NSTX UPGRADE	CONCEPTUAL DESIGN COST ESTIMATE BASE CASE																			
									Uncertainty %			\$		Risk			Contingency		ESTIMATE RANGE	
		FY 2009																		
WBS/JOB		Actual Cost		FY 2011		FY 2013	FY 2014 FY 2		_OW	High	Low (1)	Average (2		·	Likelyhood	Weighted Risk (5) \$	Lower	Upper	LOWER	UPPER
Job: 1000 - CSU Analytical Support	\$238		144.7	93.5					20%	40%	-\$48	\$24	\$95	50	U	\$13		· · · ·	\$275	\$383
Job: 1001 - CS Plasma Facing Components	\$1,842	64.6	322.9	618.3	836				20%	40%	-\$355	\$178	\$711	-		\$0		\$711	\$2,020	\$2,553
Job: 1002 -Passive Plate Analysis & Upgrade Act	\$173	-	117.1	56.1					20%	40%	-\$35	\$17	\$69	?		\$0		\$69	\$191	\$242
Job: 1200 - Vacuum Vessel & Structural Support	\$776	571.7	190.2	14.1					20%	40%	-\$41	\$20	\$82	-		\$0	\$20	\$82	\$796	\$858
Job: 1201 - Outer TF Structures	\$689	-	176.9	264.5				2	20%	40%	-\$138	\$69	\$275	-		\$0	\$69	\$275	\$758	\$964
Job: 1202 - Outer PF Coil Structures	\$1,111	-	310.1	167.5					20%	40%	-\$222	\$111	\$444	-		\$0	\$111	\$444	\$1,222	\$1,555
Job: 1203 - Umbrella Structural Reinforcement	\$397	-	141.3	56.3					20%	40%	-\$79	\$40	\$159	-		\$0	\$40	\$159	\$437	\$556
Job: 1204 - CS Support Pedestal	\$197	-	88.9	32.9		34.1			20%	40%	-\$39	\$20	\$79	-		\$0	\$20	\$79	\$217	\$276
Job: 1205 - Misc VV Structural Support	\$252		77.1	42.6				-2	20%	40%	-\$50	\$25	\$101			\$0	\$25	\$101	\$277	\$352
Job: 1301 - Outer Toroidal Field Coils	\$671		25.8	407	238			1	10%	15%	-\$67	\$17	\$101	240	U	\$60	\$77	\$341	\$748	\$1,011
Job: 1303 - TF Joint Test Stand & Perform Test	\$341		63.8	194.9	81.8			1	15%	25%	-\$51	\$17	\$85	75	U	\$19	\$36	\$160	\$376	\$501
Job: 1304 - Inner TF Bundle (Dsgn/Fab)	\$1,948		1066.6	881.6				2	20%	40%	-\$390	\$195	\$779	165	U	\$41	\$236	\$944	\$2,184	\$2,892
Job: 1305 - OHMIC Heating Coil (OH) DSGN/FAB	\$3,993	1055.6	270.3	1340.1	1327.3			-2	20%	40%	-\$588	\$294	\$1,175	750	U	\$188	\$481	\$1,925	\$4,475	\$5,918
Job: 1306 - Inner Poloidal Field Coils (Shaping)	\$534		90.5	193.6				-2	20%	40%	-\$107	\$53	\$214	50	U	\$13	\$66	\$264	\$600	\$798
Job: 1307 - CS Casing Assembly (DSGN/FAB)	\$875		116.4	631	127.7			-2	20%	40%	-\$175	\$88	\$350	-		\$0	\$88	\$350	\$963	\$1,225
Job: 1302 - Center Stack Assembly	\$812			55.8	499.8	256.5		-2	20%	40%	-\$162	\$81	\$325	n/a		\$0	\$81	\$325	\$893	\$1,137
Job: 2300 ECH Analysis	\$131		89.3	41.7				-2	20%	40%	-\$26	\$13	\$52	-		\$0	\$13	\$52	\$144	\$183
Job: 2420 - 2nd NBI Sources	\$1,309		8.3	8.6	379.6	912.8			5%	10%	-\$65	\$33	\$131	-		\$0	\$33	\$131	\$1,342	\$1,440
Job: 2425 - BL Relocation	\$1,712	15	461.1	217.7	982.1	36.4		1	15%	25%	-\$255	\$85	\$424	-		\$0	\$85	\$424	\$1,797	\$2,137
Job: 2430 - 2nd NBI Decontamination	\$2,640	1238.5	1401.7					-2	20%	10%	-\$280	-\$70	\$140	-		\$0	-\$70	\$140	\$2,570	\$2,780
Job: 2440 - 2nd NBI Beamline	\$2,378	28.6	87.2	1409.6	852.3			-1	10%	15%	-\$235	\$59	\$352	(184)	L	-\$110	-\$52	\$168	\$2,326	\$2,546
Job: 2450 - 2nd NBI Services	\$3,542	76.7	321.4	603.6	2467.5	73.1		-1	15%	25%	-\$520	\$173	\$866	50	U	\$13	\$186	\$916	\$3,728	\$4,459
Job: 2460 - 2nd NBI Armor	\$424	35.8	144.3	24.2	219.4			-1	10%	15%	-\$39	\$10	\$58	-		\$0	\$10	\$58	\$433	\$482
Job: 2470 - 2nd NBI Power	\$2,829	115.2	11.6		2199.5	503		-1	15%	25%	-\$407	\$136	\$679	50	U	\$13	\$148	\$729	\$2,978	\$3,558
Job: 2475 - 2nd NBI Controls	\$1,691		279.3	82.2	856.2	472.9		-1	15%	25%	-\$254	\$85	\$423	-		\$0	\$85	\$423	\$1,775	\$2,113
Job: 2480 - 2nd NBI/TVPS Duct	\$2,457	183.4	185.9	27.8	1851.2	208.6		-1	10%	15%	-\$227	\$57	\$341	170	U	\$43	\$99	\$511	\$2,556	\$2,968
Job: 2485 - Vacuum Pumping System	\$314		75.9	17.1	153.3	67.2		-:	5%	10%	-\$16	\$8	\$31	-		\$0	\$8	\$31	\$321	\$345
Job: 2490 - NTC Equipt Relocations	\$3,241	143		512.4	1508.8	1076.5		-2	20%	40%	-\$620	\$310	\$1,239	441	L	\$265	\$574	\$1,680	\$3,815	\$4,921
Job: 3200 - Water Cooling System Mods for CSU	\$382	5.4	178.6	48.1	138.9	10.6		-1	15%	25%	-\$56	\$19	\$94	-		\$0	\$19	\$94	\$400	\$476
Job: 3300 - Bakeout System Mods for CSU	\$80	-	6.7	2.8	70.5				5%	10%	-\$4	\$2	\$8	-		\$0	\$2	\$8	\$82	\$88
Job: 3400 - Gas Delivery System Mods for CSU	\$88	-	46.3	12.6	28.9			-1	15%	25%	-\$13	\$4	\$22	_		\$0	\$4	\$22	\$92	\$110
Job: 4100 - Center Stack Diagnostics for CSU	\$849	11.3	114.6	322.8	400.7				5%	10%	-\$42	\$21	\$84	_		\$0	\$21	\$84	\$870	\$933
Job: 5000 - CSU Power Systems	\$8,767	385.8	976.5	555.4		2566.8	137.8		15%	25%	-\$1,257	\$419	\$2,095	-		\$0	\$419		\$9,186	
Job: 5501 - Coil Bus Runs	\$702	-	208.6	101	373.6	19.1			20%	40%	-\$140	\$70	\$281	_		\$0	\$70	\$281	\$773	\$983
Job: 6100 - Control Sys & Data Acquisition Sys	\$781	-	92.2	157.7		97.4			15%	25%	-\$117	\$39	\$195	250	U	\$63			\$883	\$1,226
Job: 7100 - Project Mgt & Integration CSU & NBI	\$4,221	625.8	616.8	764.9		1156			15%	25%	-\$539	\$180	\$899	-		\$0		\$899	\$4,401	\$5,120
Job: 7200 - Center Stack Management	\$1,327		364.5	327.7		313.6			15%	25%	-\$199	\$66	\$332	107	L	\$64		\$439	\$1,458	\$1,766
Job: 7300 - NB2 Management	\$1,582	63.3	255	341.5		423	86.2		15%	25%	-\$228	\$76	\$380	75	L	\$45		\$455	\$1,703	
Job: 7400 - Health Physics Support	\$2,838		683.2	1076.5		365.5			15%	25%	-\$426	\$142	\$710	35	L	\$21	\$163		\$3,001	\$3,583
JOB: 7700 - NSTX Upgrade HP Allocations	\$1,836		474	454		454			15%	25%	-\$275	\$92	\$459	130	L	\$78		\$589	\$2,006	\$2,425
Job: 7710 - Upgrade Allocations	\$918	526.3	299	31		31			15%	25%	-\$59	\$20	\$98	130	L	\$78			\$1,016	
Job; 8200 - Centerstack & Coil Structural Instal	\$5,499		103.8	910.2		978.2			20%	40%	-\$1,100	\$550	\$2,200	50	U	\$13			\$6,062	
Job: 8250 - Remove/Install Centerstack	\$749			0.0.2	109.5				30%	60%	-\$225	\$112	\$449	287	L	\$172		\$736		
Job: 7900 - Integrated System	\$69		2	2.2	21.6	30		-2	20%	40%	-\$14	\$7	\$28	-		\$0			\$76	\$96
schedule (months)							l shift option rei	main)		<u>7.2</u>	months		15%					\$1,742	\$1,742	
Base Estimate =	\$68,204	\$5,146	\$10,690	\$13,10 <mark>3</mark>	\$28,302	\$10,725	\$237	\$0			-\$10,185	\$3,964	\$18,114	2,921		\$1,088	\$6,794 10%		\$74,998	\$90,981
Contingency(Lower)=	\$6,794		\$340	\$1,359	\$2,038	\$1,359	\$1,699	\$0									10%	3370		
Total (Lower)=	\$74,998	\$5,146	\$11,030	\$14,462	\$30,341	\$12,084	\$1,936	\$0								Use for weighted risk				
Contingency (Upper) =			\$1,139				\$5,694	\$0								60%				
Total (Upper) =	\$90,981	\$5,146	\$11,829	\$17,659	\$35,136	\$15,281	\$5,931	\$0								25%				
																5%				
Continuous allocation	4000/	2/2	E0/	000/	200/	200/	250/	09/												
Contingency allocation =	100%	n/a	5%	20%	30%	20%	25%	0%				1								L