

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

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

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

EM/EM =856hr ; EM/SM =856hr
EM/TB =1726hr ; 41=35\$K ;

Machine Operations

8192 - Machine Operations

1805FY0901	XX FY12-Engr ops	16JAN12*	40	09MAR12		121,851.34
1805FY0904	XX FY12-Machine Ops	16JAN12*	40	09MAR12		344,167.04
1805FY0905	XX FY12-Exp Pwr (FCPC)	16JAN12*	40	09MAR12		110,153.98
1805FY0906	XX 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 ;

Run Date 02AUG07 16:16

 Forecast
 Progress Bar
 Critical Activity

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10																FY11																FY12																FY13																FY14																FY15																FY16																																																																															
1805FY0907	XX	FY12-Diagnostic ops	16JAN12*	40	09MAR12	0.00																																	=00 ;																																																																																																																																															
1805FY0908	XX	FY12-Computer division	16JAN12*	40	09MAR12	25,206.39																																	EC//EM																=207hr ;																																																																																																																															
1805FY0909	XX	FY12-Central I&C/Plasma control	16JAN12*	40	09MAR12	37,459.84																																	EC//EM																=207hr ; EC//TB																=207 ;																																																																																																															
1805FY0910	XX	FY12-Construction	16JAN12*	40	09MAR12	53,703.95																																	EM//EM																=207hr ; EM//TB																=414hr ;																																																																																																															
1805FY0912	XX	FY12-Facilities	16JAN12*	40	09MAR12	8,966.37																																	EM//EM																=69hr ;																																																																																																																															
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																																																																																																																																																	36=500																															
1805FY1403		FY14-Construction	01OCT13	260	29SEP14	1,638,747.76																																																																																																																																																																	EM//SM =31hr ; EM//TB =314hr ; EM//EM =518hr ;															
1805FY1404		FY14-CPPG	01OCT13	260	29SEP14	72,622.50																																																																																																																																																																	41=80\$; EM//SM =932hr ; EM//EM =1,726hr ; EM//TB =9,424hr ;															
1805FY1405		FY14-Data Acq Sys	01OCT13	260	29SEP14	109,039.00																																																																																																																																																																	EM//EM =345hr ;															
1805FY1406		FY14-Diag/Boundary Physics	01OCT13	260	29SEP14	91,844.98																																																																																																																																																																	EM//EM =518hr ;															
1805FY1407		FY14-Exp Pwr (FCPC)	01OCT13	260	29SEP14	130,117.67																																																																																																																																																																	EM//SM =16hr ; EM//EM =345hr ; EM//TB =157hr ;															
1805FY1408		FY14-Facility Power (MG/AC)	01OCT13	260	29SEP14	185,584.38																																																																																																																																																																	EM//SM =47hr ; EM//EM =345hr ; EM//TB =471hr ;															
1805FY1409		FY14-Machine Ops	01OCT13	260	29SEP14	683,465.74																																																																																																																																																																	EM//SM =62hr ; EM//EM =518hr ; EM//TB =628hr ;															
1805FY1410		FY14-NBI Ops	01OCT13	260	29SEP14	465,485.21																																																																																																																																																																	41=05\$; EM//SM =342hr ; EM//EM =1,208hr ; EM//TB =3,455hr ;															
1805FY1411		FY14-Plasma Control	01OCT13	260	29SEP14	91,844.98																																																																																																																																																																	41=10\$; EM//SM =217hr ; EM//EM =863hr ; EM//TB =2,199hr ;															
1805FY1412		FY14-RF Operations NONE	01OCT13	260	29SEP14	0.00																																																																																																																																																																	EM//SM =16hr ; EM//TB =157hr ; EM//EM =345hr ;															

Run Date 02AUG07 16:16

 Forecast
 Progress Bar
 Critical Activity

ETCU

NCSX Program
UPGRADES

Sheet 2 of 19

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10 FY11 FY12 FY13 FY14 FY15 FY16													
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	Forecast Start	Forecast Duration	Forecast Finish	Budget
1805FY090A	01OCT10*	249	14SEP11	567,750.00
1805FY100A	03OCT11*	255	21SEP12	587,000.00
1805FY110A	01OCT12*	255	20SEP13	1,624,332.00
1805FY120A	01OCT13*	255	22SEP14	1,679,190.00
1805FY130A	01OCT14*	255	22SEP15	1,302,543.00

Cost Center: 1808 - Research



Research Prep Management

Job: 8181 - Research Prep Management

Activity ID	Forecast Start	Forecast Duration	Forecast Finish	Budget
1808FY0902	01OCT09*	250	15SEP10	263,025.36
1808FY1002	01OCT10*	255	22SEP11	412,864.16
1808FY1102	03OCT11*	255	21SEP12	746,900.44
1808FY1202	03OCT12*	255	24SEP13	770,202.68
1808FY1302	03OCT13*	255	24SEP14	794,256.32

ZARNSTORFF =1,768hr ;
 ORNLRM =884hr
 ZARNSTORFF =1,768hr ;
 ORNLRM =884hr
 ZARNSTORFF =1,768hr ;
 ORNLRM =884

Run Date 02AUG07 16:16

 Forecast
 Progress Bar
 Critical Activity

ETCU NCSX Program UPGRADES Sheet 3 of 19

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10 - FY16										
							FY10	FY11	FY12	FY13	FY14	FY15	FY16				
1808FY1402		FY15 Research mgt & oversight	03OCT14*	255	24SEP15	819,052.52					ZARNSTORFF =1,768hr ; ORNLRM =884r						
Diagnostic Oversight																	
Job: 8184 - Diagnostic Oversight																	
1808DIAG		FY10 physics support of diag upgrades	01APR11*	1,042	30MAR15	4,038,902.96									PPPL RM =84 NOVA =2 AUBURN = LLNL =35		
Physics Analysis & Support																	
Job: 8185 - Physics analysis & support																	
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							ornlrm=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							ornlrm=14,144 (8 fte)				
Collaborations																	
Job: 8186 - Collaborators																	
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											
Cost Center 9405 - Diagnostic Equipment																	
3 - Diagnostics																	
310 - Magnetics																	
3102 - In-vessel Magnetics																	
3051	D	In-vessel magneticsDsn/fab	02MAY11*	96	12SEP11	85,669.88											
3055	F	In-vessel magnetics-Fab./Install	13SEP11	17	05OCT11	36,407.35											
3058	S	In-vessel magnetics-Commission	06OCT11*	20	02NOV11	23,294.88											
3103 - Magnetic Instrumentation																	
2069	F	Magnetics system cable & raceway installation	16JUL12	100	30NOV12	158,648.66										ea//sb=256;em//tb=728;41=31.53	

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10												FY11												FY12												FY13												FY14												FY15												FY16											
3061	D	Magnetics instrumentation -Design/Procure	19APR11	324	13JUL12	924,013.40																																					EE//EM =720hr ; EM//SM =432hr ; EM//TB =864hr ; 41=415.8\$K ;																																															
3065	F	Magnetics instrumentation -Fab./Install	16JUL12	100	30NOV12	214,093.59																																					EE//EM =288hr ; EM//SM =576hr ; EM//TB =576hr ;																																															
3068	S	Magnetics instrumentation -Commission	03DEC12	65	01MAR13	111,438.72																																					EE//EM =288hr ; EM//SM =288hr ;																																															
3104 - Terminate ex-vessel magnetics sensors																																																																																										
3075	F	Complete Termination ex-vsl magn sensors	03SEP12	65	30NOV12	62,195.93																																					EM//EM =72hr ; EM//SM =288hr ;																																															
332 - UV Spectrometer																																																																																										
3320 - UV Spectrometer																																																																																										
3101	D	UV spectrometer-Design/Fab.	16AUG12	45	17OCT12	35,666.33																																					EM//EM =72hr ; EA//SM =144 ;																																															
3105	F	UV spectrometer-Fab./Install	18OCT12	97	01MAR13	58,958.28																																					EM//SM =144hr ; EE//TB =144hr ; EC//EM =72hr ; 41=4.5\$K ;																																															
3108	S	UV spectrometer-Commission	04MAR13*	40	26APR13	13,735.44																																					EC//EM =72hr ;																																															
333 - Bolometer Array																																																																																										
3330 - Bolometer Array																																																																																										
3091	D	Bolometer array-Design/Fab.	26JUL12	45	26SEP12	49,495.68																																					EM//EM =144hr ; EA//SM =144 ;																																															
3095	F	Bolometer array-Fab./Install	27SEP12	112	01MAR13	49,826.34																																					EE//EM =12hr ; EM//SM =96hr ; EE//TB =144hr ; 41=11\$K ;																																															
3098	S	Bolometer array-Commission	04MAR13	40	26APR13	9,156.96																																					EC//EM =48hr ;																																															
3099	F	Bolometer array-Fab./Install	13OCT14	81	02FEB15	104,352.00																																					EE//EM =24hr ; EM//SM =192hr ; EE//TB =288hr ; 41=21\$K ;																																															
3100	S	Bolometer array-Commission	03FEB15	40	30MAR15	19,581.12																																					EC//EM =96hr ;																																															
335 - Filterscopes																																																																																										
3350 - Filterscopes																																																																																										
3151	D	Filterscopes-Design/Fab.	19JUL12	45	19SEP12	24,747.84																																					EM//EM =72hr ; EA//SM =72 ;																																															
3155	F	Filterscopes-Fab./Install	20SEP12	117	01MAR13	76,703.21																																					41=25\$K ; EM//SM =144hr ; EE//TB =144hr ;																																															
3158	C	Filterscopes-Commission	04MAR13	40	26APR13	37,822.32																																					EC//EM =72hr ; EM//SM =144hr ;																																															
341 - Soft X-Ray Arrays																																																																																										
3410 - Soft X-Ray Arrays																																																																																										
3035	F	Soft X-Ray Arrays-Fab./Install	16JUL14	144	02FEB15	202,752.20																																					EM//EM =144hr ; ea//sm =72hr ; EM//SM =288hr ; EM//TB =144hr ; 41=58.6\$K ;																																															
3038	S	Soft X-Ray Arrays-Commission	03FEB15	40	30MAR15	25,752.96																																					EM//SM =144hr ;																																															

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10																FY11																FY12																FY13																FY14																FY15																FY16																																																																																															
342 - X-ray crystal spectroscopy																																																																																																																																																																																																						
3420 - X-ray crystal spectroscopy																																																																																																																																																																																																						
3039	F	X-ray crystal spectroscopy-Fab,Install	02MAR12	261	01MAR13	705,429.32																																																	EM//EM =144hr ; ea//sm =144hr ; EM//SM =288hr ;ec//em=144 41=382.1\$K ;																																																																																																																																															
3039A	S	X-ray crystal spectroscopy-Commission	04MAR13*	45	03MAY13	48,173.76																																																	EM//SM =288hr																																																																																																																																															
351 - Thomson Scattering																																																																																																																																																																																																						
3510 - Thomson Scattering																																																																																																																																																																																																						
3011	D	Thomson Scattering-Design/Fab.	25JUL13	170	19MAR14	1,608,112.35																																																	EM//EM =432hr ; EE//EM =288hr ; EA//SM =432 ; EM//SM =864hr ; EE//SM =432hr ; EM//TB =864hr ; 41=680\$K ;																																																																																																																																															
3015	F	Thomson Scattering-Fab./Install	20MAR14	228	02FEB15	604,824.89																																																	EM//EM =432hr ; EE//EM =144hr ; EA//SM =432 ; EM//SM =864hr ; EE//SM =432hr ; EM//TB =864hr ; EC//EM =432hr ;																																																																																																																																															
3018	S	Thomson Scattering-Commission	03FEB15	85	01JUN15	134,965.44																																																	EM//TB =432hr ; EC//EM =432hr ;																																																																																																																																															
352 - DNB																																																																																																																																																																																																						
3520 - DNB Installation and servies																																																																																																																																																																																																						
3081	D	DNB installation -Design/procure	01OCT13*	192	25JUN14	447,690.24																																																	EA//SM =288 ; EM//SM =576hr ; EM//TB =576hr ; 41=153.6\$K ;																																																																																																																																															
3085	F	DNB installation -Fab./Install	26JUN14	138	05JAN15	264,996.72																																																	EA//SM =144 ; EM//SM =864hr ; EM//TB =576hr ; EC//EM =144hr ;																																																																																																																																															
3088	S	DNB installation -Commission	06JAN15*	40	02MAR15	252,252.00																																																	EA//SM =144 ; EM//SM =864hr ; EM//TB =144hr ; EC//EM =288hr ;																																																																																																																																															
353 - MSE																																																																																																																																																																																																						
3530 - MSE																																																																																																																																																																																																						
3530-1	D	MSE-Design/Procure	31JUL13*	151	26FEB14	632,927.15																																																	em//em=432;ea//sb=864 em//sm=576;em//tb=432; 41=169																																																																																																																																															
3530-2	F	MSE-Fab./Install	27FEB14	204	09DEC14	520,577.29																																																	ea//sb=864;em//sm=1440 em//tb=720;ec//em=288																																																																																																																																															
3530-3	S	MSE-Commission	10DEC14*	73	20MAR15	291,242.88																																																	ea//sb=288;em//sm=864 em//tb=288;ec//em=288																																																																																																																																															
354 - CHERS																																																																																																																																																																																																						
3540 - CHERS																																																																																																																																																																																																						
3021	D	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	F	CHERS -Fab./Install	20MAY14	138	27NOV14	268,345.88																																																	EM//EM =288hr ; EA//SM =288 ; EM//SM =576hr ; EM//TB =576hr ;																																																																																																																																															
3028	S	CHERS -Commission	28NOV14*	40	22JAN15	29,371.68																																																	EC//EM =144hr ;																																																																																																																																															

Run Date 02AUG07 16:16

 Forecast
 Progress Bar
 Critical Activity

ETCU

**NCSX Program
UPGRADES**

Sheet 6 of 19

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10																FY11																FY12																FY13																FY14																FY15																FY16																																																																																															
355 - ECE																																																																																																																																																																																																						
3550 - ECE																																																																																																																																																																																																						
3550-01	D	MSE-Design/Procure	24JUL12	67	24OCT12	156,021.08	em/em=144;ee/em=144;ee/sm=144;41=47																																																																																																																																																																																															
3550-2	F	MSE-Fab./Install	25OCT12	65	23JAN13	165,395.52	em/em=144;ee/em=144;em/sm=288 ee/tb=144;em/tb=144;ec/em=144																																																																																																																																																																																															
3550-3	S	MSE-Commission	24JAN13	52	05APR13	191,534.40	em/em=144;ee/em=144;em/sm=288;ec/em=432																																																																																																																																																																																															
356 - Interferometers																																																																																																																																																																																																						
3562 - Interferometer																																																																																																																																																																																																						
3041	D	Interferometer-Design/Procure	02JUL12	127	25DEC12	118,854.60	EM/EM =144hr ; EA/SM =144 ; 41=45																																																																																																																																																																																															
3045	F	Interferometer-Fab./Install	26DEC12*	48	01MAR13	158,369.52	EM/EM =144hr ; EM/SM =144hr ; EM/TB =144hr ; 41=58.6																																																																																																																																																																																															
3048	S	Interferometer-Commission	04MAR13	28	10APR13	51,557.76	EM/SM =144hr ; EC/EM =144hr ;																																																																																																																																																																																															
357 - Reflectometer																																																																																																																																																																																																						
3570 - Reflectometer																																																																																																																																																																																																						
3040	D	Reflectometer-Design	16MAY12	83	07SEP12	190,765.44																																																																																																																																																																																																
3040A	F	Reflectometer-Fab./Install	10SEP12	125	01MAR13	657,034.95																																																																																																																																																																																																
3040B	S	Reflectometer-Commission	04MAR13	65	31MAY13	122,368.32																																																																																																																																																																																																
361 - Filtered Cameras																																																																																																																																																																																																						
3611 - Filtered 2-D cameras																																																																																																																																																																																																						
3125	F	Filtered 2-D cameras-Fab./Install	04MAR13	65	31MAY13	161,155.68	EM/EM =72hr ; 41=56\$K ; EA/SM =144 ; EM/SM =144hr ; EE/TB =144hr ;																																																																																																																																																																																															
3612 - Filtered 1-D camera																																																																																																																																																																																																						
3135	F	Filtered 1-D camera -Fab./Install	04MAR13	65	31MAY13	64,386.84	41=17.5\$K ; EM/EM =36hr ; EA/SM =72 ; EM/SM =72hr ; EE/TB =72hr ;																																																																																																																																																																																															
364 - IR Camera																																																																																																																																																																																																						
3640 - IR Camera																																																																																																																																																																																																						
3141	D	IR-camera-Design/Fab.	23JUL12	51	01OCT12	24,764.32	EM/EM =72hr ; EA/SM =72 ;																																																																																																																																																																																															
3145	F	IR-camera-Fab./Install	02OCT12	93	07FEB13	46,126.92	41=17.5\$K ; EM/SM =72hr ; EE/TB =72hr ;																																																																																																																																																																																															
3148	S	IR-camera-Commission	08FEB13	16	01MAR13	13,735.44	EC/EM =72hr ;																																																																																																																																																																																															

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10										FY11										FY12										FY13										FY14										FY15										FY16											
366 - PFC mounted Langmuir Probes																																																																														
3660 - PFC mounted Langmuir probe																																																																														
3111	D	PFC-mounted Langmuir probes-Design/Fab.	20OCT11	130	18APR12	16,136.42	EM//EM =36hr ; EA//SM =36 ; 41=02.5\$k ;																																																																							
3115	F	PFC-mounted Langmuir probes-Fab./Install	19APR12	212	08FEB13	31,157.79	EE//EM =72hr ; EM//SM =72hr ; 41=02.5\$k ;																																																																							
3118	S	PFC-mounted Langmuir probes-Commission	11FEB13*	40	05APR13	27,463.44	EM//SM =72hr ; 41=10\$k ;																																																																							
Cost Center 9406 - Facilities Upgrades																																																																														
1 - Stellarator Core Systems																																																																														
NB Armor & PFC's																																																																														
1100 - NB Armor																																																																														
U11-100	D	NB Armor- Design	01OCT09*	524	04OCT11	1,580,234.64	ornlem analyst=1800;ornl design=6500;ornlem=3600																																																																							
U11-105	F	NB Armor- Procure/Fabricate	05NOV10*	368	03APR12	1,396,543.00	41=\$942.8k																																																																							
U11-110	F	NB Armor- Install	13AUG12*	130	08FEB13	67,558.49	em//tb=672																																																																							
121 -Port Extensions & NB Port Covers																																																																														
1211 - Port Extensions																																																																														
U121-200	D	Port extensions-Design (none)	04JUL11*	65	30SEP11	0.00	=00 ;																																																																							
U121-205	F	Port extensions-Fabricate (66 ports)	03OCT11	130	30MAR12	346,150.00	41=\$230k																																																																							
U121-210	F	Port extensions-Install	02APR12	65	29JUN12	51,796.80	em//tb=528(2 men x 1/2 day x 66 ports)																																																																							
1212 - NB Ports & Covers																																																																														
U121-100	D	NB ports (3) -design	03OCT11*	40	25NOV11	41,689.60	ea//em=80;ea//sm=160																																																																							
U121-105	F	NB ports (3) -fabricate	28NOV11	129	24MAY12	227,556.00	41=\$151.2k																																																																							
U121-110	F	NB ports (3) -install	25MAY12	20	21JUN12	35,316.00	em//tb=360 (3 men x 5 days x 3 ports)																																																																							
2 - Plasma Heating, Fueling & Vac Systems																																																																														
211 - Gas Fueling Systems																																																																														
2111 - 3 Gas Injectors																																																																														
211-1	D	Design	01MAY12*	52	11JUL12	111,796.92	em//em=120;em//sb=120;ee//sm=240;ea//sb=204																																																																							
211-2	F	Procure	12JUL12*	65	10OCT12	57,363.05	41=113																																																																							
211-3	F	Assy/Installation	11OCT12*	80	30JAN13	105,562.20	em//em=80;em//sb=120;ee//sm=120;em//tb=500																																																																							
220 - Torus Vacuum Pumping System																																																																														
2202 - 2 pumps on one duct																																																																														
U122-25	D	Design	02JAN12*	65	30MAR12	215,202.48	em//em=400;em//sb=240;ee//sm=320 ea//sb=280;ee//em=32																																																																							

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10												FY11												FY12												FY13												FY14												FY15												FY16											
U122-26	F	Procure	02APR12*	100	17AUG12	170,065.00																																					41=113																																															
U122-27	F	Assy/Installation	20AUG12*	105	11JAN13	178,450.07																																					em/em=160;em/sb=280;ee/sm=200;em/tb=710																																															
231 - Glow Discharge Cleaning System																																																																																										
2310 - Glow Discharge Cleaning																																																																																										
U231-100	D	Design GDC system	13AUG12*	40	05OCT12	33,512.55																																					em/em=80;ea/sm=120																																															
U231-110	F	Fab/Assemble GDC system	08OCT12*	40	30NOV12	112,834.80																																					em/em=40;em/tb=120;.41=\$60k																																															
U231-120	F	Install GDC system	03DEC12*	45	01FEB13	48,744.00																																					em/em=80em/tb=320																																															
251 - Neutral Beam #1																																																																																										
2505 - Beamline #1 Installation																																																																																										
Refurbishment																																																																																										
25-000#1	D	Begin NB#1 Refurb and Installation	02AUG10*	0		0.00																																																																																				
25-090#1	F	Two HVST rebuilds	02AUG10	190	22APR11	58,386.53																																					41=40																																															
25-091#1	F	Source filament setup/bench test	02AUG10	190	22APR11	21,542.74																																					ee/em=40;ee/sm=80																																															
25-092#1	F	high voltage power supply troubleshooting/tuning	02AUG10	190	22APR11	29,698.52																																					ee/em=80;ee/sm=80																																															
25-093#1	F	modulator wiring modifications	02AUG10	190	22APR11	14,641.33																																					ee/tb=160																																															
25-100#1	D	6) Drafting Support	02AUG10	190	22APR11	146,555.27																																					EA/SB =1,040hr ;																																															
25-105#1	F	7) Refurbish sources	02AUG10	190	22APR11	5,229.69																																					EM/TB =20hr ; EE/SM =20hr ;																																															
25-110#1	F	8) Fabricate and install new filaments	02AUG10	190	22APR11	8,149.02																																					41=02\$K ; EM/TB =20hr ; EE/SM =20hr ;																																															
25-115#1	F	9) Refurbish calorimeters as needed	02AUG10	190	22APR11	23,838.09																																					41=02\$K ; EM/TB =80hr ; EE/SM =80hr ;																																															
25-130#1	D	12) Dsn,Fan,Instl NBI vac sys INCL NEW TURBO PMP	02AUG10	190	22APR11	93,673.02																																					EM/TB =56hr ; EE/SM =56hr ; 41=50\$K ; EM/EM =32hr ;																																															
25-145#1	F	15)Upgrade/Calibr of telemetry, ptical links etc	02AUG10	190	22APR11	78,042.98																																					EM/TB =130hr ; EE/SM =130hr ; EM/EM =40hr ; 41=25\$K ;																																															
25-155#1	F	17) Fab/Instl Front Box Nitrogen Cryopanel.	02AUG10	190	22APR11	121,277.42																																					EM/TB =340hr ; EE/SM =340hr ; EM/EM =40hr ; 41=17\$K ;																																															
25-175#1	D	21) Sys Engr & Work Planning Procedures	02AUG10	190	22APR11	90,700.95																																					EM/EM =480hr ;																																															
Re-Install Beamline																																																																																										
25-180#1	D	31)Work Planning Procedures	25APR11	320	13JUL12	77,824.50																																					EM/EM =400hr ;																																															
25-185#1	D	32) EAD analysis of platform support capability	25APR11	320	13JUL12	3,891.23																																					EM/EM =20hr ;																																															
25-190#1	F	33) Fabr BL alignment measur fixture,	25APR11	320	13JUL12	33,177.90																																					EM/TB =50hr ; EE/SM =50hr ; EM/EM =40hr ; 41=08\$K ;																																															
25-195#1	F	34) Fabr new bellows/electrical break	25APR11	320	13JUL12	21,538.92																																					EM/TB =80hr ; EE/SM =80hr ;																																															
25-200#1	F	35) Perform alignment measurements	25APR11	320	13JUL12	1,076.95																																					EM/TB =04hr ; EE/SM =04hr ;																																															
25-205#1	F	36) Prepare platform for base plate	25APR11	320	13JUL12	2,153.89																																					EM/TB =08hr ; EE/SM =08hr ;																																															
25-210#1	F	37) Relocate base plate to NCSX location	25APR11	320	13JUL12	8,615.57																																					EM/TB =32hr ; EE/SM =32hr ;																																															
25-215#1	F	38) Lift NB from Refurb location to NCSX locatio	25APR11	320	13JUL12	33,385.31																																					EE/SM =124hr ; EM/TB =124hr ;																																															
25-220#1	F	39) Enclose platform around base plate	25APR11	320	13JUL12	4,307.79																																					EM/TB =16hr ; EE/SM =16hr ;																																															

Run Date 02AUG07 16:16

 Forecast
 Progress Bar
 Critical Activity

ETCU

NCSX Program UPGRADES

Sheet 9 of 19

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10	FY11	FY12	FY13	FY14	FY15	FY16
Re-Install Cables													
25-225#1	D	Cabling-Design & WP Procedures	25APR11	320	13JUL12	31,129.80							
25-230#1	F	Cabling-Fabr and Install new Junction Box	25APR11	320	13JUL12	21,538.92							
25-235#1	F	Cabling-Hi-potting cable run and fixing problems	25APR11	320	13JUL12	10,769.46							
25-240#1	F	Cabling-Install Cable Trays	25APR11	320	13JUL12	43,077.83							
25-245#1	F	Cabling-Pull cables Arc Room to PVC Junction Box	25APR11	320	13JUL12	95,105.87							
25-250#1	F	Cabling- M&S f/ trays, fixtures, materials	25APR11	320	13JUL12	38,784.28							
Beamline Connections													
25-255#1	F	Install weld cables Junction Box to Ion Source.	25APR11	320	13JUL12	11,664.48							
25-260#1	F	Connect BL to foreline and exhaust manifold.	25APR11	320	13JUL12	5,202.81							
25-265#1	F	New PLC. Test system after installation.	25APR11	320	13JUL12	4,307.79							
25-270#1	F	Connect BL to new manifold & test	25APR11	320	13JUL12	4,307.79							
25-275#1	F	Connect beamline to new manifold & test.	25APR11	320	13JUL12	4,307.79							
25-280#1	F	Connect beamline to new manifold and test	25APR11	320	13JUL12	2,153.89							
25-285#1	F	Install Water System	25APR11	320	13JUL12	35,440.95							
25-290#1	F	Fab & Install Water Cooled Aperture	25APR11	320	13JUL12	24,060.21							
25-295#1	F	New PLC for water sys & test	25APR11	320	13JUL12	2,153.89							
25-300#1	F	Diag Sys-Fab/install new cables	25APR11	320	13JUL12	2,153.89							
25-310#1	D	Drafting Labor Support	25APR11	320	13JUL12	69,645.23							
2506 - Beamline #1 Commissioning													
Commissioning													
25-119C#1	S	Begin Commissioning BL#1	01NOV12*	0		0.00							
25-120C#1	S	10) Maint& repair of cryogenic transfer system.	01NOV12	65	30JAN13	13,704.76							
25-125C#1	S	11) Fill LN2 supply tank.	01NOV12	65	30JAN13	1,619.10							
25-135C#1	S	13) Water system maintenance and calibration	01NOV12	65	30JAN13	12,887.50							
25-140C#1	S	14) Maint/calibration of auxiliary power supple	01NOV12	65	30JAN13	7,253.30							
25-150C#1	S	16) New PLC ,Test & Calibrate	01NOV12	65	30JAN13	215,475.92							
25-160C#1	S	18) Subsystem integrated testing	01NOV12	65	30JAN13	33,805.20							
25-165C#1	S	19) NBI Computer Systems:	01NOV12	65	30JAN13	69,209.16							
25-170C#1	S	20) NBI Computer SystemsTune, debug	05NOV12	65	01FEB13	48,859.20							
25-305C#1	S	Neutral Beam Integrated Systems Testing	04FEB13	20	01MAR13	45,073.60							

Run Date 02AUG07 16:16

Forecast
 Progress Bar
 Critical Activity

ETCU

NCSX Program
UPGRADES

Sheet 10 of 19

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10 - FY16									
							FY10	FY11	FY12	FY13	FY14	FY15	FY16			
252 - Neutral Beam #2																
2507 - Beamline #2 Installation																
Refurbishment																
25-000#2	D	Begin NB#1 Refurb and Installation	08NOV10*	0		0.00										
25-100#2	D	6) Drafting Support	08NOV10*	190	29JUL11	73,840.00										
25-105#2	F	7) Refurbish sources	08NOV10*	190	29JUL11	5,269.80										
25-110#2	F	8) Fabricate and install new filaments	08NOV10*	190	29JUL11	8,205.80										
25-115#2	F	9) Refurbish calorimeters as needed	08NOV10*	190	29JUL11	24,015.20										
25-130#2	D	12) Dsn,Fan,Instl NBI vac sys INCL NEW TURBO PMP	08NOV10*	190	29JUL11	157,372.56										
25-145#2	F	15)Upgrade/Calibr of telemetry, ptical links etc	08NOV10*	190	29JUL11	78,570.10										
25-155#2	F	17) Fab/Instl Front Box Nitrogen Cryopanel.	08NOV10*	190	29JUL11	122,159.00										
25-175#2	D	21) Sys Engr & Work Planning Procedures	08NOV10*	190	29JUL11	45,698.40										
Re-Install Beamline																
25-180#2	D	31)Work Planning Procedures	01AUG11*	350	30NOV12	78,766.80										
25-185#2	D	32) EAD analysis of platform support capability	01AUG11*	350	30NOV12	0.00										
25-190#2	F	33) Fabr BL alignment measur fixture,	01AUG11*	350	30NOV12	33,541.48										
25-195#2	F	34) Fabr new bellows/electrical break	01AUG11*	350	30NOV12	21,799.68										
25-200#2	F	35) Perform alignment measurements	01AUG11*	350	30NOV12	1,089.98										
25-205#2	F	36) Prepare platform for base plate	01AUG11*	350	30NOV12	2,179.97										
25-210#2	F	37) Relocate base plate to NCSX location	01AUG11*	350	30NOV12	8,719.87										
25-215#2	F	38) Lift NB from Refurb location to NCSX locatio	01AUG11*	350	30NOV12	33,789.50										
25-220#2	F	39) Enclose platform around base plate	01AUG11*	350	30NOV12	4,359.94										
Re-Install Cables																
25-225#2	D	Cabling-Design & WP Procedures	01AUG11*	350	30NOV12	31,506.72										
25-230#2	F	Cabling-Fabr and Install new Junction Box	01AUG11*	350	30NOV12	21,799.68										
25-235#2	F	Cabling-Hi-potting cable run and fixing problems	01AUG11*	350	30NOV12	10,899.84										
25-240#2	F	Cabling-Install Cable Trays	01AUG11*	350	30NOV12	43,599.36										
25-245#2	F	Cabling-Pull cables Arc Room to PVC Junction Box	01AUG11*	350	30NOV12	96,228.72										
25-250#2	F	Cabling- M&S f/ trays, fixtures, materials	01AUG11*	350	30NOV12	39,130.00										
Beamline Connections																
25-255#2	F	Install weld cables Juncton Box to Ion Source.	01AUG11*	350	30NOV12	11,802.84										
25-260#2	F	Connect bBL to foreline and exhaust manifold.	01AUG11*	350	30NOV12	5,262.94										

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10										FY11										FY12										FY13										FY14										FY15										FY16									
25-265#2	F	New PLC. Test system after installation.	01AUG11*	350	30NOV12	4,359.94																																																																						
25-270#2	F	Connect BL to new manifold & test	01AUG11*	350	30NOV12	4,359.94																															EE//SM =16hr ; EM//TB =16hr ;																																							
25-275#2	F	Connect beamline to new manifold & test.	01AUG11*	350	30NOV12	4,359.94																															EE//SM =16hr ; EM//TB =16hr ;																																							
25-280#2	F	Connect beamline to new manifold and test	01AUG11*	350	30NOV12	2,179.97																															EE//SM =08hr ; EM//TB =08hr ;																																							
25-285#2	F	Install Water System	01AUG11*	350	30NOV12	35,860.02																															41=02\$k ; EE//SM =120hr ; EM//TB =120hr ;																																							
25-290#2	F	Fab & Install Water Cooled Aperture	01AUG11*	350	30NOV12	24,326.26																															41=05\$k ; EE//SM =60hr ; EM//TB =60hr ;																																							
25-295#2	F	New PLC for water sys & test	01AUG11*	350	30NOV12	2,179.97																															EE//SM =08hr ; EM//TB =08hr ;																																							
25-300#2	F	Diag Sys-Fab/install new cables	01AUG11*	350	30NOV12	2,179.97																															EE//SM =08hr ; EM//TB =08hr ;																																							
25-310#2	D	Drafting Labor Support	01AUG11*	350	30NOV12	70,488.27																															EA/sm =480hr ;																																							
2508 - Beamline #2 Commissioning																																																																												
Refurbishment																																																																												
25-119C#2	S	Begin Commissioning BL#2	03DEC12*	0		0.00																															EM//TB =00hr ; EE//SM =00hr ; 41=00\$k ;																																							
25-120C#2	S	10) Maint& repair of cryogenic transfer system.	03DEC12*	105	26APR13	13,704.76																															EM//TB =40hr ; EE//SM =40hr ; 41=02\$k ;																																							
25-125C#2	S	11) Fill LN2 supply tank.	03DEC12*	105	26APR13	1,619.10																															41=01\$k ;																																							
25-135C#2	S	13) Water system maintenance and calibration	03DEC12*	105	26APR13	12,887.50																															EM//TB =40hr ; EE//SM =40hr ; 41=01\$k ;																																							
25-140C#2	S	14) Maint/calibration of auxiliary power supplie	03DEC12*	105	26APR13	7,253.30																															EM//TB =20hr ; EE//SM =20hr ; 41=01\$k ;																																							
25-150C#2	S	16) New PLC ,Test & Calibrate	03DEC12*	105	26APR13	215,475.92																															EM//TB =512hr ; EE//SM =512hr ; 41=46\$k ;																																							
25-160C#2	S	18) Subsystem integrated testing	03DEC12*	105	26APR13	33,805.20																															EM//TB =120hr ; EE//SM =120hr ;																																							
25-165C#2	S	19) NBI Computer Systems:	03DEC12*	105	26APR13	69,209.16																															EM//EM =288hr ; 41=07\$k ;																																							
25-170C#2	S	20) NBI Computer SystemsTune, debug	03DEC12*	105	26APR13	48,859.20																															EM//EM =240hr ;																																							
Beamline Connections																																																																												
25-305C#2	S	Neutral Beam Integrated Systems Testing	29APR13*	20	24MAY13	45,073.60																															EM//TB =160hr ; EE//SM =160hr ;																																							
254 - Neutral Beam #3 & 4																																																																												
Job: 2591 - 3rd and 4th Beamline-STEVENSON																																																																												
Refurbishment																																																																												
NB34-001	D	Begin NB#1 Refurb and Installation	01OCT13*	0		0.00																															=00 ;																																							
NB34-002	F	Procure 2 new power supplies	01OCT13	160	12MAY14	2,000,400.00																															41=250\$k ; 48=1,350 ;																																							
NB34-004	D	6) Drafting Support	01OCT13	130	31MAR14	326,518.40																															EA//SB =2,080hr ;																																							
NB34-005	F	7) Refurbish sources	01OCT13	130	31MAR14	11,651.60																															EM//TB =40hr ; EE//SM =40hr ;																																							
NB34-007	F	8) Fabricate and install new filaments	01OCT13	130	31MAR14	17,975.60																															41=04\$k ; EM//TB =40hr ; EE//SM =40hr ;																																							
NB34-010	F	9) Refurbish calorimeters as needed	01OCT13	130	31MAR14	52,930.40																															41=04\$k ; EM//TB =160hr ; EE//SM =160hr ;																																							
NB34-013	F	12) Dsn,Fan,Instil NBI vac sys INCL NEW TURBO PMP	01OCT13	130	31MAR14	204,196.48																															EM//TB =112hr ; EE//SM =112hr ; 41=100\$k ; EM//EM =64hr ;																																							

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10																FY11																FY12																FY13																FY14																FY15																FY16															
NB34-018	F	15) Upgrade/Calibr of telemetry, ptical links etc	01OCT13	130	31MAR14	171,625.40																																	EM/TB =260hr ; EE//SM =260hr ; EM//EM =80hr ; 41=50\$K ;																																																																															
NB34-022	F	17) Fab/Instl Front Box Nitrogen Cryopanel.	01OCT13	130	31MAR14	268,671.20																																	EM/TB =680hr ; EE//SM =680hr ; EM//EM =80hr ; 41=34\$K ;																																																																															
NB34-026	D	21) Sys Engr & Work Planning Procedures	01OCT13	130	31MAR14	202,080.00																																																	EM//EM =960hr ;																																																															
Re-Install Beamline																																																																																																																						
NB34-027	D	31) Work Planning Procedures	01APR14	130	29SEP14	168,400.00																																																																	EM//EM =800hr ;																																															
NB34-028	D	32) EAD analysis of platform support capability	01APR14	130	29SEP14	8,420.00																																																																	EM//EM =40hr ;																																															
NB34-029	F	33) Fabr BL alignment measur fixture,	01APR14	130	29SEP14	71,265.00																																	EM/TB =100hr ; EE//SM =100hr ; EM//EM =80hr ; 41=16\$K ;																																																																															
NB34-033	F	34) Fabr new bellows/electrical break	01APR14	130	29SEP14	46,606.40																																	EM/TB =160hr ; EE//SM =160hr ;																																																																															
NB34-035	F	35) Perform alignment measurements	01APR14	130	29SEP14	2,330.32																																	EM/TB =08hr ; EE//SM =08hr ;																																																																															
NB34-037	F	36) Prepare platform for base plate	01APR14	130	29SEP14	4,660.64																																	EM/TB =16hr ; EE//SM =16hr ;																																																																															
NB34-039	F	37) Relocate base plate to NCSX location	01APR14	130	29SEP14	18,642.56																																	EM/TB =64hr ; EE//SM =64hr ;																																																																															
NB34-041	F	38) Lift NB from Refurb location to NCSX locatio	01APR14	130	29SEP14	72,239.92																																	EE//SM =248hr ; EM//TB =248hr ;																																																																															
NB34-043	F	39) Enclose platform around base plate	01APR14	130	29SEP14	9,321.28																																	EM/TB =32hr ; EE//SM =32hr ;																																																																															
Re-Install Cables																																																																																																																						
NB34-045	D	Cabling-Design & WP Procedures	01APR14	130	29SEP14	67,360.00																																																																	EM//EM =320hr ;																																															
NB34-046	F	Cabling-Fabr and Install new Junction Box	01APR14	130	29SEP14	46,606.40																																	EM/TB =160hr ; EE//SM =160hr ;																																																																															
NB34-048	F	Cabling-Hi-potting cable run and fixing problems	01APR14	130	29SEP14	23,303.20																																	EM/TB =80hr ; EE//SM =80hr ;																																																																															
NB34-050	F	Cabling-Install Cable Trays	01APR14	130	29SEP14	93,212.80																																	EM/TB =320hr ; EE//SM =320hr ;																																																																															
NB34-052	F	Cabling-Pull cables Arc Room to PVC Junction Box	01APR14	130	29SEP14	205,397.60																																	EM/TB =640hr ; EE//SM =640hr ; 41=12\$K ;																																																																															
NB34-055	F	Cabling- M&S f/ trays, fixtures, materials	01APR14	130	29SEP14	82,212.00																																																	41=52\$K ;																																																															
Beamline Connections																																																																																																																						
NB34-056	F	Install weld cables Juncton Box to Ion Source.	01APR14	130	29SEP14	25,200.40																																	41=01\$K ; EM//TB =80hr ; EE//SM =80hr ;																																																																															
NB34-059	F	Connect BL to foreline and exhaust manifold.	01APR14	130	29SEP14	11,218.48																																	41=01\$K ; EM//TB =32hr ; EE//SM =32hr ;																																																																															
NB34-062	F	New PLC. Test system after installation.	01APR14	130	29SEP14	9,321.28																																	EM/TB =32hr ; EE//SM =32hr ;																																																																															
NB34-064	F	Connect BL to new manifold & test	01APR14	130	29SEP14	9,321.28																																	EM/TB =32hr ; EE//SM =32hr ;																																																																															
NB34-066	F	Connect beamline to new manifold & test.	01APR14	130	29SEP14	9,321.28																																	EM/TB =32hr ; EE//SM =32hr ;																																																																															
NB34-068	F	Connect beamline to new manifold and test	01APR14	130	29SEP14	4,660.64																																	EM/TB =16hr ; EE//SM =16hr ;																																																																															
NB34-070	F	Install Water System	01APR14	130	29SEP14	76,549.80																																	EM/TB =240hr ; EE//SM =240hr ; 41=04\$K ;																																																																															
NB34-073	F	Fab & Install Water Cooled Aperture	01APR14	130	29SEP14	51,713.40																																	EM/TB =120hr ; EE//SM =120hr ; 41=11\$K ;																																																																															
NB34-076	F	New PLC for water sys & test	01APR14	130	29SEP14	4,660.64																																	EM/TB =16hr ; EE//SM =16hr ;																																																																															
NB34-078	F	Diag Sys-Fab/install new cables	01APR14	130	29SEP14	4,660.64																																	EM/TB =16hr ; EE//SM =16hr ;																																																																															
NB34-080	D	Drafting Labor Support	01APR14	130	29SEP14	150,700.80																																																	EA/SB =960hr ;																																																															

Run Date 02AUG07 16:17

 Forecast
 Progress Bar
 Critical Activity

ETCU

**NCSX Program
UPGRADES**

Sheet 13 of 19

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	Forecast												
							FY10	FY11	FY12	FY13	FY14	FY15	FY16						
Commissioning																			
NB34-081	S	Begin Commissioning BL#1	30SEP14	0		0.00					EM/TB =00hr ; EE//SM =00hr ; 41=00\$k ;								
NB34-084	S	10) Maint& repair of cryogenic transfer system.	30SEP14	65	29DEC14	29,201.11					EM//TB =80hr ; EE//SM =80hr ; 41=03\$k ;								
NB34-087	S	11) Fill LN2 supply tank.	30SEP14	65	29DEC14	3,400.74												41=02\$k ;	
NB34-088	S	13) Water system maintenance and calibration	30SEP14	65	29DEC14	27,484.55					EM//TB =80hr ; EE//SM =80hr ; 41=02\$k ;								
NB34-091	S	14) Maint/calibration of auxiliary power supplie	30SEP14	65	29DEC14	15,442.64					EM//TB =40hr ; EE//SM =40hr ; 41=02\$k ;								
NB34-094	S	16) New PLC ,Test & Calibrate	30SEP14	65	29DEC14	457,905.24					EM//TB =1,024hr ; EE//SM =1,024hr ; 41=92\$k ;								
NB34-097	S	18) Subsystem integrated testing	30SEP14	65	29DEC14	72,251.41					EM//TB =240hr ; EE//SM =240hr ;								
NB34-099	S	19) NBI Computer Systems:	30SEP14	65	29DEC14	147,526.88					EM//EM =576hr ; 41=14\$k ;								
NB34-101	S	20) NBI Computer SystemsTune, debug	30SEP14	65	29DEC14	104,423.93												EM//EM =480hr ;	
NB34-102	S	Neutral Beam Integrated Systems Testing	30DEC14	20	26JAN15	96,384.00					EM//TB =320hr ; EE//SM =320hr ;								
260 - ECH System																			
2600 - ECH System																			
U26-100	D	Pre-conceptual design	01OCT13*	63	26DEC13	70,903.84												EE//EM =136hr ; EC//EM =16hr ; EA//EM =16hr ; EE//SM =96hr ; EA//SM =96 ;	
U26-110	D	Conceptual/Preliminary Design	27DEC13	43	25FEB14	201,050.76					EE//EM =456hr ; EC//EM =128hr ; EA//EM =68hr ; EE//SM =164hr ; EA//SM =160 ;								
U26-120	D	Final Design/Assembly	26FEB14	117	07AUG14	481,348.84					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	F	Installation	08AUG14*	91	12DEC14	1,023,342.21					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	S	System commissioning	15DEC14	77	31MAR15	546,136.40					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 ;								
4 - Electrical Power Systems																			
411 - Auxliary AC Power Systems																			
Auxliary AC Power Systems																			
U411-1	D	411 - Auxiliary AC Power-DSN/PROCURE	03OCT11*	130	30MAR12	142,201.50					41=39\$k ; EE//EM =165hr ; EA//SM =330 ;								
U411-2	F	411 - Auxiliary AC Power-Installation	02APR12	130	28SEP12	137,721.54					EE//EM =165hr ; EE//SM =264hr ; EE//TB =594hr ;								

Run Date 02AUG07 16:17

 Forecast
 Progress Bar
 Critical Activity


ETCU

NCSX Program UPGRADES

Sheet 14 of 19

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10									FY11									FY12									FY13									FY14									FY15									FY16								
U411-3	S	411 - Auxiliary AC Power-Commissioning	01OCT12	81	21JAN13	76,962.93																												EE//EM =112hr ; EE//SM =139hr ; EE//TB =277hr ;																																			
412 - Experimental AC Power Systems																																																																					
Experimantal AC Power Systems																																																																					
U412-1	D	412 - Experimental AC Power-DSN/PROCURE	03OCT11*	130	30MAR12	31,009.45																			41=08\$k ; EE//EM =53hr ; EA//SM =53 ;																																												
U412-2	F	412 - Experimental AC Power-Installation	02APR12	130	28SEP12	29,235.36																			EE//EM =20hr ; EE//SM =86hr ; EE//TB =106hr ;																																												
U412-3	S	412 - Experimental AC Power-Commissioning	01OCT12	76	14JAN13	19,054.60																			EE//EM =33hr ; EE//SM =33hr ; EE//TB =59hr ;																																												
422 - D-Site AC/DC Converters																																																																					
D-Site AC/DC Converters																																																																					
U422-1	D	422 - D-site AC/DC Converters-DSN/PROCURE	03FEB12*	125	26JUL12	9,195.13																			EE//EM =03hr ; 41=05\$k ; EA//SM =07 ;																																												
U422-3	S	422 - D-site AC/DC Converters-Commissioning	27JUL12	125	17JAN13	61,614.83																			EE//EM =99hr ; EE//SM =99hr ; EE//TB =231hr ;																																												
431 - C-Site DC Systems																																																																					
C-Site DC Systems																																																																					
U431-1	D	431 - C-site DC Systems-DSN/PROCURE	01FEB12*	125	24JUL12	229,315.48																			41=23\$k ; EE//EM =284hr ; EA//SM =911 ;																																												
U431-2	F	431 - C-site DC Systems-Installation	25JUL12	119	07JAN13	983,920.17																			EE//EM =224hr ; EE//SM =330hr ; EE//TB =330hr ; 41=553\$k ;																																												
432 - D-to-C Site DC Systems																																																																					
D to C Site DC Systems																																																																					
U432-1	D	432 - D-to-C-Site DC Systems-DSN/PROCURE	01OCT10*	131	01APR11	629,436.42										EE//EM =297hr ; 41=324\$k ; EA//SM =653 ;																																																					
U432-2	F	432 - D-to-C-Site DC Systems-Installation	04APR11	190	23DEC11	2,044,327.36										EE//EM =304hr ; EE//SM =422hr ; EE//TB =561hr ; 41=1,255\$k ;																																																					
U432-3	S	432 - D-to-C-Site DC Systems-Commissioning	26DEC11	65	23MAR12	95,647.73										EE//EM =158hr ; EE//SM =211hr ; EE//TB =264hr ;																																																					
433 - D-Site DC Systems																																																																					
D Site DC Systems																																																																					
U433-1	D	433 - D-site DC Systems-DSN/PROCURE	01OCT10*	131	01APR11	367,242.88										41=157\$k ; EE//EM =271hr ; EA//SM =574 ;																																																					
U433-2	F	433 - D-site DC Systems-Installation	04APR11	190	23DEC11	487,072.67										EE//EM =158hr ; EE//SM =231hr ; 41=245\$k ; EE//TB =561hr ;																																																					
U433-3	S	433 - D-site DC Systems-Commissioning	26DEC11	65	23MAR12	58,844.74										EE//EM =99hr ; EE//SM =112hr ; EE//TB =191hr ;																																																					

Run Date 02AUG07 16:17

 Forecast
 Progress Bar
 Critical Activity

ETCU

**NCSX Program
UPGRADES**

Sheet 15 of 19

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10																FY11																FY12																FY13																FY14																FY15																FY16																																																																																															
441 - Electrical Interlocks																																																																																																																																																																																																						
Electrical Interlocks																																																																																																																																																																																																						
U441-1	D	441 - Electrical Interlocks-DSN/PROCURE	03OCT11*	125	23MAR12	310,845.82																																	41=49\$K ; EE//EM =647hr ; EA//SM =680 ;																																																																																																																																																															
U441-2	F	441 - Electrical Interlocks-Installation	26MAR12	120	07SEP12	280,727.83																																	EE//EM =350hr ; EE//SM =462hr ; EE//TB =1,320hr ;																																																																																																																																																															
U441-3	S	441 - Electrical Interlocks-Commissioning	10SEP12	72	18DEC12	58,711.00																																	EE//EM =99hr ; EE//SM =99hr ; EE//TB =198hr ;																																																																																																																																																															
442 - Kirk Key Interlocks																																																																																																																																																																																																						
Kirk Key Interlocks																																																																																																																																																																																																						
U442-1	D	442 - Kirk Key Interlocks-DSN/PROCURE	03OCT11*	125	23MAR12	50,617.73																																	41=10\$K ; EE//EM =99hr ; EA//SM =99 ;																																																																																																																																																															
U442-2	F	442 - Kirk Key Interlocks-Installation	26MAR12	119	06SEP12	31,986.04																																	EE//EM =20hr ; EE//SM =33hr ; EE//TB =231hr ;																																																																																																																																																															
U442-3	S	442 - Kirk Key Interlocks-Commissioning	07SEP12	76	21DEC12	22,799.87																																	EE//EM =33hr ; EE//SM =33hr ; EE//TB =99hr ;																																																																																																																																																															
443 - Real Time Control Systems																																																																																																																																																																																																						
Real Time Control Systems																																																																																																																																																																																																						
U443-1	D	443 - Real Time Control-DSN/PROCURE	03OCT11*	125	23MAR12	42,063.12																																	EE//EM =198hr ;																																																																																																																																																															
444 - Instrument Systems																																																																																																																																																																																																						
Instrument Systems																																																																																																																																																																																																						
U444-1	D	444 - Instrumentation-DSN/PROCURE	03OCT11*	125	23MAR12	271,408.32																																	41=108\$K ; EA//SM =264 ; EE//EM =330hr ;																																																																																																																																																															
U444-2	F	444 - Instrumentation-Installation	26MAR12	190	14DEC12	101,657.47																																	EE//SM =86hr ; EE//EM =92hr ; EE//TB =693hr ;																																																																																																																																																															
U444-3	S	444 - Instrumentation-Commissioning	17DEC12	35	01FEB13	59,059.77																																	EE//SM =73hr ; EE//EM =106hr ; EE//TB =231hr ;																																																																																																																																																															
445 - Coil protection Systems																																																																																																																																																																																																						
Coil Protection Systems																																																																																																																																																																																																						
U445-1	D	445 - Coil Protection-DSN/PROCURE	01NOV11*	125	23APR12	250,923.52																																	41=50\$K ; EE//EM =462hr ; EA//SM =528 ;																																																																																																																																																															
U445-2	F	445 - Coil Protection-Installation	24APR12	156	27NOV12	140,399.40																																	EE//EM =125hr ; EE//SM =356hr ; EE//TB =528hr ;																																																																																																																																																															
U445-3	S	445 - Coil Protection-Commissioning	28NOV12	25	01JAN13	57,441.46																																	EE//SM =79hr ; EE//EM =125hr ; EE//TB =158hr ;																																																																																																																																																															
446 - Ground Fault Monitoring System																																																																																																																																																																																																						
Ground Fault Monitoring System																																																																																																																																																																																																						
U446-1	D	446 - Ground Fault Monitor-DSN/PROCURE	01DEC11*	125	23MAY12	217,168.71																																	41=76\$K ; EE//EM =277hr ; EA//SM =304 ;																																																																																																																																																															

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY10									FY11									FY12									FY13									FY14									FY15									FY16								
U446-2	F	446 - Ground Fault Monitor-Installation	24MAY12	159	01JAN13	120,470.93																												EE//EM =165hr ; EE//SM =191hr ; EE//TB =528hr ;																																			
U446-3	S	446 - Ground Fault Monitor-Commissioning	02JAN13	10	15JAN13	6,580.73																												EE//EM =13hr ; EE//SM =13hr ; EE//TB =13hr ;																																			
451 - System Design and Interfaces																																																																					
Sys design and interfaces																																																																					
U451-1	D	451 - System Design-DSN/PROCURE	03OCT11*	335	11JAN13	344,196.55																												EA//SM =799 ; EE//EM =1,056hr ;																																			
452 - Electrical Systems Support																																																																					
Electrical Systems support																																																																					
U452-1	D	452 - Electrical Systems Support-DSN/PROCURE	03OCT11*	125	23MAR12	328,857.68																			41=70\$k ; EE//EM =231hr ; EA//SM =1,188 ;																																												
U452-2	F	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	S	452 - Electrical Systems Support-Commissioning	30OCT12	76	12FEB13	135,899.28																			EE//EM =66hr ; EE//SM =132hr ; EE//TB =990hr ;																																												
453 - System Testing (PTP's)																																																																					
Systems Testing PTP's																																																																					
U453-1	D	453 - System Testing-DSN/PROCURE	01OCT12*	45	30NOV12	116,583.12																			41=25\$k ; EA//SM =132 ; EE//EM =264hr ;																																												
U453-3	S	453 - System Testing-Commissioning	03DEC12	43	30JAN13	98,875.73																			EE//SM =66hr ; EE//EM =251hr ; EE//TB =323hr ;																																												
460 - FCPC Mods																																																																					
FCPC Bldg Mods																																																																					
U460-1	D	46- FCPCBuilding Modifications-DSN/PROCURE	03OCT11*	65	30DEC11	39,844.58																			41=09\$k ; EE//EM =73hr ; EA//SM =79 ;																																												
U460-2	F	46- FCPCBuilding Modifications-Installation	02JAN12	65	30MAR12	72,131.34																			41=04\$k ; EE//EM =46hr ; EE//SM =59hr ; EE//TB =482hr ;																																												
5 - Central I&C Systems																																																																					
510 - TCP/IP Infrastructure Systems																																																																					
Job: 5101 - TCP/IP Infrastructure Systems																																																																					
5100	F		02JAN12*	274	17JAN13	206,433.03																												ec/em=92;ec/tb=184;em/tb=360 ea/sb=80;ee/tb=40;41=80																																			
520 - Central Instrumentation & Control Systems																																																																					
5201 - I&C Systems																																																																					
5200	F		02JAN12*	274	17JAN13	318,475.14																												ec/em=904;ec/tb=288;em/tb=240 ea/sb=200;ee/tb=40;41=44																																			

Run Date 02AUG07 16:17

 Forecast
 Progress Bar
 Critical Activity

ETCU

**NCSX Program
UPGRADES**

Sheet 17 of 19

Activity ID	RLM	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Budget	FY									
							FY10	FY11	FY12	FY13	FY14	FY15	FY16			
530 - Data Acquisition & Facility Computing Sys																
5301 - Data Acquisition																
5300	F		02JAN12*	274	17JAN13	128,809.89										
540 - Facility Timing and synchronization System																
Job: 5401 - Facility Timing & Synchronization																
5400	F		02JAN12*	274	17JAN13	244,093.46										
550 - Real Time Plasma & Power Supply Control																
5501 - Real Time Control System																
5500	F		02JAN12*	274	17JAN13	499,270.01										
560 - Central Safety Interlock Systems																
Job: 5601 - Central Safety Interlock Systems																
5600	F		02JAN12*	274	17JAN13	222,001.80										
570 - Control Room Facility																
Job: 5701 - Control Room Facility																
5700	F		01OCT12*	68	02JAN13	301,062.36										
6 - Facility Systems																
612 - NB Water Cooling Systems																
NB Cooling Water																
612	F	Design/Install-NB water sys	15JUN12*	148	08JAN13	363,861.74										
613 - Vacuum Pumping System																
Vacuum Pumping Cooling Water																
613	F	Design/Install-Vac pmp sys water	01OCT12*	85	25JAN13	97,428.55										
615 - Diagnostic Water Cooling System																
Diag Cooling Water																
615	F	Design/Install-Diag cooling water	01OCT12*	125	22MAR13	42,640.06										
Upgrades Contingency																
Upgrade Contingency																
Upgrade Contingency																
101		Contingency FY11	01OCT10*	257	26SEP11	1,861,000.00										

Run Date 02AUG07 16:17

 Forecast
 Progress Bar
 Critical Activity

ETCU

**NCSX Program
UPGRADES**

Sheet 18 of 19

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

NON MIE Funding Profile

FUND	Description	Start	Duration	Finish	Budget	FY10	FY11	FY12	FY13	FY14	FY15	FY16
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							