



# Dzero Run IIb Baseline Change Proposal

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- ◆ Elements of the BCP
  - ▲ Silicon closeout
  - ▲ Silicon Layer 0
  - ▲ Trigger upgrade
  - ▲ DAQ/Online upgrade
  - ▲ Project Admin
- ◆ Putting it all together
  - ▲ Total baseline costs
  - ▲ Silicon cost change
  - ▲ FNAL Labor changes



# Silicon Closeout

## ◆ Three elements to silicon closeout

### ▲ SiDet General

- Testing outer layer sensors
  - Stopping future visual inspection of sensors
  - Continuing radiation studies
- Testing inner layer sensors

### ▲ SVX4

- Finish testing preproduction run of SVX4 wafers

### ▲ D0 specific

- Hybrid testing
- Stave testing: mechanical and electrical
- Inner layer structure completion/testing



# Silicon Closeout Costs

## ◆ Costs by element for Silicon Closeout

<i><b>Silcon Closeout By Subcategory</b></i>	<i><b>M&amp;S</b></i>	<i><b>M&amp;S G&amp;A</b></i>	<i><b>FNAL Labor (Esc)</b></i>	<i><b>Labor G&amp;A</b></i>	<i><b>TOTAL</b></i>
General SiDet	25.4	4.5	16.7	4.8	51.3
SVX4 closeout	8.0	1.4	32.2	9.2	50.8
D0 Specific closeout	29.0	5.1	159.1	45.5	238.8
<i><b>Total</b></i>	<i><b>62.4</b></i>	<i><b>11.1</b></i>	<i><b>208.0</b></i>	<i><b>59.5</b></i>	<i><b>340.9</b></i>



# Silicon Layer 0 costs

- FY02 \$

	FY 02 \$ no G&A	M&S non-labor	M&S Labor	M&S Cost	Contingency %	M&S Contingency	Total M&S	FNAL Labor	Labor Contingency	Labor Contingency	Total Labor	Total Cost (incl labo	Cost + Contingency
1	Layer 0 Silicon Detector	\$573,805	\$208,379	\$782,184	73%	\$573,426	\$1,355,610	\$535,847	50%	\$267,923	\$803,770	\$1,374,921	\$2,216,270
1.1	Sensors	\$163,000	\$1,200	\$164,200	100%	\$164,200	\$328,400	\$14,940	50%	\$7,470	\$22,410	\$179,140	\$350,810
1.2	Readout Electronics	\$281,708	\$117,840	\$399,548	76%	\$303,461	\$703,009	\$198,629	50%	\$99,314	\$297,943	\$619,577	\$1,022,352
1.3	Mechanical Design and F	\$49,686	\$89,339	\$139,025	50%	\$69,413	\$208,438	\$134,192	50%	\$67,096	\$201,288	\$273,217	\$409,726
1.4	Layer 0 Detector Modules	\$16,711	\$0	\$16,711	75%	\$12,503	\$29,214	\$74,076	50%	\$37,038	\$111,114	\$90,787	\$140,328
1.5	Final Detector Integration	\$25,700	\$0	\$25,700	50%	\$12,850	\$38,550	\$60,202	50%	\$30,101	\$90,303	\$85,902	\$128,853
1.6	Monitoring	\$12,000	\$0	\$12,000	50%	\$6,000	\$18,000	\$0		\$0	\$0	\$12,000	\$18,000
1.7	Software and Simulation	\$0	\$0	\$0		\$0	\$0	\$42,300	50%	\$21,150	\$63,450	\$42,300	\$63,450
1.8	Silicon Project Administra	\$25,000	\$0	\$25,000	20%	\$5,000	\$30,000	\$11,508	50%	\$5,754	\$17,262	\$71,998	\$82,752



# Trigger/Online

- **Trigger**
  - ◆ Good technical progress (see Darien's talk)
  - ◆ Will take a financial hit due to Saclay leaving the project
    - ▲ Passing off L1Cal engineering to UIC/MSU/Uva
    - ▲ Saclay in-kind contribution discontinued beyond FY03
  - ◆ Also focussed on earlier implementation - slight increase to costs
- **Online**
  - ◆ Scope/costs have not changed
- **Project Admin**
  - ◆ Decreased by ~\$700k



# Total Baseline Costs

- TEC cost of new project

DOE TEC, by subsystem in AYk\$	Total	Cont. only	EQ base	G&A only
Silicon	1935	1004	735	196
Trigger	3534	1164	1996	374
DAQ/Online	1393	332	881	181
Project Administration	1155	231	729	195
<b>TOTAL</b>	<b>8017</b>	<b>2730</b>	<b>4341</b>	<b>946</b>

▲ + ~ \$1M for AFEII

- TEC cost of old project

DOE TEC, by subsystem in AYk\$	Total	Cont. only	EQ base	G&A only
Silicon	14557	4581	8155	1821
Trigger	2842	1212	1372	258
DAQ/Online	1393	332	881	181
Project Administration	1829	366	1148	315
<b>TOTAL</b>	<b>20621</b>	<b>6490</b>	<b>11556</b>	<b>2575</b>



# Silicon Sums

- Silicon Totals

- ◆ Silicon MRI spent: \$1.7M
- ◆ Silicon closeout: \$0.34M
- ◆ Layer 0 TPC: \$2.6M
- ◆ R&D costed: \$3.7M
- ◆ EQU costed: \$1.36M
- Total: \$9.7M
- Previous Si TPC \$20.9M
- EQU Only \$3.3M
- Previous TEC \$14.6M



# FNAL Labor changes

## Unburdened SWF

	FY04	FY05	FY06
• Old	3.0M	2.3M	0.6M
• New	1.1 + 0.3M	0.8M	0.2M