

Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	Forecast											
						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18			

# Cost Center 1805 - Facility Operations

## Program Research Plan

MILEBASE01	First plasma		0	30DEC11*	0.00
MILEBASE02	Six week run - Magnetic Configuration Studies	16JAN12	43	14MAR12	0.00
MILEBASE03	Begin FY13 Operations		0	01MAR13*	0.00
MILEBASE04	FY13 18 week run- Initial Heating Experiments	04MAR13*	151*	30SEP13	0.00
MILEBASE05	Begin FY15 Operations		0	02FEB15*	0.00
MILEBASE06	FY15 24 week run - High Beta Experiments	03FEB15	171	29SEP15	0.00

## Administration and Management

### 8190 - Administration and Management

1805FY08	FY10-Administration/Proj mgnt	01OCT09*	259	28SEP10	469,137.88
1805FY090	FY11-Administration/Proj mgnt	01OCT10*	259	28SEP11	719,440.42
1805FY100	FY12-Administration/Proj mgnt	03OCT11*	259	27SEP12	1,228,813.52
1805FY110	FY13-Administration/Proj mgnt	01OCT12*	259	26SEP13	1,270,619.62
1805FY120	FY14-Administration/Proj mgnt	01OCT13*	259	26SEP14	1,313,827.03
1805FY130	FY15-Administration/Proj mgnt	01OCT14*	259	28SEP15	1,358,491.91

NEILSON =1122hr .65 fte; REIERSEN =259hr 15%  
STRYKOWSKY=259hr .15fte; HAMPTON =1040hr

NEILSON =1409hr .81fte; REIERSEN =259hr 15%  
STRYKOWSKY=1064 .6 fte; HAMPTON =1040hr

NEILSON =1,553hr; REIERSEN =1,553hr  
STRYKOWSKY =1,553hr; HAMPTON =1,872hr

NEILSON =1553hr; REIERSEN =1553hr  
STRYKOWSKY =1553hr; HAMPTON =1872hr

NEILSON =1553hr; REIERSEN =1553hr  
STRYKOWSKY =1553hr; HAMPTON =1872hr

## Post MIE PTP & sys caretaking

### 8191 - Post PTP maintenance and sys caretaking

1805FY0900	Post PTP maintenance & caretaking	07JUN11*	145	26DEC11	519,177.22
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EM/EM =856hr ; EM/SM =856hr  
EM/TB =1726hr ; 41=35\$K ;

## Machine Operations

### 8192 - Machine Operations

1805FY0901	FY12-Engr ops	16JAN12*	40	09MAR12	121,851.34
1805FY0904	FY12-Machine Ops	16JAN12*	40	09MAR12	344,167.04
1805FY0905	FY12-Exp Pwr (FCPC)	16JAN12*	40	09MAR12	110,153.98
1805FY0906	FY12-Facility Power (MG/AC)	16JAN12*	40	09MAR12	14,016.76

EM/EM =410hr ; EA/EM =136hr ;  
EA/SM =68 ;

COE =273hr ; MACH TECH =273hr ;  
VAC TECH =136hr ; MACH TECH =273hr ;  
VAC TECH =546hr ; WATER TECH =273hr ;  
LN2 =20\$K ; 41=13\$K ;  
36=59 ;

EE/EM =414hr ; EE/TB =828hr ;

AC =69hr ; AC =69hr ;

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						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18			
1805FY0907	FY12-Diagnostic ops	16JAN12*	40	09MAR12	0.00												
1805FY0908	FY12-Computer division	16JAN12*	40	09MAR12	25,206.39												
1805FY0909	FY12-Central I&C/Plasma control	16JAN12*	40	09MAR12	37,459.84												
1805FY0910	FY12-Construction	16JAN12*	40	09MAR12	53,703.95												
1805FY0912	FY12-Facilities	16JAN12*	40	09MAR12	8,966.37												
1805FY1301	FY13-Energy	04MAR13	170	25OCT13	1,000,935.00												
1805FY1302	FY13-Central I&C (hardware)	04MAR13	170	25OCT13	621,203.06												
1805FY1303	FY13-Construction	04MAR13	170	25OCT13	431,783.69												
1805FY1304	FY13-CPPG	04MAR13	170	25OCT13	529,070.98												
1805FY1305	FY13-Data Acq Sys	04MAR13	170	25OCT13	714,245.83												
1805FY1306	FY13-Diag/Boundary Physics	04MAR13	170	25OCT13	851,986.09												
1805FY1307	FY13-Exp Pwr (FCPC)	04MAR13	170	25OCT13	864,786.34												
1805FY1308	FY13-Facility Power (MG/AC)	04MAR13	170	25OCT13	1,124,273.48												
1805FY1309	FY13-Machine Ops	04MAR13	170	25OCT13	3,379,389.65												
1805FY1310	FY13-NBI Ops	04MAR13	170	25OCT13	1,429,005.36												
1805FY1311	FY13-Plasma Control	04MAR13	170	25OCT13	547,618.38												
1805FY1312	FY13-RF Operations NONE	04MAR13	170	25OCT13	0.00												
1805FY1313	FY13-Torus Systems	04MAR13	170	25OCT13	321,761.40												
1805FY1314	FY13-Operations Contingency @10%	06FEB13*	159	16SEP13	1,328,250.00												
1805FY1401	FY14-Energy	01OCT13*	260	29SEP14	565,500.00												
1805FY1402	FY14-Central I&C (hardware)	01OCT13	260	29SEP14	147,311.69												
1805FY1403	FY14-Construction	01OCT13	260	29SEP14	1,638,747.76												
1805FY1404	FY14-CPPG	01OCT13	260	29SEP14	72,622.50												
1805FY1405	FY14-Data Acq Sys	01OCT13	260	29SEP14	109,039.00												
1805FY1406	FY14-Diag/Boundary Physics	01OCT13	260	29SEP14	91,844.98												
1805FY1407	FY14-Exp Pwr (FCPC)	01OCT13	260	29SEP14	130,117.67												
1805FY1408	FY14-Facility Power (MG/AC)	01OCT13	260	29SEP14	185,584.38												
1805FY1409	FY14-Machine Ops	01OCT13	260	29SEP14	683,465.74												
1805FY1410	FY14-NBI Ops	01OCT13	260	29SEP14	465,485.21												
1805FY1411	FY14-Plasma Control	01OCT13	260	29SEP14	91,844.98												
1805FY1412	FY14-RF Operations NONE	01OCT13	260	29SEP14	0.00												

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**NCSX Program UPGRADES**

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Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget													
						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18				
1805FY1413	FY14-Torus Systems	01OCT13	260	29SEP14	275,573.17													
1805FY1501	FY15-Energy	03FEB15	171	29SEP15	1,334,580.00													
1805FY1502	FY15Central I&C (hardware)	03FEB15	171	29SEP15	882,232.82													
1805FY1503	FY15-Construction	03FEB15	171	29SEP15	612,970.64													
1805FY1504	FY15-CPPG	03FEB15	171	29SEP15	751,362.32													
1805FY1505	FY15-Data Acq Sys	03FEB15	171	29SEP15	1,014,339.13													
1805FY1506	FY15-Diag/Boundary Physics	03FEB15	171	29SEP15	1,210,026.29													
1805FY1507	FY15-Exp Pwr (FCPC)	03FEB15	171	29SEP15	1,228,226.55													
1805FY1508	FY15-Facility Power (MG/AC)	03FEB15	171	29SEP15	1,596,751.80													
1805FY1509	FY15-Machine Ops	03FEB15	171	29SEP15	4,744,697.79													
1805FY1510	FY15-NBI Ops	03FEB15	171	29SEP15	2,020,609.46													
1805FY1511	FY15-Plasma Control	03FEB15	171	29SEP15	777,715.49													
1805FY1512	FY15-RF Operations	03FEB15	171	29SEP15	1,525,431.98													
1805FY1513	FY15-Torus Systems	03FEB15	171	29SEP15	456,962.15													
1805FY1514	FY15-Operations Contingency @10%	03FEB15	171	29SEP15	1,771,000.00													

**Allocations**

**8198 - Allocations**

Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget
1805FY090A	FY11-Allocations	01OCT10*	249	14SEP11	567,750.00
1805FY100A	FY12-Allocations	03OCT11*	255	21SEP12	587,000.00
1805FY110A	FY13-Allocations	01OCT12*	255	20SEP13	1,624,332.00
1805FY120A	FY14-Allocations	01OCT13*	255	22SEP14	1,679,190.00
1805FY130A	FY15-Allocations	01OCT14*	255	22SEP15	1,302,543.00

**Cost Center: 1808 - Research**

**Research Prep Management**

**Job: 8181 - Research Prep Management**

Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget
1808FY0902	FY10 Research mgt & oversight	01OCT09*	250	15SEP10	263,025.36
1808FY1002	FY11 Research mgt & oversight	01OCT10*	255	22SEP11	412,864.16
1808FY1102	FY12 Research mgt & oversight	03OCT11*	255	21SEP12	746,900.44
1808FY1202	FY13 Research mgt & oversight	03OCT12*	255	24SEP13	770,202.68
1808FY1302	FY14 Research mgt & oversight	03OCT13*	255	24SEP14	794,256.32

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						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18			
1808FY1402	FY15 Research mgt & oversight	03OCT14*	255	24SEP15	819,052.52												ZARNSTORFF =1,768hr ; ORNLRM =884r
<b>Diagnostic Oversight</b>																	
<b>Job: 8184 - Diagnostic Oversight</b>																	
DIAGOVER	FY10 physics support of diag upgrades	01APR11*	1,149	26AUG15	5,449,843.47												PPPL RM =11880hr ; ORNLRM =52 NOVA =2900 ; JHC =1500 AUBURN =1200 ; UCLA =1200 LLNL =600 ;
<b>Physics Analysis &amp; Support</b>																	
<b>Job: 8185 - Physics analysis &amp; support</b>																	
1808FY0912	FY10 Research mgt & oversight	01OCT09*	250	15SEP10	466,734.24												
1808FY0913	FY11 Research mgt & oversight	01OCT10*	255	22SEP11	339,990.48												
1808FY0914	FY12 Research mgt & oversight	03OCT11*	255	21SEP12	614,568.20												TRAVEL =12\$K ; PPPL RM =1,768hr ; ORNLRM =884hr
1808FY0915	FY13 Research mgt & oversight	03OCT12*	255	24SEP13	633,227.64												TRAVEL =12\$K ; PPPL RM =1,768hr ; ORNLRM =884hr
1808FY0916	FY14 Research mgt & oversight	03OCT13*	255	24SEP14	652,468.00												TRAVEL =12\$K ; PPPL RM =1,768hr ; ORNLRM =884hr
1808FY0917	FY15 Research mgt & oversight	03OCT14*	255	24SEP15	672,291.80												TRAVEL =12\$K ; PPPL RM =1,768hr ; ORNLRM =884
1808FY11-1	Ops support, Anaysis, Theory (PPPL)	01OCT12*	261	30SEP13	6,353,851.84												r///rm2=29702 (17 fte)
1808FY11-2	Ops support, Anaysis, Theory (ORNL)	01OCT12*	261	30SEP13	3,053,579.05												ornlr=11,315 (6.5 fte)
1808FY15-1	Ops support, Anaysis, Theory (PPPL)	01OCT14*	261	30SEP15	8,491,544.88												r///rm2=37,128 (21 fte)
1808FY15-2	Ops support, Anaysis, Theory (ORNL)	01OCT14*	261	30SEP15	4,010,248.32												onlr=14,144 (8 fte)
<b>Collaborations</b>																	
<b>Job: 8186 - Collaborators</b>																	
1808FY11-3	Ops support, Anaysis, Theory (OTHER)	01OCT12*	261	30SEP13	4,000,000.00												
1808FY15-3	Ops support, Anaysis, Theory (OTHER)	01OCT14*	261	30SEP15	5,000,000.00												
<b>Cost Center 9405 - Diagnostic Equipment</b>																	
<b>3 - Diagnostics</b>																	
<b>310 - Magnetics</b>																	
<b>3102 - In-vessel Magnetics</b>																	
3051	In-vessel magneticsDsn/fab	02MAY11*	96	12SEP11	85,669.88												EM/EM =36hr ; EA/SM =72 ; EM/TB =576hr ; 41=9.5\$K ;
3055	In-vessel magnetics-Fab./Install	13SEP11	17	05OCT11	36,407.35												EM/SM =144hr ; EM/TB =144hr ;
3058	In-vessel magnetics-Commission	06OCT11*	20	02NOV11	23,294.88												EM/SM =144hr ;
<b>3103 - Magnetic Instrumentation</b>																	
2069	Magnetics system cable & raceway installation	20AUG12	100	04JAN13	159,865.74												ea//sb=256;em/tb=728;41=31.53

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						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18				
3061	Magnetics instrumentation -Design/Procure	24MAY11	324	17AUG12	925,980.95													
3065	Magnetics instrumentation -Fab./Install	20AUG12	100	04JAN13	215,885.67													
3068	Magnetics instrumentation -Commission	07JAN13	40	01MAR13	111,438.72													
<b>3104 - Terminate ex-vessel magnetics sensors</b>																		
3075	Complete Termination ex-vsl magn sensors	08OCT12	65	04JAN13	62,831.52													
<b>332 - UV Spectrometer</b>																		
<b>3320 - UV Spectrometer</b>																		
3101	UV spectrometer-Design/Fab.	16AUG12	45	17OCT12	35,666.33													
3105	UV spectrometer-Fab./Install	18OCT12	97	01MAR13	58,958.28													
3108	UV spectrometer-Commission	04MAR13*	40	26APR13	13,735.44													
<b>333 - Bolometer Array</b>																		
<b>3330 - Bolometer Array</b>																		
3091	Bolometer array-Design/Fab.	26JUL12	45	26SEP12	49,495.68													
3095	Bolometer array-Fab./Install	27SEP12	112	01MAR13	49,826.34													
3098	Bolometer array-Commission	04MAR13	40	26APR13	9,156.96													
3099	Bolometer array-Fab./Install	13OCT14	81	02FEB15	104,352.00													
3100	Bolometer array-Commission	03FEB15	40	30MAR15	19,581.12													
<b>335 - Filterscopes</b>																		
<b>3350 - Filterscopes</b>																		
3151	Filterscopes-Design/Fab.	19JUL12	45	19SEP12	24,747.84													
3155	Filterscopes-Fab./Install	20SEP12	117	01MAR13	76,703.21													
3158	Filterscopes-Commission	04MAR13	40	26APR13	37,822.32													
<b>341 - Soft X-Ray Arrays</b>																		
<b>3410 - Soft X-Ray Arrays</b>																		
3035	Soft X-Ray Arrays-Fab./Install	16JUL14	144	02FEB15	202,752.20													
3038	Soft X-Ray Arrays-Commission	03FEB15	40	30MAR15	25,752.96													
<b>342 - X-ray crystal spectroscopy</b>																		
<b>3420 - X-ray crystal spectroscopy</b>																		
3039	X-ray crystal spectroscopy-Fab,Install	10AUG12	146	01MAR13	714,992.51													

Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18											
3039A	X-ray crystal spectroscopy-Commission	04MAR13*	45	03MAY13	48,173.76	EM//SM =288hr											
<b>351 - Thomson Scattering</b>																	
<b>3510 - Thomson Scattering</b>																	
3011	Thomson Scattering-Design/Fab.	13MAY11*	243	17APR12	1,516,687.86	EM//EM =432hr ;EE//EM =288hr ; EA//SM =432 ;EM//SM =864hr ; EE//SM =432hr ;EM//TB =864hr ; 41=680\$k ;											
3015	Thomson Scattering-Fab./Install	02OCT12	109	01MAR13	577,615.68	EM//EM =432hr ; EE//EM =144hr ; EA//SM =432 ; EM//SM =864hr ; EE//SM =432hr ; EM//TB =864hr ; EC//EM =432hr ;											
3018	Thomson Scattering-Commission	04MAR13	85	28JUN13	126,230.40	EM//TB =432hr ; EC//EM =432hr ;											
<b>352 - DNB</b>																	
<b>3520 - DNB Installation and servies</b>																	
3081	DNB installation -Design/procure	01OCT13*	192	25JUN14	447,690.24	EA//SM =288 ; EM//SM =576hr ; EM//TB =576hr ; 41=153.6\$k ;											
3085	DNB installation -Fab./Install	26JUN14	138	05JAN15	264,996.72	EA//SM =144 ; EM//SM =864hr ; EM//TB =576hr ; EC//EM =144hr ;											
3088	DNB installation -Commission	06JAN15*	40	02MAR15	252,252.00	EA//SM =144 ; EM//SM =864hr ; EM//TB =144hr ; EC//EM =288hr ;											
<b>353 - MSE</b>																	
<b>3530 - MSE</b>																	
3530-1	MSE-Design/Procure	02OCT13*	171	28MAY14	638,291.40	em//em=432;ea//sb=864 em//sm=576;em//tb=432; 41=169											
3530-2	MSE-Fab./Install	29MAY14	120	12NOV14	520,823.17	ea//sb=864;em//sm=1440 em//tb=720;ec//em=288											
3530-3	MSE-Commission	13NOV14*	73	23FEB15	291,242.88	ea//sb=288;em//sm=864 em//tb=288;ec//em=288											
<b>354 - CHERS</b>																	
<b>3540 - CHERS</b>																	
3021	CHERS -Design/Procure	01OCT13*	165	19MAY14	648,989.28	EM//EM =288hr ; EA//SM =288 ; EM//SM =576hr ; EE//SM =144hr ; EM//TB =576hr ; 41=225.6\$k ;											
3025	CHERS -Fab./Install	20MAY14	138	27NOV14	268,345.88	EM//EM =288hr ; EA//SM =288 ; EM//SM =576hr ; EM//TB =576hr ;											
3028	CHERS -Commission	28NOV14*	40	22JAN15	29,371.68	EC//EM =144hr ;											
<b>355 - ECE</b>																	
<b>3550 - ECE</b>																	
3550-01	MSE-Design/Procure	25JUN14	67	25SEP14	164,170.20	em//em=144;ee//em=144;ee//sm=144;41=47											
3550-2	MSE-Fab./Install	26SEP14	65	25DEC14	176,558.70	em//em=144;ee//em=144;em//sm=288 ee//tb=144;em//tb=144;ec//em=144											
3550-3	MSE-Commission	26DEC14	52	09MAR15	204,783.84	em//em=144;ee//em=144;em//sm=288;ec//em=432											

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Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	Forecast												
						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18				
<b>356 - Interferometers</b>																		
<b>3562 - Interferometer</b>																		
3041	Interferometer-Design/Procure	08OCT12	57	25DEC12	120,567.60													
3045	Interferometer-Fab./Install	26DEC12*	48	01MAR13	158,369.52													
3048	Interferometer-Commission	04MAR13	28	10APR13	51,557.76													
<b>357 - Reflectometer</b>																		
<b>3570 - Reflectometer</b>																		
3040	Reflectometer-Design	19JUN12	83	11OCT12	191,468.87													
3040A	Reflectometer-Fab./Install	12OCT12	101	01MAR13	659,439.36													
3040B	Reflectometer-Commission	04MAR13	65	31MAY13	122,368.32													
<b>361 - Filtered Cameras</b>																		
<b>3611 - Filtered 2-D cameras</b>																		
3125	Filtered 2-D cameras-Fab./Install	04MAR13	65	31MAY13	161,155.68													
<b>3612 - Filtered 1-D camera</b>																		
3135	Filtered 1-D camera -Fab./Install	04MAR13	65	31MAY13	64,386.84													
<b>364 - IR Camera</b>																		
<b>3640 - IR Camera</b>																		
3141	IR-camera-Design/Fab.	02OCT12	25	05NOV12	25,588.80													
3145	IR-camera-Fab./Install	06NOV12	68	07FEB13	46,126.92													
3148	IR-camera-Commission	08FEB13	16	01MAR13	13,735.44													
<b>366 - PFC mounted Langmiur Probes</b>																		
<b>3660 - PFC mounted Langmiur probe</b>																		
3111	PFC-mounted Langmiur probes-Design/Fab.	15OCT12	20	09NOV12	16,649.40													
3115	PFC-mounted Langmiur probes-Fab./Install	12NOV12	65	08FEB13	31,714.68													
3118	PFC-mounted Langmiur probes-Commission	11FEB13*	40	05APR13	27,463.44													

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						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18					
<b>Cost Center 9406 - Facilities Upgrades</b>																			
<b>1 - Stellarator Core Systems</b>																			
<b>NB Armor &amp; PFC's</b>																			
<b>1100 - NB Armor</b>																			
U11-100	NB Armor- Design	01OCT09*	496	25AUG11	1,578,494.47														
U11-105	NB Armor- Procure/Fabricate	03SEP10*	385	23FEB12	1,391,690.34														
U11-110	NB Armor- Install	14SEP12*	106	08FEB13	67,928.74														
<b>121 -Port Extensions &amp; NB Port Covers</b>																			
<b>1211 - Port Extensions</b>																			
U121-200	Port extensions-Design (none)	04JUL11*	65	30SEP11	0.00														
U121-205	Port extensions-Fabricate ( 66 ports)	03OCT11	130	30MAR12	346,150.00														
U121-210	Port extensions-Install	02APR12	65	29JUN12	51,796.80														
<b>1212 - NB Ports &amp; Covers</b>																			
U121-100	NB ports (3) -design	01FEB11*	40	28MAR11	40,319.20														
U121-105	NB ports (3) -fabricate	29MAR11	129	23SEP11	221,961.60														
U121-110	NB ports (3) -install	15MAR12	20	11APR12	35,316.00														
<b>133 - External Trim Coils</b>																			
<b>1330 - Trim Coils</b>																			
184-035	Bid & Award Ext Trim Coils	01AUG11*	45	30SEP11	5,279.76														
184-036	Award External Trim Coils	03OCT11	0	30SEP11	0.00														
184-037	External Trim Coil & Supports Procurement	03OCT11	88	01FEB12	50,718.50														
1303-040	Procure materials for supports	01AUG11	20	26AUG11	12,619.76														
1303-041	Fabricate Supports	29AUG11	20	23SEP11	7,314.64														
1303-042	Install supports onto coils	02FEB12	15	22FEB12	13,307.04														
184-015	Title III WBS 133 Rxt Trim Coils	03OCT11	88	01FEB12	29,730.36														
X		29SEP06*	129	09APR07	216,518.40														
<b>2 - Plasma Heating, Fueling &amp; Vac Systems</b>																			
<b>211 - Gas Fueling Systems</b>																			
<b>2111 - 3 Gas Injectors</b>																			
211-1	Design	01MAY12*	52	11JUL12	111,796.92														
211-2	Procure	12JUL12*	65	10OCT12	58,596.00														
211-3	Assy/Installation	11OCT12*	58	31DEC12	105,562.20														

omlem analyst=1800;oml design=6500;omlem=3600

41=\$942.8k

em/tb=672

=00 ;

41=\$230k

em/tb=528(2 men x 1/2 day x 66 ports)

ea//em=80;ea//sm=160

41=\$151.2k

em/tb=360 (3 men x 5 days x 3 ports)

EA/EM =24hr ;

41=33.7\$k ;

EA/EM =24hr ; 41=5k

EA/EM =16;em/tb=40

EA/EM =24;em/tb=80

EA/EM =116hr ; 35=03\$k ;

em//em=120;em//sb=120;ee//sm=240;ea//sb=204

41=38

em//em=80;em//sb=120;ee//sm=120;em//tb=500

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Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18										
<b>220 - Torus Vacuum Pumping System</b>																
<b>2202 - 2 pumps on one duct</b>																
U122-25	Design	27FEB12*	65	25MAY12	215,202.48	em//em=400;em//sb=240;ee//sm=320 ea//sb=280;ee//em=32										
U122-26	Procure	28MAY12*	100	12OCT12	174,246.00	41=113										
U122-27	Assy/Installation	15OCT12*	50	21DEC12	180,140.90	em//em=160;em//sb=280;ee//sm=200;em//tb=710										
<b>231 - Glow Discharge Cleaning System</b>																
<b>2310 - Glow Discharge Cleaning</b>																
U231-100	Design GDC system	13AUG12*	25	14SEP12	33,370.80	em//em=80;ea//sm=120										
U231-110	Fab/Assemble GDC system	17SEP12*	20	12OCT12	111,391.20	em//em=40;em//tb=120;41=\$60k										
U231-120	Install GDC system	15OCT12*	45	14DEC12	48,744.00	em//em=80em//tb=320										
<b>251 - Neutral Beam #1</b>																
<b>2505 - Beamline #1 Installation</b>																
Refurbishment																
25-000#1	Begin NB#1 Refurb and Installation	14JUL10*	0		0.00	=00 ;										
25-090#1	Two HVST rebuilds	14JUL10	190	05APR11	58,288.00	41=40										
25-091#1	Source filament setup/bench test	14JUL10	190	05APR11	21,493.92	ee//em=40;ee//sm=80										
25-092#1	high voltage power supply troubleshooting/tuning	14JUL10	190	05APR11	29,631.20	ee//em=80;ee//sm=80										
25-093#1	modulator wiring modifications	14JUL10	190	05APR11	14,608.16	ee//tb=160										
25-100#1	6) Drafting Support	14JUL10	190	05APR11	146,222.96	EA//SB =1,040hr ;										
25-105#1	7) Refurbish sources	14JUL10	190	05APR11	5,217.84	EM//TB =20hr ; EE//SM =20hr ;										
25-110#1	8) Fabricate and install new filaments	14JUL10	190	05APR11	8,132.24	41=02\$K ; EM//TB =20hr ; EE//SM =20hr ;										
25-115#1	9) Refurbish calorimeters as needed	14JUL10	190	05APR11	23,785.76	41=02\$K ; EM//TB =80hr ; EE//SM =80hr ;										
25-130#1	12) Dsn,Fan,Instl NBI vac sys INCL NEW TURBO PMP	14JUL10	190	05APR11	93,502.97	EM//TB =56hr ; EE//SM =56hr ; 41=50\$K ; EM//EM =32hr ;										
25-145#1	15)Upgrade/Calibr of telemetry, ptical links etc	14JUL10	190	05APR11	77,887.24	EM//TB =130hr ; EE//SM =130hr ; EM//EM =40hr ; 41=25\$K ;										
25-155#1	17) Fab/Instl Front Box Nitrogen Cryopanel.	14JUL10	190	05APR11	121,016.96	EM//TB =340hr ; EE//SM =340hr ; EM//EM =40hr ; 41=17\$K ;										
25-175#1	21) Sys Engr & Work Planning Procedures	14JUL10	190	05APR11	90,495.36	EM//EM =480hr ;										
Re-Install Beamline																
25-180#1	31)Work Planning Procedures	06APR11	340	24JUL12	77,780.19	EM//EM =400hr ;										
25-185#1	32) EAD analysis of platform support capability	06APR11	340	24JUL12	3,889.01	EM//EM =20hr ;										
25-190#1	33) Fabr BL alignment measur fixture,	06APR11	340	24JUL12	33,160.73	EM//TB =50hr ; EE//SM =50hr ; EM//EM =40hr ; 41=08\$K ;										
25-195#1	34) Fabr new bellows/electrical break	06APR11	340	24JUL12	21,526.64	EM//TB =80hr ; EE//SM =80hr ;										
25-200#1	35) Perform alignment measurements	06APR11	340	24JUL12	1,076.34	EM//TB =04hr ; EE//SM =04hr ;										
25-205#1	36) Prepare platform for base plate	06APR11	340	24JUL12	2,152.66	EM//TB =08hr ; EE//SM =08hr ;										

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Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10 - FY18																
						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18								
25-210#1	37) Relocate base plate to NCSX location	06APR11	340	24JUL12	8,610.66																	
25-215#1	38) Lift NB from Refurb location to NCSX locatio	06APR11	340	24JUL12	33,366.30																	
25-220#1	39) Enclose platform around base plate	06APR11	340	24JUL12	4,305.32																	
<b>Re-Install Cables</b>																						
25-225#1	Cabling-Design & WP Procedures	06APR11	340	24JUL12	31,112.08																	
25-230#1	Cabling-Fabr and Install new Junction Box	06APR11	340	24JUL12	21,526.64																	
25-235#1	Cabling-Hi-potting cable run and fixing problems	06APR11	340	24JUL12	10,763.32																	
25-240#1	Cabling-Install Cable Trays	06APR11	340	24JUL12	43,053.29																	
25-245#1	Cabling-Pull cables Arc Room to PVC Junction Box	06APR11	340	24JUL12	95,053.00																	
25-250#1	Cabling- M&S f/ trays, fixtures, materials	06APR11	340	24JUL12	38,767.84																	
<b>Beamline Connections</b>																						
25-255#1	Install weld cables Junction Box to Ion Source.	06APR11	340	24JUL12	11,657.96																	
25-260#1	Connect BL to foreline and exhaust manifold.	06APR11	340	24JUL12	5,199.96																	
25-265#1	New PLC. Test system after installation.	06APR11	340	24JUL12	4,305.32																	
25-270#1	Connect BL to new manifold & test	06APR11	340	24JUL12	4,305.32																	
25-275#1	Connect beamline to new manifold & test.	06APR11	340	24JUL12	4,305.32																	
25-280#1	Connect beamline to new manifold and test	06APR11	340	24JUL12	2,152.66																	
25-285#1	Install Water System	06APR11	340	24JUL12	35,421.22																	
25-290#1	Fab & Install Water Cooled Aperture	06APR11	340	24JUL12	24,047.65																	
25-295#1	New PLC for water sys & test	06APR11	340	24JUL12	2,152.66																	
25-300#1	Diag Sys-Fab/install new cables	06APR11	340	24JUL12	2,152.66																	
25-310#1	Drafting Labor Support	06APR11	340	24JUL12	69,605.59																	
<b>2506 - Beamline #1 Commissioning</b>																						
<b>Commissioning</b>																						
25-119C#1	Begin Commissioning BL#1	01NOV12*	0		0.00																	
25-120C#1	10) Maint& repair of cryogenic transfer system.	01NOV12	65	30JAN13	13,704.76																	
25-125C#1	11) Fill LN2 supply tank.	01NOV12	65	30JAN13	1,619.10																	
25-135C#1	13) Water system maintenance and calibration	01NOV12	65	30JAN13	12,887.50																	
25-140C#1	14) Maint/calibration of auxiliary power supplie	01NOV12	65	30JAN13	7,253.30																	
25-150C#1	16) New PLC ,Test & Calibrate	01NOV12	65	30JAN13	215,475.92																	
25-160C#1	18) Subsystem integrated testing	01NOV12	65	30JAN13	33,805.20																	
25-165C#1	19) NBI Computer Systems:	01NOV12	65	30JAN13	69,209.16																	
25-170C#1	20) NBI Computer SystemsTune, debug	05NOV12	65	01FEB13	48,859.20																	

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Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18										
25-305C#1	Neutral Beam Integrated Systems Testing	04FEB13	20	01MAR13	45,073.60	EM/TB =160hr ; EE/SM =160hr ;										
<b>252 - Neutral Beam #2</b>																
<b>2507 - Beamline #2 Installation</b>																
Refurbishment																
25-000#2	Begin NB#1 Refurb and Installation	01OCT10*	0		0.00	=00 ;										
25-100#2	6) Drafting Support	01OCT10*	190	23JUN11	73,840.00	EA/sm =520hr ;										
25-105#2	7) Refurbish sources	01OCT10*	190	23JUN11	5,269.80	EE/SM =20hr ; EM/TB =20hr ;										
25-110#2	8) Fabricate and install new filaments	01OCT10*	190	23JUN11	8,205.80	41=02\$K ; EE/SM =20hr ; EM/TB =20hr ;										
25-115#2	9) Refurbish calorimeters as needed	01OCT10*	190	23JUN11	24,015.20	41=02\$K ; EE/SM =80hr ; EM/TB =80hr ;										
25-130#2	12) Dsn,Fan,Instl NBI vac sys INCL NEW TURBO PMP	01OCT10*	190	23JUN11	157,372.56	EM/EM =32hr ; 41=43\$K ; EE/SM =56hr ; EM/TB =56hr ; turbo pmp=\$50k										
25-145#2	15)Upgrade/Calibr of telemetry, ptical links etc	01OCT10*	190	23JUN11	78,570.10	41=25\$K ; EM/EM =40hr ; EE/SM =130hr ; EM/TB =130hr ;										
25-155#2	17) Fab/Instl Front Box Nitrogen Cryopanel.	01OCT10*	190	23JUN11	122,159.00	41=17\$K ; EM/EM =40hr ; EE/SM =340hr ; EM/TB =340hr ;										
25-175#2	21) Sys Engr & Work Planning Procedures	01OCT10*	190	23JUN11	45,698.40	EM/EM =240hr ;										
Re-Install Beamline																
25-180#2	31)Work Planning Procedures	24JUN11*	380	06DEC12	78,616.77	EM/EM =400hr ;										
25-185#2	32) EAD analysis of platform support capability	24JUN11*	380	06DEC12	0.00	EM/EM = 0 hr ;										
25-190#2	33) Fabr BL alignment measur fixture,	24JUN11*	380	06DEC12	33,483.37	41=08\$K ; EM/EM =40hr ; EE/SM =50hr ; EM/TB =50hr ;										
25-195#2	34) Fabr new bellows/electrical break	24JUN11*	380	06DEC12	21,758.14	EE/SM =80hr ; EM/TB =80hr ;										
25-200#2	35) Perform alignment measurements	24JUN11*	380	06DEC12	1,087.90	EE/SM =04hr ; EM/TB =04hr ;										
25-205#2	36) Prepare platform for base plate	24JUN11*	380	06DEC12	2,175.82	EE/SM =08hr ; EM/TB =08hr ;										
25-210#2	37) Relocate base plate to NCSX location	24JUN11*	380	06DEC12	8,703.26	EE/SM =32hr ; EM/TB =32hr ;										
25-215#2	38) Lift NB from Refurb location to NCSX locatio	24JUN11*	380	06DEC12	33,725.12	EE/SM =124hr ; EM/TB =124hr ;										
25-220#2	39) Enclose platform around base plate	24JUN11*	380	06DEC12	4,351.62	EE/SM =16hr ; EM/TB =16hr ;										
Re-Install Cables																
25-225#2	Cabling-Design & WP Procedures	24JUN11*	380	06DEC12	31,446.71	EM/EM =160hr ;										
25-230#2	Cabling-Fabr and Install new Junction Box	24JUN11*	380	06DEC12	21,758.14	EE/SM =80hr ; EM/TB =80hr ;										
25-235#2	Cabling-Hi-potting cable run and fixing problems	24JUN11*	380	06DEC12	10,879.08	EE/SM =40hr ; EM/TB =40hr ;										
25-240#2	Cabling-Install Cable Trays	24JUN11*	380	06DEC12	43,516.28	EE/SM =160hr ; EM/TB =160hr ;										
25-245#2	Cabling-Pull cables Arc Room to PVC Junction Box	24JUN11*	380	06DEC12	96,049.73	41=06\$K ; EE/SM =320hr ; EM/TB =320hr ;										
25-250#2	Cabling- M&S f/ trays, fixtures, materials	24JUN11*	380	06DEC12	39,074.31	41=26\$K ;										
Beamline Connections																
25-255#2	Install weld cables Junction Box to Ion Source.	24JUN11*	380	06DEC12	11,780.79	41=01\$K ; EE/SM =40hr ; EM/TB =40hr ;										
25-260#2	Connect bBL to foreline and exhaust manifold.	24JUN11*	380	06DEC12	5,253.33	41=01\$K ; EE/SM =16hr ; EM/TB =16hr ;										

Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10												FY11												FY12												FY13												FY14												FY15												FY16												FY17												FY18																																																											
25-265#2	New PLC. Test system after installation.	24JUN11*	380	06DEC12	4,351.62																																																																																																																																																												
25-270#2	Connect BL to new manifold & test	24JUN11*	380	06DEC12	4,351.62																																																																																																																																																												
25-275#2	Connect beamline to new manifold & test.	24JUN11*	380	06DEC12	4,351.62																																																																																																																																																												
25-280#2	Connect beamline to new manifold and test	24JUN11*	380	06DEC12	2,175.82																																																																																																																																																												
25-285#2	Install Water System	24JUN11*	380	06DEC12	35,793.22																																																																																																																																																												
25-290#2	Fab & Install Water Cooled Aperture	24JUN11*	380	06DEC12	24,283.75																																																																																																																																																												
25-295#2	New PLC for water sys & test	24JUN11*	380	06DEC12	2,175.82																																																																																																																																																												
25-300#2	Diag Sys-Fab/install new cables	24JUN11*	380	06DEC12	2,175.82																																																																																																																																																												
25-310#2	Drafting Labor Support	24JUN11*	380	06DEC12	70,354.08																																																																																																																																																												
<b>2508 - Beamline #2 Commissioning</b>																																																																																																																																																																	
Refurbishment																																																																																																																																																																	
25-119C#2	Begin Commissioning BL#2	07DEC12*	0		0.00																																																																																																																																																												
25-120C#2	10) Maint& repair of cryogenic transfer system.	07DEC12*	95	18APR13	13,704.76																																																																																																																																																												
25-125C#2	11) Fill LN2 supply tank.	07DEC12*	95	18APR13	1,619.10																																																																																																																																																												
25-135C#2	13) Water system maintenance and calibration	07DEC12*	95	18APR13	12,887.50																																																																																																																																																												
25-140C#2	14) Maint/calibration of auxiliary power supplie	07DEC12*	95	18APR13	7,253.30																																																																																																																																																												
25-150C#2	16) New PLC ,Test & Calibrate	07DEC12*	95	18APR13	215,475.92																																																																																																																																																												
25-160C#2	18) Subsystem integrated testing	07DEC12*	95	18APR13	33,805.20																																																																																																																																																												
25-165C#2	19) NBI Computer Systems:	07DEC12*	95	18APR13	69,209.16																																																																																																																																																												
25-170C#2	20) NBI Computer SystemsTune, debug	07DEC12*	95	18APR13	48,859.20																																																																																																																																																												
Beamline Connections																																																																																																																																																																	
25-305C#2	Neutral Beam Integrated Systems Testing	19APR13*	20	16MAY13	45,073.60																																																																																																																																																												
<b>254 - Neutral Beam #3 &amp; 4</b>																																																																																																																																																																	
<b>Job: 2591 - 3rd and 4th Beamline-STEVENSON</b>																																																																																																																																																																	
Refurbishment																																																																																																																																																																	
NB34-001	Begin NB#1 Refurb and Installation	01OCT13*	0		0.00																																																																																																																																																												
NB34-002	Procure 2 new power supplies	04FEB13*	160	13SEP13	1,951,500.00																																																																																																																																																												
NB34-004	6) Drafting Support	01OCT13	130	31MAR14	326,518.40																																																																																																																																																												
NB34-005	7) Refurbish sources	01OCT13	130	31MAR14	11,651.60																																																																																																																																																												
NB34-007	8) Fabricate and install new filaments	01OCT13	130	31MAR14	17,975.60																																																																																																																																																												
NB34-010	9) Refurbish calorimeters as needed	01OCT13	130	31MAR14	52,930.40																																																																																																																																																												
NB34-013	12) Dsn,Fan,Instl NBI vac sys INCL NEW TURBO PMP	01OCT13	130	31MAR14	204,196.48																																																																																																																																																												
NB34-018	15)Upgrade/Calibr of telemetry, ptical links etc	01OCT13	130	31MAR14	171,625.40																																																																																																																																																												

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Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
NB34-022	17) Fab/Instl Front Box Nitrogen Cryopanel.	01OCT13	130	31MAR14	268,671.20									
NB34-026	21) Sys Engr & Work Planning Procedures	01OCT13	130	31MAR14	202,080.00									
Re-Install Beamline														
NB34-027	31) Work Planning Procedures	01APR14	130	29SEP14	168,400.00									
NB34-028	32) EAD analysis of platform support capability	01APR14	130	29SEP14	8,420.00									
NB34-029	33) Fabr BL alignment measur fixture,	01APR14	130	29SEP14	71,265.00									
NB34-033	34) Fabr new bellows/electrical break	01APR14	130	29SEP14	46,606.40									
NB34-035	35) Perform alignment measurements	01APR14	130	29SEP14	2,330.32									
NB34-037	36) Prepare platform for base plate	01APR14	130	29SEP14	4,660.64									
NB34-039	37) Relocate base plate to NCSX location	01APR14	130	29SEP14	18,642.56									
NB34-041	38) Lift NB from Refurb location to NCSX locatio	01APR14	130	29SEP14	72,239.92									
NB34-043	39) Enclose platform around base plate	01APR14	130	29SEP14	9,321.28									
Re-Install Cables														
NB34-045	Cabling-Design & WP Procedures	01APR14	130	29SEP14	67,360.00									
NB34-046	Cabling-Fabr and Install new Junction Box	01APR14	130	29SEP14	46,606.40									
NB34-048	Cabling-Hi-potting cable run and fixing problems	01APR14	130	29SEP14	23,303.20									
NB34-050	Cabling-Install Cable Trays	01APR14	130	29SEP14	93,212.80									
NB34-052	Cabling-Pull cables Arc Room to PVC Junction Box	01APR14	130	29SEP14	205,397.60									
NB34-055	Cabling- M&S f/ trays, fixtures, materials	01APR14	130	29SEP14	82,212.00									
Beamline Connections														
NB34-056	Install weld cables Junction Box to Ion Source.	01APR14	130	29SEP14	25,200.40									
NB34-059	Connect BL to foreline and exhaust manifold.	01APR14	130	29SEP14	11,218.48									
NB34-062	New PLC. Test system after installation.	01APR14	130	29SEP14	9,321.28									
NB34-064	Connect BL to new manifold & test	01APR14	130	29SEP14	9,321.28									
NB34-066	Connect beamline to new manifold & test.	01APR14	130	29SEP14	9,321.28									
NB34-068	Connect beamline to new manifold and test	01APR14	130	29SEP14	4,660.64									
NB34-070	Install Water System	01APR14	130	29SEP14	76,549.80									
NB34-073	Fab & Install Water Cooled Aperture	01APR14	130	29SEP14	51,713.40									
NB34-076	New PLC for water sys & test	01APR14	130	29SEP14	4,660.64									
NB34-078	Diag Sys-Fab/install new cables	01APR14	130	29SEP14	4,660.64									
NB34-080	Drafting Labor Support	01APR14	130	29SEP14	150,700.80									
Commissioning														
NB34-081	Begin Commissioning BL#1	30SEP14	0		0.00									
NB34-084	10) Maint& repair of cryogenic transfer system.	30SEP14	65	29DEC14	29,201.11									
NB34-087	11) Fill LN2 supply tank.	30SEP14	65	29DEC14	3,400.74									

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Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18											
NB34-088	13) Water system maintenance and calibration	30SEP14	65	29DEC14	27,484.55						EM/TB =80hr ; EE/SM =80hr ; 41=02\$k ;						
NB34-091	14) Maint/calibration of auxiliary power supplie	30SEP14	65	29DEC14	15,442.64						EM/TB =40hr ; EE/SM =40hr ; 41=02\$k ;						
NB34-094	16) New PLC ,Test & Calibrate	30SEP14	65	29DEC14	457,905.24						EM/TB =1,024hr ; EE/SM =1,024hr ; 41=92\$k ;						
NB34-097	18) Subsystem integrated testing	30SEP14	65	29DEC14	72,251.41						EM/TB =240hr ; EE/SM =240hr ;						
NB34-099	19) NBI Computer Systems:	30SEP14	65	29DEC14	147,526.88						EM/EM =576hr ; 41=14\$k ;						
NB34-101	20) NBI Computer SystemsTune, debug	30SEP14	65	29DEC14	104,423.93						EM/EM =480hr ;						
NB34-102	Neutral Beam Integrated Systems Testing	30DEC14	20	26JAN15	96,384.00						EM/TB =320hr ; EE/SM =320hr ;						
<b>260 - ECH System</b>																	
<b>2600 - ECH System</b>																	
U26-100	Pre-conceptual design	01OCT12*	40	23NOV12	68,572.24						EE/EM =136hr ; EC/EM =16hr ; EA/EM =16hr ; EE/SM =96hr ; EA/SM =96 ;						
U26-110	Conceptual/Preliminary Design	26NOV12	70	01MAR13	194,438.80						EE/EM =456hr ; EC/EM =128hr ; EA/EM =68hr ; EE/SM =164hr ; EA/SM =160 ;						
U26-120	Final Design/Assembly	04MAR13	150	27SEP13	465,718.76						EE/EM =788hr ; EC/EM =64hr ; EA/EM =168hr ; EE/SM =640hr ; EE/TB =240hr ; EA/SM =376 ; EM/SM =240hr ; 41=03\$k ;						
U26-130	Installation	30SEP13	215	25JUL14	1,004,106.03						EE/EM =942hr ; EC/EM =96hr ; EA/EM =40hr ; EE/SM =1,640hr ; EE/TB =1,760hr ; EA/SM =40 ; EM/SM =656hr ; 37=08 ; 41=90\$k ;						
U26-140	System commissioning	28JUL14	77	11NOV14	535,558.59						EE/EM =640hr ; EC/EM =232hr ; EA/EM =00hr ; EE/SM =840hr ; EE/TB =920hr ; EA/SM =40 ; EM/SM =144hr ; 37=05 ; 41=30\$k ;						
<b>4 - Electrical Power Systems</b>																	
<b>411 - Auxliary AC Power Systems</b>																	
<b>Auxliary AC Power Systems</b>																	
U411-1	411 - Auxiliary AC Power-DSN/PROCURE	01NOV11*	130	30APR12	142,201.50						41=39\$k ; EE/EM =165hr ; EA/SM =330 ;						
U411-2	411 - Auxiliary AC Power-Installation	01MAY12	130	29OCT12	138,477.61						EE/EM =165hr ; EE/SM =264hr ; EE/TB =594hr ;						
U411-3	411 - Auxiliary AC Power-Commissioning	30OCT12	41	25DEC12	76,962.93						EE/EM =112hr ; EE/SM =139hr ; EE/TB =277hr ;						
<b>412 - Experimental AC Power Systems</b>																	
<b>Experimantal AC Power Systems</b>																	
U412-1	412 - Experimental AC Power-DSN/PROCURE	01NOV11*	130	30APR12	31,009.45						41=08\$k ; EE/EM =53hr ; EA/SM =53 ;						

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						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18									
U412-2	412 - Experimental AC Power-Installation	01MAY12	130	29OCT12	29,395.81																		
U412-3	412 - Experimental AC Power-Commissioning	30OCT12	40	24DEC12	19,054.60																		
<b>422 - D-Site AC/DC Converters</b>																							
<b>D-Site AC/DC Converters</b>																							
U422-1	422 - D-site AC/DC Converters-DSN/PROCURE	05DEC11*	125	25MAY12	9,195.13																		
U422-3	422 - D-site AC/DC Converters-Commissioning	28MAY12	70	31AUG12	60,319.05																		
<b>431 - C-Site DC Systems</b>																							
<b>C-Site DC Systems</b>																							
U431-1	431 - C-site DC Systems-DSN/PROCURE	30JAN12*	125	20JUL12	229,315.48																		
U431-2	431 - C-site DC Systems-Installation	23JUL12	119	03JAN13	983,498.22																		
U432-X	2 asdditional D-site circuits	23JUL12	119	03JAN13	419,835.85																		
<b>432 - D-to-C Site DC Systems</b>																							
<b>D to C Site DC Systems</b>																							
U432-1	432 - D-to-C-Site DC Systems-DSN/PROCURE	01OCT10*	131	01APR11	629,436.42																		
U432-2	432 - D-to-C-Site DC Systems-Installation	04APR11	185	16DEC11	2,599,365.60																		
U432-3	432 - D-to-C-Site DC Systems-Commissioning	19DEC11	65	16MAR12	95,647.73																		
<b>433 - D-Site DC Systems</b>																							
<b>D Site DC Systems</b>																							
U433-1	433 - D-site DC Systems-DSN/PROCURE	01OCT10*	131	01APR11	367,242.88																		
U433-2	433 - D-site DC Systems-Installation	04APR11	190	23DEC11	368,697.93																		
U433-2A	Additional 2 power supplies for 2 trim coils	03OCT11*	190	22JUN12	406,350.00																		
U433-3	433 - D-site DC Systems-Commissioning	25JUN12	65	21SEP12	58,844.74																		
<b>441 - Electrical Interlocks</b>																							
<b>Electrical Interlocks</b>																							
U441-1	441 - Electrical Interlocks-DSN/PROCURE	03OCT11*	125	23MAR12	310,845.82																		
U441-2	441 - Electrical Interlocks-Installation	26MAR12	120	07SEP12	280,727.83																		
U441-3	441 - Electrical Interlocks-Commissioning	10SEP12	72	18DEC12	58,711.00																		

Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	Forecast															
						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18							
<b>442 - Kirk Key Interlocks</b>																					
<b>Kirk Key Interlocks</b>																					
U442-1	442 - Kirk Key Interlocks-DSN/PROCURE	03OCT11*	125	23MAR12	50,617.73																
U442-2	442 - Kirk Key Interlocks-Installation	26MAR12	119	06SEP12	31,986.04																
U442-3	442 - Kirk Key Interlocks-Commissioning	07SEP12	76	21DEC12	22,799.87																
<b>443 - Real Time Control Systems</b>																					
<b>Real Time Control Systems</b>																					
U443-1	443 - Real Time Control-DSN/PROCURE	03OCT11*	125	23MAR12	42,063.12																
<b>444 - Instrument Systems</b>																					
<b>Instrument Systems</b>																					
U444-1	444 - Instrumentation-DSN/PROCURE	03OCT11*	125	23MAR12	271,408.32																
U444-2	444 - Instrumentation-Installation	26MAR12	190	14DEC12	101,657.47																
U444-3	444 - Instrumentation-Commissioning	17DEC12	35	01FEB13	59,059.77																
<b>445 - Coil protection Systems</b>																					
<b>Coil Protection Systems</b>																					
U445-1	445 - Coil Protection-DSN/PROCURE	03OCT11*	125	23MAR12	250,923.52																
U445-2	445 - Coil Protection-Installation	26MAR12	156	29OCT12	139,763.04																
U445-3	445 - Coil Protection-Commissioning	30OCT12	25	03DEC12	57,441.46																
<b>446 - Ground Fault Monitoring System</b>																					
<b>Ground Fault Monitoring System</b>																					
U446-1	446 - Ground Fault Monitor-DSN/PROCURE	03OCT11*	125	23MAR12	217,168.71																
U446-2	446 - Ground Fault Monitor-Installation	26MAR12	159	01NOV12	119,379.23																
U446-3	446 - Ground Fault Monitor-Commissioning	02NOV12	10	15NOV12	6,580.73																
<b>451 - System Design and Interfaces</b>																					
<b>Sys design and interfaces</b>																					
U451-1	451 - System Design-	03OCT11*	335	11JAN13	344,196.55																
<b>452 - Electrical Systems Support</b>																					
<b>Electrical Systems support</b>																					
U452-1	452 - Electrical Systems Support-DSN/PROCURE	03OCT11*	125	23MAR12	328,857.68																

41=10\$K ; EE//EM =99hr ;  
EA//SM =99 ;  
EE//EM =20hr ; EE//SM =33hr ;  
EE//TB =231hr ;  
EE//EM =33hr ; EE//SM =33hr ;  
EE//TB =99hr ;

EE//EM =198hr ;

41=108\$K ; EA//SM =264 ;  
EE//EM =330hr ;  
EE//SM =86hr ; EE//EM =92hr ;  
EE//TB =693hr ;  
EE//SM =73hr ; EE//EM =106hr ;  
EE//TB =231hr ;

41=50\$K ; EE//EM =462hr ;  
EA//SM =528 ;  
EE//EM =125hr ; EE//SM =356hr ;  
EE//TB =528hr ;  
EE//SM =79hr ; EE//EM =125hr ;  
EE//TB =158hr ;

41=76\$K ; EE//EM =277hr ;  
EA//SM =304 ;  
EE//EM =165hr ; EE//SM =191hr ;  
EE//TB =528hr ;  
EE//EM =13hr ; EE//SM =13hr ;  
EE//TB =13hr ;

EA//SM =799 ; EE//EM =1,056hr ;

41=70\$K ; EE//EM =231hr ;  
EA//SM =1,188 ;

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						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18						
U452-2	452 - Electrical Systems Support-Installation	26MAR12	156	29OCT12	364,885.90													41=120\$k ; EE//EM =165hr ; EE//SM =198hr ; EE//TB =1,188hr ;		
U452-3	452 - Electrical Systems Support-Commissioning	30OCT12	76	12FEB13	135,899.28													EE//EM =66hr ; EE//SM =132hr ; EE//TB =990hr ;		
<b>453 - System Testing (PTP's)</b>																				
<b>Systems Testing PTP's</b>																				
U453-1	453 - System Testing-DSN/PROCURE	01OCT12*	45	30NOV12	116,583.12													41=25\$k ; EA//SM =132 ; EE//EM =264hr ;		
U453-3	453 - System Testing-Commissioning	03DEC12	43	30JAN13	98,875.73													EE//SM =66hr ; EE//EM =251hr ; EE//TB =323hr ;		
<b>460 - FCPC Mods</b>																				
<b>FCPC Bldg Mods</b>																				
U460-1	46- FCPCBuilding Modifications-DSN/PROCURE	03OCT11*	65	30DEC11	39,844.58													41=09\$k ; EE//EM =73hr ; EA//SM =79 ;		
U460-2	46- FCPCBuilding Modifications-Installation	02JAN12	65	30MAR12	72,131.34													41=04\$k ; EE//EM =46hr ; EE//SM =59hr ; EE//TB =482hr ;		
<b>5 - Central I&amp;C Systems</b>																				
<b>510 - TCP/IP Infrastructure Systems</b>																				
<b>Job: 5101 - TCP/IP Infrastructure Systems</b>																				
5100		02JAN12*	274	17JAN13	206,433.03													ec//em=92;ec//tb=184;em//tb=360 ea//sb=80;ee//tb=40;41=80		
<b>520 - Central Instrumentation &amp; Control Systems</b>																				
<b>5201 - I&amp;C Systems</b>																				
5200		02JAN12*	274	17JAN13	318,475.14													ec//em=904;ec//tb=288;em//tb=240 ea//sb=200;ee//tb =40;41=44		
<b>530 - Data Acquisition &amp; Facility Computing Sys</b>																				
<b>5301 - Data Acquisition</b>																				
5300		05OCT12*	75	17JAN13	131,645.76													ec//em=488; 41=25		
<b>540 - Facility Timing and synchronization System</b>																				
<b>Job: 5401 - Facility Timing &amp; Synchronization</b>																				
5400		02JAN12*	274	17JAN13	244,093.46													ec//em=172;ec//tb=224;em//tb=440;ea//sb=80 ee//em=120;ee//tb=440;41=45		
<b>550 - Real Time Plasma &amp; Power Supply Control</b>																				
<b>5501 - Real Time Control System</b>																				
5500		21MAY12*	173	16JAN13	501,701.23													ec//em=856;ec//tb=96;em//tb=160 ea//sb=80;ee//em=408;ee//tb=164;41=132		
<b>560 - Central Safety Interlock Systems</b>																				
<b>Job: 5601 - Central Safety Interlock Systems</b>																				
5600		02JAN12*	274	17JAN13	222,001.80													ec//em=548;em//tb=480;ea//sb=120;41=36		

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Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	Funding Profile											
						FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18			
<b>570 - Control Room Facility</b>																	
<b>Job: 5701 - Control Room Facility</b>																	
5700		01OCT12*	68	02JAN13	301,062.36												
<b>6 - Facility Systems</b>																	
<b>612 - NB Water Cooling Systems</b>																	
<b>NB Cooling Water</b>																	
612	Design/Install-NB water sys	16JUL12*	127	08JAN13	364,743.08												
<b>613 - Vacuum Pumping System</b>																	
<b>Vacuum Pumping Cooling Water</b>																	
613	Design/Install-Vac pmp sys water	01OCT12*	85	25JAN13	97,428.55												
<b>615 - Diagnostic Water Cooling System</b>																	
<b>Diag Cooling Water</b>																	
615	Design/Install-Diag cooling water	01OCT12*	125	22MAR13	42,640.06												
<b>Upgrades Contingency</b>																	
<b>Upgrade Contingency</b>																	
<b>Upgrade Contingency</b>																	
101	Contingency FY11	01OCT10*	257	26SEP11	1,861,000.00												
102	Contingency FY12	03OCT11*	257	25SEP12	3,169,000.00												
103	Contingency FY13	01OCT12*	257	24SEP13	2,181,000.00												
104	Contingency FY14	01OCT13*	257	24SEP14	2,875,000.00												
105	Contingency FY15	01OCT14*	257	24SEP15	1,093,000.00												
<b>NON MIE Funding Profile</b>																	
<b>NON MIE Funding Profile</b>																	
<b>NON MIE Funding Profile</b>																	
FUND10	Funding fy10	01OCT09*	250	15SEP10	2,269,000.00												
FUND11	Funding fy11	01OCT10*	250	15SEP11	13,258,000.00												
FUND12	Funding fy12	03OCT11*	250	14SEP12	19,300,000.00												
FUND13	Funding fy13	01OCT12*	250	13SEP13	45,000,000.00												
FUND14	Funding fy14	01OCT13*	250	15SEP14	24,000,000.00												
FUND15	Funding fy15	01OCT14*	250	15SEP15	45,000,000.00												

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<b>deleted</b>														
<b>Diagnostic Oversight</b>														
<b>Job: 8184 - Diagnostic Oversight</b>														
1808DIAG	FY10 physics support of diag upgrades	01APR11*	1,042	30MAR15	4,180,502.96									
												PPPL RM =8451hr ; ORNL RM =4861hr NOVA =2290 ; JHC =1061 ; AUBURN =884 ; UCLA =708 ; LLNL =352 ;		

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