

ECP-04-004 CD-2 Baseline

WBS II	WBS III	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	TOTAL	WBS II TOTALS	WBS 1 TOTALS
WBS 1										\$42,354,986
11 - In-Vessel Components	111 - Limiters	\$7,600						\$7,600	\$7,600	
12 - Vacuum Vessel Systems	121 - Vacuum Vessel Assembly	\$1,020,309	\$1,802,684	\$2,451,903	\$90,745	\$12,147		\$5,377,789	\$6,065,840	
12 - Vacuum Vessel Systems	122 - Vacuum Vessel Thermal Insulation		\$60,930	\$12,001	\$120,009			\$192,940		
12 - Vacuum Vessel Systems	123 - Vacuum Vessel Heating and Cooling Distrib		\$42,270		\$344,805			\$387,075		
12 - Vacuum Vessel Systems	124 - Vacuum Vessel Supports		\$40,769		\$41,142			\$81,911		
12 - Vacuum Vessel Systems	125 - Vacuum Vessel Local I&C		\$20,385		\$5,740			\$26,125		
13 - Conventional Coils	130	\$121,316	\$182,610					\$303,926	\$4,168,402	
13 - Conventional Coils	131 - TF Coils		\$84,095	\$621,480	\$823,555	\$301		\$1,529,431		
13 - Conventional Coils	132 - PF Coils		\$51,489	\$220,223	\$1,018,001	\$510,772		\$1,800,485		
13 - Conventional Coils	133 - External Trim Coils			\$105,271	\$332,319			\$437,590		
13 - Conventional Coils	134 - Conventional Coil Local				\$71,552	\$25,419		\$96,970		
14 - Modular Coils	141 - Modular Coil Winding Form	\$1,096,040	\$3,221,603	\$3,483,505	\$1,262,589			\$9,063,737	\$20,548,086	
14 - Modular Coils	142 - Modular Coil Windings and Assembly	\$1,041,146	\$2,830,050	\$2,399,625	\$2,467,571	\$45,432		\$8,783,823		
14 - Modular Coils	143 - Modular Coil Local I&C				\$50,979	\$70,223		\$121,203		
14 - Modular Coils	144 - Modular Coil Winding Facility & Fixtures	\$283,585	\$2,295,738					\$2,579,323		
15 - Structures	151 - Coil Support Structure		\$164,840	\$333,123	\$951,865			\$1,449,829	\$1,449,829	
16 - Coil Services	161 - LN2 Distribution				\$198,563	\$138,961		\$337,525	\$1,036,838	
16 - Coil Services	162 - Electrical Leads				\$235,265	\$385,991		\$621,255		
16 - Coil Services	163 - Coil Protection System				\$78,058			\$78,058		
17 - Cryostat and Base Support Structure	171 -Cryostat	\$17,768	\$88,222	\$247,394	\$254,425	\$256,477		\$864,287	\$1,305,323	
17 - Cryostat and Base Support Structure	172 - Base Support Structure		\$42,599	\$65,214	\$328,531	\$4,692		\$441,036		
18 - Field Period Assembly	181 - Field Period Assembly Planning/Oversight	\$88,160	\$186,389	\$393,821	\$699,621	\$2,810		\$1,370,800	\$5,110,450	
18 - Field Period Assembly	182 - TFTR Test Cell Area preparations				\$92,942			\$92,942		
18 - Field Period Assembly	183 - Receive Inspect and Test Coils				\$77,366			\$77,366		
18 - Field Period Assembly	184 - Receive Inspect and Test VV				\$326,270			\$326,270		
18 - Field Period Assembly	185 - Assemble Field Periods				\$1,088,607	\$268,215		\$1,356,821		
18 - Field Period Assembly	186 - Tooling Design and Fabrication		\$731,506	\$303,220	\$303,220	\$434		\$1,338,380		
18 - Field Period Assembly	187 - Measurement Systems		\$260,527	\$237,370	\$49,974			\$547,871		
19 - Stellarator Core Management and Integration	191 - Stellarator Core Management & Oversight	\$176,339	\$59,478	\$217,178	\$222,309	\$245,201	\$162,000	\$1,082,504	\$2,662,618	
19 - Stellarator Core Management and Integration	192 - Stellarator Core Integration & Analysis	\$70,452	\$429,432	\$513,311	\$207,438	\$231,336	\$128,144	\$1,580,114		
WBS 2										\$1,627,430
21 - Fueling Systems					\$60,086	\$79,959		\$140,045	\$140,045	
22 - Torus Vacuum Pumping Systems		\$60,196			\$193,136	\$130,855		\$384,187	\$384,187	
25 - Neutral Beam Injection System	250 - Neutral Beam Injection System	\$168,753	\$87,264	\$79,332	\$226,739	\$541,110		\$1,103,198	\$1,103,198	
WBS 3										\$1,681,335
31 - Magnetic Diagnostics				\$89,086	\$365,014			\$454,101	\$454,101	
36 - Edge and Divertor Diagnostics					\$27,377	\$71,910		\$99,287	\$99,287	
38 - Electron Beam (EB) Mapping					\$42,118	\$249,952		\$292,070	\$292,070	
39 - Diagnostics Integration		\$146,710	\$75,483	\$183,997	\$187,148	\$204,787	\$37,751	\$835,877	\$835,877	

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WBS II	WBS III	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	TOTAL	WBS II TOTALS	WBS I TOTALS
<u>WBS 4</u>										\$5,317,506
41 - AC Power	411 - Auxiliary AC Power Systems		\$50,533	\$79,399	\$240,578	\$197,661		\$568,170	\$611,003	
41 - AC Power	412 - Experimental AC Power Systems			\$10,356	\$31,188	\$1,288		\$42,833		
42 - AC/DC Converters	422 - D-Site AC/DC Converters					\$23,534		\$23,534	\$23,534	
43 - DC Systems	431 - C-Site DC Systems				\$171,895	\$160,805		\$332,700	\$2,147,403	
43 - DC Systems	432 - D-to-C Site DC Systems	\$2,294	\$496,830		\$824,512			\$1,323,635		
43 - DC Systems	433 - D-Site DC Systems		\$89,597	\$17,634	\$354,395	\$29,442		\$491,068		
44 - Control and protection Systems	441 - Electrical Interlocks	\$12,060	\$71,784	\$75,352	\$305,946	\$110,330		\$575,472	\$1,593,226	
44 - Control and protection Systems	442 - Kirk Key Interlocks				\$68,617	\$29,421		\$98,037		
44 - Control and protection Systems	443 - Real Time Control Systems				\$30,556	\$7,842		\$38,398		
44 - Control and protection Systems	444 - Instrument Systems		\$9,795	\$8,431	\$339,060	\$75,604		\$432,890		
44 - Control and protection Systems	445 - Coil protection Systems	\$5,990	\$14,262	\$4,145	\$219,437	\$37,573		\$281,406		
44 - Control and protection Systems	446 - Ground Fault Monitoring				\$34,652	\$132,370		\$167,023		
45 - Power System Design and Integration	451 - System Design and Interfaces	\$101,514	\$157,513	\$115,650	\$115,830	\$85,178	\$3,079	\$578,764	\$861,490	
45 - Power System Design and Integration	452 - Electrical Systems Support		\$11,553	\$22,475	\$35,505	\$21,208		\$90,741		
45 - Power System Design and Integration	453 - System Testing (PTP's)				\$80,304	\$111,681		\$191,985		
46 - FCPC Building Modifications		460	\$18,720	\$34,626	\$20,566	\$6,938		\$80,850	\$80,850	
<u>WBS 5</u>										\$2,579,836
51 - TCP/IP Infrastructure Systems			\$12,504	\$12,848	\$4,025	\$399,649		\$429,027	\$429,027	
52 - Central Instrumentation & Control					\$161,176	\$416,864		\$578,040	\$578,040	
53 - Data Acquisition & Facility Computing					\$143,108	\$264,710		\$407,817	\$407,817	
54 - Facility Timing & Synchronization					\$71,151	\$280,881		\$352,032	\$352,032	
55 - Real Time Plasma & Power Supply Control Sys					\$11,659	\$281,621		\$293,280	\$293,280	
56 - Central Safety Interlock Systems					\$30,048	\$369,878		\$399,926	\$399,926	
57 - Control Room Facility					\$5,636	\$114,078		\$119,714	\$119,714	
<u>WBS 6</u>										\$2,037,582
61 - Water Systems	611 - C-Site Cooling System				\$9,796	\$143,474		\$153,270	\$531,502	
61 - Water Systems	612 - NB Water Cooling Systems				\$38,998	\$200,929		\$239,927		
61 - Water Systems	613 - Vacuum Pumping System		\$5,137	\$4,685	\$16,419	\$73,554		\$99,795		
61 - Water Systems	614 - Bakeout Water System				\$24,356	\$14,154		\$38,510		
62 - Cryogenic Systems	621 - LN2-LHe Supply System				\$30,498	\$222,376		\$252,873	\$747,435	
62 - Cryogenic Systems	622 - LN2 Coil Cooling Supply				\$29,475	\$244,915		\$274,390		
62 - Cryogenic Systems	623 - GN2 Cryostat Cooling System				\$35,437	\$184,735		\$220,172		
63 - Utility Systems			\$8,206	\$8,173	\$23,848	\$80,273		\$120,500	\$120,500	
64 - PFC/VV Heating & Cooling	640 - PFC/VV Heating & Cooling				\$109,595	\$519,270		\$628,865	\$628,865	
65 - Facility Systems Integration	612 - NB Water Cooling Systems		\$9,280					\$9,280	\$9,280	

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WBS II	WBS III	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	TOTAL	WBS II TOTALS	WBS I TOTALS
WBS 7										
71 - Shield Wall Seismic Modifications		\$16,589	\$10,490					\$27,079	\$27,079	\$4,253,730
72 - Control Room Refurbishment			\$39,512					\$39,512	\$47,989	
72 - Control Room Refurbishment	741 - Planning Prior to Machine Assembly				\$8,477			\$8,477		
73 - Platform Design & Fabrication			\$54,170		\$69,971			\$124,141	\$196,077	
73 - Platform Design & Fabrication	741 - Planning Prior to Machine Assembly	\$71,936						\$71,936		
74 - Machine Assembly Planning and Oversight	741 - Planning Prior to Machine Assembly	\$193,808	\$149,204					\$343,013	\$1,527,416	
74 - Machine Assembly Planning and Oversight	742 - Construction Management			\$236,807	\$311,497	\$371,055	\$265,044	\$1,184,403		
75 - Test Cell and Basement Assembly Operations	750 - Test Cell & Basement Assembly Operations		\$69,847	\$828	\$584,291	\$1,192,305	\$387,163	\$2,234,434	\$2,234,434	
76 - Tooling Design & Fabrication			\$27,310	\$808	\$96,734	\$95,884		\$220,735	\$220,735	
WBS 8										
81 - Project Management and Control	810 - Project Management & Control	\$408,770	\$736,916	\$624,654	\$542,051	\$521,820	\$361,158	\$3,195,369	\$3,195,369	\$9,610,729
82 - Project Engineering	820 - Project Engineering	\$485,040	\$1,091,970	\$933,340	\$870,154	\$939,815	\$368,770	\$4,689,090	\$4,689,090	
84 - Project Physics	840 - Project Physics	\$236,475	\$169,442	\$95,530				\$501,447	\$501,447	
85 - Integrated Systems Testing					\$226,328	\$833,116	\$165,378	\$1,224,823	\$1,224,823	
PPPL Allocations	PPPL Allocations	\$84,750	\$210,604	\$214,140	\$214,080	\$232,077		\$955,651	\$955,651	\$955,651
Contingency	Contingency		\$1,623,007	\$1,465,991	\$2,725,260	\$6,885,242	\$3,210,471	\$15,909,970	\$15,909,970	\$15,909,970
		\$5,945,600	\$17,903,175	\$15,908,866	\$22,098,560	\$19,383,596	\$5,088,958	\$86,328,755	\$86,328,755	\$86,328,755