	\$1,770.00	\$0.00	\$0.00	\$0.00
1.3.3.5.3	Production Finder Transition Module checkout	\$1,600.00	\$0.00	\$1,600.00	\$800.00	\$0.00	\$0.00	\$283.20	\$141.60	\$0.00	\$0.00	\$0.00
1.3.3.6	Finder3D Tester Board	\$13,600.00	\$0.00	\$13,600.00	\$6,800.00	\$0.00	\$0.00	\$2,407.20	\$1,203.60	\$0.00	\$0.00	\$0.00
1.3.3.6.1	Finder3D Tester Board schematic design and layout	\$9,600.00	\$0.00	\$9,600.00	\$4,800.00	\$0.00	\$0.00	\$1,699.20	\$849.60	\$0.00	\$0.00	\$0.00
1.3.3.6.2	Finder3D Tester board fabrication	\$4,000.00	\$0.00	\$4,000.00	\$2,000.00	\$0.00	\$0.00	\$708.00	\$354.00	\$0.00	\$0.00	\$0.00
1.3.3.7	Cables	\$8,000.00	\$0.00	\$8,000.00	\$4,000.00	\$0.00	\$0.00	\$1,416.00	\$708.00	\$0.00	\$0.00	\$0.00
1.3.3.7.1	Finder3D to Stereo Association Module cables fab	\$4,000.00	\$0.00	\$4,000.00	\$2,000.00	\$0.00	\$0.00	\$708.00	\$354.00	\$0.00	\$0.00	\$0.00
1.3.3.7.2	Linker Output Module-II to Stereo Assoc. Module cable Fab.	\$4,000.00	\$0.00	\$4,000.00	\$2,000.00	\$0.00	\$0.00	\$708.00	\$354.00	\$0.00	\$0.00	\$0.00
1.3.3.8	Linker Modules	\$259,544.00	\$62,037.00	\$259,544.00	\$89,863.20	\$0.00	\$0.00	\$45,939.29	\$15,905.79	\$0.00	\$0.00	\$0.00
1.3.3.8.1	Prototype Linker Modules	\$62,037.00	\$62,037.00	\$62,037.00	\$28,211.10	\$0.00	\$0.00	\$10,980.55	\$4,993.36	\$0.00	\$0.00	\$0.00
1.3.3.8.1.1	Prototype Linker Module Schematic Design	\$12,800.00	\$12,800.00	\$12,800.00	\$6,400.00	\$0.00	\$0.00	\$2,265.60	\$1,132.80	\$0.00	\$0.00	\$0.00
1.3.3.8.1.2	Prototype Linker Module pc board layout	\$22,400.00	\$22,400.00	\$22,400.00	\$11,200.00	\$0.00	\$0.00	\$3,964.80	\$1,982.40	\$0.00	\$0.00	\$0.00
1.3.3.8.1.3	FPGA Firmware Development	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.8.1.4	Prototype Linker Module pc board fabrication	\$14,037.00	\$14,037.00	\$14,037.00	\$4,211.10	\$0.00	\$0.00	\$2,484.55	\$745.36	\$0.00	\$0.00	\$0.00
1.3.3.8.1.5	Linker Module Test Stand Setup	\$10,400.00	\$10,400.00	\$10,400.00	\$5,200.00	\$0.00	\$0.00	\$1,840.80	\$920.40	\$0.00	\$0.00	\$0.00
1.3.3.8.1.6	Prototype Linker Module available for testing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.8.1.7	Prototype Linker Module testing	\$2,400.00	\$2,400.00	\$2,400.00	\$1,200.00	\$0.00	\$0.00	\$424.80	\$212.40	\$0.00	\$0.00	\$0.00
1.3.3.8.2	Preproduction Linker Modules	\$24,437.00	\$0.00	\$24,437.00	\$9,251.10	\$0.00	\$0.00	\$4,325.35	\$1,637.44	\$0.00	\$0.00	\$0.00
1.3.3.8.2.1	Modification of Schematic Design and Layout	\$9,600.00	\$0.00	\$9,600.00	\$4,800.00	\$0.00	\$0.00	\$1,699.20	\$849.60	\$0.00	\$0.00	\$0.00
1.3.3.8.2.2	Preproduction Linker Module pc board fabrication	\$14,037.00	\$0.00	\$14,037.00	\$4,211.10	\$0.00	\$0.00	\$2,484.55	\$745.36	\$0.00	\$0.00	\$0.00
1.3.3.8.2.3	FPGA Firmware Refinement	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.8.2.4	Preproduction Linker Module pc board testing	\$800.00	\$0.00	\$800.00	\$240.00	\$0.00	\$0.00	\$141.60	\$42.48	\$0.00	\$0.00	\$0.00
1.3.3.8.3	Production Linker Modules	\$173,070.00	\$0.00	\$173,070.00	\$52,401.00	\$0.00	\$0.00	\$30,633.39	\$9,274.98	\$0.00	\$0.00	\$0.00
1.3.3.8.3.1	Production Readiness Review Linker Modules	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.8.3.2	Begin Production Linker Modules	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.8.3.3	Production Linker Module pc board fabrication	\$170,670.00	\$0.00	\$170,670.00	\$51,201.00	\$0.00	\$0.00	\$30,208.59	\$9,062.58	\$0.00	\$0.00	\$0.00

CDF Run 2B Data Acquisition and Trigger Upgrade

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	Fixed Cost
1.3.3.8.3.4	Production Linker Module pc board testing	\$2,400.00	\$0.00	\$2,400.00	\$1,200.00	\$0.00	\$0.00	\$424.80	\$212.40	\$0.00	\$0.00	\$0.00
1.3.3.9	Linker Output Module II	\$36,800.00	\$0.00	\$36,800.00	\$18,400.00	\$0.00	\$0.00	\$6,513.60	\$3,256.80	\$0.00	\$0.00	\$0.00
1.3.3.9.1	Linker Output Module Schematic Design and Layout	\$9,600.00	\$0.00	\$9,600.00	\$4,800.00	\$0.00	\$0.00	\$1,699.20	\$849.60	\$0.00	\$0.00	\$0.00
1.3.3.9.2	Linker Output Module Preproduction PC board Fabrication	\$2,000.00	\$0.00	\$2,000.00	\$1,000.00	\$0.00	\$0.00	\$354.00	\$177.00	\$0.00	\$0.00	\$0.00
1.3.3.9.3	PreProduction Link Output Module Preproduction board checko	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.9.4	Production Readiness Review Linker Output Module	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.9.5	Linker Output Module board Fabrication	\$24,000.00	\$0.00	\$24,000.00	\$12,000.00	\$0.00	\$0.00	\$4,248.00	\$2,124.00	\$0.00	\$0.00	\$0.00
1.3.3.9.6	Production Link Output Module board checkout	\$1,200.00	\$0.00	\$1,200.00	\$600.00	\$0.00	\$0.00	\$212.40	\$106.20	\$0.00	\$0.00	\$0.00
1.3.3.10	Stereo Association Modules	\$296,326.00	\$120,480.00	\$296,326.00	\$146,163.00	\$0.00	\$0.00	\$52,449.70	\$25,870.85	\$0.00	\$0.00	\$0.00
1.3.3.10.1	Prototype Stereo Association Module	\$105,480.00	\$105,480.00	\$105,480.00	\$50,740.00	\$0.00	\$0.00	\$18,669.96	\$8,980.98	\$0.00	\$0.00	\$0.00
1.3.3.10.1.1	Prototype Stereo Association Module Schematic Design	\$26,040.00	\$26,040.00	\$26,040.00	\$13,020.00	\$0.00	\$0.00	\$4,609.08	\$2,304.54	\$0.00	\$0.00	\$0.00
1.3.3.10.1.2	Prototype Stereo Association Module pc board layout	\$29,760.00	\$29,760.00	\$29,760.00	\$14,880.00	\$0.00	\$0.00	\$5,267.52	\$2,633.76	\$0.00	\$0.00	\$0.00
1.3.3.10.1.3	Prototype Stereo Association Module Component procurem	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.10.1.4	Prototype Stereo Association Module pc board fabrication	\$10,000.00	\$10,000.00	\$10,000.00	\$3,000.00	\$0.00	\$0.00	\$1,770.00	\$531.00	\$0.00	\$0.00	\$0.00
1.3.3.10.1.5	Prototype Stereo Association Module testing	\$39,680.00	\$39,680.00	\$39,680.00	\$19,840.00	\$0.00	\$0.00	\$7,023.36	\$3,511.68	\$0.00	\$0.00	\$0.00
1.3.3.10.2	Preproduction Stereo Association Module	\$16,726.00	\$0.00	\$16,726.00	\$8,363.00	\$0.00	\$0.00	\$2,960.50	\$1,480.25	\$0.00	\$0.00	\$0.00
1.3.3.10.2.1	Preproduction Readiness Review Stereo Association Modu	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.10.2.2	Begin Preproduction Stereo Association Modules	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.10.2.3	Modification of Schematic Design and Layout	\$2,976.00	\$0.00	\$2,976.00	\$1,488.00	\$0.00	\$0.00	\$526.75	\$263.38	\$0.00	\$0.00	\$0.00
1.3.3.10.2.4	Preproduction Stereo Association Module component procu	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.10.2.5	Preproduction Stereo Association Module pc board fabricati	\$13,750.00	\$0.00	\$13,750.00	\$6,875.00	\$0.00	\$0.00	\$2,433.75	\$1,216.88	\$0.00	\$0.00	\$0.00
1.3.3.10.2.6	Preproduction Stereo Association Module pc board testing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.10.3	Production Stereo Association Module	\$159,120.00	\$0.00	\$159,120.00	\$79,560.00	\$0.00	\$0.00	\$28,164.24	\$14,082.12	\$0.00	\$0.00	\$0.00
1.3.3.10.3.1	Modification of Schematic Design and Layout	\$4,960.00	\$0.00	\$4,960.00	\$2,480.00	\$0.00	\$0.00	\$877.92	\$438.96	\$0.00	\$0.00	\$0.00
1.3.3.10.3.2	Production Readiness Review Stereo Association Module	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.10.3.3	Production Stereo Association Module pc board fabrication	\$110,000.00	\$0.00	\$110,000.00	\$55,000.00	\$0.00	\$0.00	\$19,470.00	\$9,735.00	\$0.00	\$0.00	\$0.00
1.3.3.10.3.4	Production Stereo Association Module pc board testing	\$44,160.00	\$0.00	\$44,160.00	\$22,080.00	\$0.00	\$0.00	\$7,816.32	\$3,908.16	\$0.00	\$0.00	\$0.00
1.3.3.10.3.5	Production Stereo Association Modules complete	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.10.4	Purchase VME crate	\$15,000.00	\$15,000.00	\$15,000.00	\$7,500.00	\$0.00	\$0.00	\$2,655.00	\$1,327.50	\$0.00	\$0.00	\$0.00
1.3.3.11	Stereo Association Module Custom Backplane	\$15,260.00	\$0.00	\$15,260.00	\$7,630.00	\$0.00	\$0.00	\$2,701.02	\$1,350.51	\$0.00	\$0.00	\$0.00
1.3.3.11.1	Stereo Assoc. Module Custom Backplane Schematic design	\$2,976.00	\$0.00	\$2,976.00	\$1,488.00	\$0.00	\$0.00	\$526.75	\$263.38	\$0.00	\$0.00	\$0.00
1.3.3.11.2	Stereo Association Module Backplane layout	\$1,488.00	\$0.00	\$1,488.00	\$744.00	\$0.00	\$0.00	\$263.38	\$131.69	\$0.00	\$0.00	\$0.00
1.3.3.11.3	Stereo Association Module Backplane fabrication	\$10,000.00	\$0.00	\$10,000.00	\$5,000.00	\$0.00	\$0.00	\$1,770.00	\$885.00	\$0.00	\$0.00	\$0.00
1.3.3.11.4	Stereo Association Module Backplane assembly	\$300.00	\$0.00	\$300.00	\$150.00	\$0.00	\$0.00	\$53.10	\$26.55	\$0.00	\$0.00	\$0.00
1.3.3.11.5	Stereo Association Module Backplane testing	\$496.00	\$0.00	\$496.00	\$248.00	\$0.00	\$0.00	\$87.79	\$43.90	\$0.00	\$0.00	\$0.00
1.3.3.12	Stereo Association Module Tester Board	\$70,552.00	\$0.00	\$70,552.00	\$35,276.00	\$0.00	\$0.00	\$12,487.70	\$6,243.85	\$0.00	\$0.00	\$0.00
1.3.3.12.1	Stereo Association Module Tester Board schematic design	\$11,904.00	\$0.00	\$11,904.00	\$5,952.00	\$0.00	\$0.00	\$2,107.01	\$1,053.50	\$0.00	\$0.00	\$0.00
1.3.3.12.2	Stereo Association Module Tester Board layout	\$13,888.00	\$0.00	\$13,888.00	\$6,944.00	\$0.00	\$0.00	\$2,458.18	\$1,229.09	\$0.00	\$0.00	\$0.00
1.3.3.12.3	Stereo Association Module Tester Board Fabrication	\$15,000.00	\$0.00	\$15,000.00	\$7,500.00	\$0.00	\$0.00	\$2,655.00	\$1,327.50	\$0.00	\$0.00	\$0.00
1.3.3.12.4	Stereo Association Module TestStand Setup and software	\$4,960.00	\$0.00	\$4,960.00	\$2,480.00	\$0.00	\$0.00	\$877.92	\$438.96	\$0.00	\$0.00	\$0.00
1.3.3.12.5	Stereo Association Module Tester Board testing	\$24,800.00	\$0.00	\$24,800.00	\$12,400.00	\$0.00	\$0.00	\$4,389.60	\$2,194.80	\$0.00	\$0.00	\$0.00
1.3.3.13	Stereo Association Module Transition Module	\$19,216.00	\$0.00	\$19,216.00	\$9,608.00	\$0.00	\$0.00	\$3,401.23	\$1,700.62	\$0.00	\$0.00	\$0.00
1.3.3.13.1	Stereo Association Module Transition Module Schematic design	\$2,976.00	\$0.00	\$2,976.00	\$1,488.00	\$0.00	\$0.00	\$526.75	\$263.38	\$0.00	\$0.00	\$0.00
1.3.3.13.2	Stereo Association Module Transition Module layout	\$1,240.00	\$0.00	\$1,240.00	\$620.00	\$0.00	\$0.00	\$219.48	\$109.74	\$0.00	\$0.00	\$0.00
1.3.3.13.3	Stereo Association Module Transition Module fabrication	\$15,000.00	\$0.00	\$15,000.00	\$7,500.00	\$0.00	\$0.00	\$2,655.00	\$1,327.50	\$0.00	\$0.00	\$0.00
1.3.3.13.4	Stereo Association Module Transition Module testing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.14	Stereo Association Module Clock and Control Board	\$23,392.00	\$0.00	\$23,392.00	\$11,696.00	\$0.00	\$0.00	\$4,140.38	\$2,070.19	\$0.00	\$0.00	\$0.00
1.3.3.14.1	Stereo Association Module Clock and Control Board Schematic	\$5,952.00	\$0.00	\$5,952.00	\$2,976.00	\$0.00	\$0.00	\$1,053.50	\$526.75	\$0.00	\$0.00	\$0.00
1.3.3.14.2	Stereo Association Module Clock and Control Board Layout	\$7,440.00	\$0.00	\$7,440.00	\$3,720.00	\$0.00	\$0.00	\$1,316.88	\$658.44	\$0.00	\$0.00	\$0.00
1.3.3.14.3	Stereo Association Module Clock and Control Board Fabrication	\$10,000.00	\$0.00	\$10,000.00	\$5,000.00	\$0.00	\$0.00	\$1,770.00	\$885.00	\$0.00	\$0.00	\$0.00
1.3.3.14.4	Stereo Association Module Clock and Control Board testing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

CDF Run 2B Data Acquisition and Trigger Upgrade

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	Fixed Cost
1.3.3.15	SAM Clock and Control Transition Module	\$23,392.00	\$0.00	\$23,392.00	\$11,696.00	\$0.00	\$0.00	\$4,140.38	\$2,070.19	\$0.00	\$0.00	\$0.00
1.3.3.15.1	SAM Clock and Control TM Schematic Design	\$5,952.00	\$0.00	\$5,952.00	\$2,976.00	\$0.00	\$0.00	\$1,053.50	\$526.75	\$0.00	\$0.00	\$0.00
1.3.3.15.2	SAM Clock and Control TM Layout	\$7,440.00	\$0.00	\$7,440.00	\$3,720.00	\$0.00	\$0.00	\$1,316.88	\$658.44	\$0.00	\$0.00	\$0.00
1.3.3.15.3	SAM Clock and Control TM Fabrication	\$10,000.00	\$0.00	\$10,000.00	\$5,000.00	\$0.00	\$0.00	\$1,770.00	\$885.00	\$0.00	\$0.00	\$0.00
1.3.3.15.4	SAM Clock and Control TM testing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.16	Level 2 Interface Board	\$47,280.00	\$24,840.00	\$47,280.00	\$23,640.00	\$0.00	\$0.00	\$8,368.56	\$4,184.28	\$0.00	\$0.00	\$0.00
1.3.3.16.1	Level 2 Interface Board Schematic and PCB Layout	\$19,840.00	\$19,840.00	\$19,840.00	\$9,920.00	\$0.00	\$0.00	\$3,511.68	\$1,755.84	\$0.00	\$0.00	\$0.00
1.3.3.16.2	Prototype Level 2 Interface Board fabrication and testing	\$5,000.00	\$5,000.00	\$5,000.00	\$2,500.00	\$0.00	\$0.00	\$885.00	\$442.50	\$0.00	\$0.00	\$0.00
1.3.3.16.3	Modification Level 2 Interface Board Schematic and PCB Layout	\$7,440.00	\$0.00	\$7,440.00	\$3,720.00	\$0.00	\$0.00	\$1,316.88	\$658.44	\$0.00	\$0.00	\$0.00
1.3.3.16.4	Production Level 2 Interface Board Fabrication and assembly	\$15,000.00	\$0.00	\$15,000.00	\$7,500.00	\$0.00	\$0.00	\$2,655.00	\$1,327.50	\$0.00	\$0.00	\$0.00
1.3.3.16.5	Level 2 Interface Board checkout	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.3.17	XFT Ready for Installation at CDF	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4	Event-Builder Upgrade	\$472,280.00	\$1,880.00	\$414,000.00	\$124,200.00	\$58,280.00	\$29,140.00	\$89,946.08	\$30,317.44	\$0.00	\$0.00	\$0.00
1.3.4.1	Start Event-Builder Upgrade	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.2	technology evaluation	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.3	upgrade software	\$58,280.00	\$1,880.00	\$0.00	\$0.00	\$58,280.00	\$29,140.00	\$16,668.08	\$8,334.04	\$0.00	\$0.00	\$0.00
1.3.4.3.1	decide on the OS versions	\$1,880.00	\$1,880.00	\$0.00	\$0.00	\$1,880.00	\$940.00	\$537.68	\$268.84	\$0.00	\$0.00	\$0.00
1.3.4.3.2	test available drivers for compatibility with hardware	\$5,640.00	\$0.00	\$0.00	\$0.00	\$5,640.00	\$2,820.00	\$1,613.04	\$806.52	\$0.00	\$0.00	\$0.00
1.3.4.3.3	adjust drivers for special needs	\$48,880.00	\$0.00	\$0.00	\$0.00	\$48,880.00	\$24,440.00	\$13,979.68	\$6,989.84	\$0.00	\$0.00	\$0.00
1.3.4.3.4	adjust remaining software	\$1,880.00	\$0.00	\$0.00	\$0.00	\$1,880.00	\$940.00	\$537.68	\$268.84	\$0.00	\$0.00	\$0.00
1.3.4.3.5	MS: establish general functionality of software	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.4	construct prototype	\$103,500.00	\$0.00	\$103,500.00	\$31,050.00	\$0.00	\$0.00	\$18,319.50	\$5,495.85	\$0.00	\$0.00	\$0.00
1.3.4.4.1	purchase prototype system (1/4)	\$103,500.00	\$0.00	\$103,500.00	\$31,050.00	\$0.00	\$0.00	\$18,319.50	\$5,495.85	\$0.00	\$0.00	\$0.00
1.3.4.4.1.1	submit PO and implementation plan	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.4.1.2	purchase formalities	\$103,500.00	\$0.00	\$103,500.00	\$31,050.00	\$0.00	\$0.00	\$18,319.50	\$5,495.85	\$0.00	\$0.00	\$0.00
1.3.4.4.1.3	arrival of the hardware	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.4.2	install test stand	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.4.3	evaluate test stand	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.4.4	MS: establish functionality of hardware	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.5	construct full size system	\$310,500.00	\$0.00	\$310,500.00	\$93,150.00	\$0.00	\$0.00	\$54,958.50	\$16,487.55	\$0.00	\$0.00	\$0.00
1.3.4.5.1	Production Readiness Review - Event Builder	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.5.2	Production Readiness Review - Event Builder	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.5.3	purchase remaining hardware	\$310,500.00	\$0.00	\$310,500.00	\$93,150.00	\$0.00	\$0.00	\$54,958.50	\$16,487.55	\$0.00	\$0.00	\$0.00
1.3.4.5.3.1	submit PO and implementation plan	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.5.3.2	purchase formalities	\$310,500.00	\$0.00	\$310,500.00	\$93,150.00	\$0.00	\$0.00	\$54,958.50	\$16,487.55	\$0.00	\$0.00	\$0.00
1.3.4.5.3.3	arrival of the hardware	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.5.4	assemble new hardware in B0 third floor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.5.5	evaluate the new hardware and software	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.5.6	MS: establish functionality of hardware	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.6	commissioning of hardware and software	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.4.7	Finish Event-Builder Upgrade	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5	Computer for Level3 PC Farm / DAQ	\$390,000.00	\$0.00	\$390,000.00	\$195,000.00	\$0.00	\$0.00	\$69,030.00	\$34,515.00	\$0.00	\$0.00	\$0.00
1.3.5.1	Start Computers for Level3 PC Farm/DAQ	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.2	replace 0/10 PCs (2003)	\$15,000.00	\$0.00	\$15,000.00	\$7,500.00	\$0.00	\$0.00	\$2,655.00	\$1,327.50	\$0.00	\$0.00	\$0.00
1.3.5.2.1	submit PO and implementation plan	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.2.2	purchase formalities	\$15,000.00	\$0.00	\$15,000.00	\$7,500.00	\$0.00	\$0.00	\$2,655.00	\$1,327.50	\$0.00	\$0.00	\$0.00
1.3.5.2.3	install and test one prototype machine	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.2.4	arrival of 0/10 PCs from the vendor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.2.5	burn in phase	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.2.6	installation into the DAQ system	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.3	replace 70/15 PCs (2004)	\$130,000.00	\$0.00	\$130,000.00	\$65,000.00	\$0.00	\$0.00	\$23,010.00	\$11,505.00	\$0.00	\$0.00	\$0.00

CDF Run 2B Data Acquisition and Trigger Upgrade

WBS	Name	Cost	U.S. R&D	M&S	M&S - Cont.	Labor	Labor - Cont.	G&A	G&A - Cont.	Japan	Italy	Fixed Cost
1.3.5.3.1	submit PO and implementation plan	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.3.2	purchase formalities	\$130,000.00	\$0.00	\$130,000.00	\$65,000.00	\$0.00	\$0.00	\$23,010.00	\$11,505.00	\$0.00	\$0.00	\$0.00
1.3.5.3.3	install and test one prototype machine	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.3.4	arrival of 70/15 PCs from the vendor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.3.5	burn in phase	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.3.6	installation into the DAQ system	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.4	replace 140/20 PCs (2005)	\$245,000.00	\$0.00	\$245,000.00	\$122,500.00	\$0.00	\$0.00	\$43,365.00	\$21,682.50	\$0.00	\$0.00	\$0.00
1.3.5.4.1	submit PO and implementation plan	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.4.2	purchase formalities	\$245,000.00	\$0.00	\$245,000.00	\$122,500.00	\$0.00	\$0.00	\$43,365.00	\$21,682.50	\$0.00	\$0.00	\$0.00
1.3.5.4.3	install and test one prototype machine	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.4.4	arrival of 140/20 PCs from the vendor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.4.5	burn in phase	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.4.6	installation into the DAQ system	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.5.5	Finish Purchase of Computers for Level3/DAQ system	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.6	SVT upgrade	\$245,600.00	\$0.00	\$245,600.00	\$164,800.00	\$0.00	\$0.00	\$28,603.20	\$14,301.60	\$0.00	\$84,000.00	\$0.00
1.3.6.1	Start of SVT upgrade	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.6.2	trackfitter boards	\$161,600.00	\$0.00	\$161,600.00	\$80,800.00	\$0.00	\$0.00	\$28,603.20	\$14,301.60	\$0.00	\$0.00	\$0.00
1.3.6.2.1	Upgrade SVT trackfitters	\$161,600.00	\$0.00	\$161,600.00	\$80,800.00	\$0.00	\$0.00	\$28,603.20	\$14,301.60	\$0.00	\$0.00	\$0.00
1.3.6.3	Merger boards	\$84,000.00	\$0.00	\$84,000.00	\$84,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$84,000.00	\$0.00
1.3.6.3.1	Upgrade SVT merger boards	\$84,000.00	\$0.00	\$84,000.00	\$84,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$84,000.00	\$0.00
1.3.6.4	SVT ready for installation	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.7	Finish Run 2b Trigger DAQ project	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8	Schedule Contingency and Reportable Milestones	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1	Reportable Milestones Level 2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.1	First Prototype TDC available for testing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.2	Beginning of TDC Production	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.3	Production Board testing complete	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.4	Data Concentrator Production Completed	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.5	Run 2b TDC Ready for Installation	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.6	Begin production of Level2 Pulsar system	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.7	Pulsar Level 2 subproject ready for installation	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.8	Fabrication of Prototype Finder 1/3 board	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.9	Prototype Linker Module available for testing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.10	Begin Production Finder SL7 boards	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.11	Begin Production Linker Modules	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.12	Begin Preproduction Stereo Association Modules	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.13	Production Stereo Association Modules complete	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.14	XFT Ready for installation at CDF	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.15	arrival of the hardware	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.16	Production Readiness Review - Event Builder	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.17	arrival of the hardware	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.18	Finish Event-Builder Upgrade	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.19	arrival of 0/10 PCs from the vendor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.20	arrival of 70/15 PCs from the vendor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.21	arrival of 140/20 PCs from the vendor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.22	Finish Purchase of Computers for Level3/DAQ system	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.23	SVT ready for installation	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.1.24	Finish Run 2b Trigger DAQ project	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.2	Reportable Milestones - Level 1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3.8.2.1	Data Acquisition and Trigger Upgrades Ready for Installatio	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00