

05 January 2006

060105_FY06 Re-planning_82_WTR.doc

To: Distribution

From: Wayne Reiersen

Subject: Recap of today's meeting on FY06 re-planning

A meeting was held today to discuss FY06 re-planning prompted by recent project developments. These developments include:

- Decision to procure TF coils from outside, possibly from ASIPP
- Delays in delivery dates forecasted for VVSAs and next few MCWFs

The decision to procure the TF coils from the outside changes our procurement plan and fabrication-related activities. The delayed delivery dates in the VVSAs and MCWFs reduce our expected spending this year. Moving budgeted work forward allows us to keep making progress towards project completion at a spending rate better matched to the FY06 budget.

A straw man schedule was generated earlier this week by Strykowski and Reiersen (Attachment 1). The attached FastTrack schedule (Attachment 2) incorporates changes to avoid resource conflicts and get back in the overall budget box. Attachment 3 shows the resource loading per the FastTrack schedule in Attachment 2. Job managers are requested to review FY06 plans, moving work forward where possible. Where work is moved forward, we do not intend to change the Performance Measurement Baseline (PMB) but rather just plan to get the work done early. Plans should be consistent with resource availability. Budgetary estimates should be reviewed for reasonableness. To my eye, the overall budget looks reasonable. However, individual jobs might need some re-balancing. Specifically, PF Design (Job 1302) looks a bit light whereas CS Support Structure Design (Job 1301) and Base Support Structure Design (Job 1701) might be a bit rich. **Job Managers are asked to review their updated FY06 plans with Strykowski and Reiersen by January 13.**

TF Design and Procurement (Job 1301 - Kalish)

This is Kalish's highest priority. The plan is to put the RFP out on the street by the end of January with contract award in April. It is anticipated that Kalish will be spending a fair fraction of his time (~50%) monitoring this contract through the production of the first coil (July) and that his availability will improve after that. It should be noted that Kalish also has NSTX responsibilities for bakeout and water systems that will take an average of 25% of his time.

PF Design (Job 1302 – Kalish)

This work is expected to start once the TF RFP is out on the street. It appears that Preliminary Design can be completed in March and Final Design in July with the RFP going out in August. These dates are consistent with Kalish's limited availability during

this time. Kalish will get design support from Rushinski (~30%) and analysis support from Fan (~30%) to complete PF Design.

CS Support Structure Design (1303 – Dahlgren)

The design of the CS Support Structure, Structures, and Trim Coils has been given to Dahlgren because of Kalish's limited availability due to his TF and PF design and NSTX responsibilities. Dahlgren has some lingering work that needs to be completed. He has checked Myatt's design basis calculations to the extent possible without independently re-doing the calculations. This needs to be documented. Looking forward, the calculation will be re-done as part of the Structures analysis effort. He also needs to complete a structural analysis of the VVSA spacer with the SXR diagnostic modification. These tasks should be completed in January.

The work on the CS Support Structure design has already begun. Preliminary Design should be completed in February and Final Design in March with the RFP being issued by the end of March. Dahlgren will work ~50% on this job. (Dahlgren has commitments to Gentile's NRL work at the ~25% level. He also has a one-time commitment to complete some documentation for the Columbia Non-neutral Torus under Zweben's University Support job.) Dahlgren will be supported by Rushinski (~50%) in the design of the CS Support Structure. Dahlgren will perform any analysis required.

Structures Design (Job 1501 – Dahlgren)

Following completion of CS Support Structure Design, Dahlgren will lead the effort on Structures design. Global analyses will be performed by Fan and Brooks from January to March that should resolve issues such as how and where the Structures (WBS 15) interface with the Base Support Structure (WBS 172) and Modular Coils (WBS 14).

Work on Structures Design should begin in late March. Preliminary Design should be completed in late May, Final Design in late July with the RFP being released in August. Dahlgren (~70%) will be supported by Rushinski (~50%) in the design of the Structures. Dahlgren will be responsible for any analysis required.

Trim Coil Design (Job 1354 – Dahlgren)

A "simplified" trim coil set was adopted but has not yet been conceptualized. Zarnstorff and Brooks have been tasked with defining trim coil requirements and developing a concept that meets these requirements. This work should be performed in the March-May timeframe. Design of the trim coils will start in August upon completion of Structures Design. Preliminary Design should be completed in September, Final Design in October with the RFP being released in November. Dahlgren (~70%) will be supported by Rushinski (~50%) in the design of the Structures. Dahlgren will be responsible for any analysis required.

Cryostat and Base Support Structure Design (Job 1701 – Gettelfinger)

Gettelfinger is presently resolving key cryostat design issues and will update the Cryostat Preliminary Design by the end of March. Following that activity, Gettelfinger will begin on the Base Support Structure Design. The pace of this effort will be limited by Gettelfinger's availability. He has a commitment to NSTX as COE (~20%). He is also responsible for preparing the Coil Test Facility (CTF) for operation and performing cold

testing on the C1 coil (~20% between now and the end of April). Beginning this effort in April is timely because global analyses will be performed by Fan and Brooks from January to March that should resolve issues such where the base structure should interface with the rest of the stellarator core and what degrees of freedom should be provided. Preliminary Design of the Base Support Structure should be completed in June, Final Design in August with the RFP being released in September. Gettelfinger (~50%) will be supported by Messineo (~50%) and Fan (~30%) in this effort.

FPA Tooling and Fixtures (Job 1803 – Brown)

FPA Tooling and Fixtures is well underway. Recently, Zarnstorff introduced the idea of magnetically aligning coils and coil systems. This has the upside potential of reducing the risk of compromising plasma performance with unacceptable field errors, but it does force us to re-think how we will assemble the field periods and final machine. The project should resolve whether we are going to adopt magnetic alignment methods and how it will change FPA requirements within the next month. Work on FPA Tooling and Fixtures will then resume with Brown (~50%) getting design support from Morris (65%) and analysis support from Jun or Fan (~25%).

Cc: Brown, Gettelfinger, Kalish, Viola, Dahlgren, Nelson, Neilson, Strykowski, Zarnstorff, Brooks, Fan, Jun, Morris, Rushinski, Messineo, Dudek, Chrzanowski

Attachment 1

Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Total Float in days (21 days= 1 mo.)	Pct Complete as of 10/1/05	ECP41 Budget	FY06												FY07												FY08												FY09												
								S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
cc 9450 - NCSX Fabrication (MIE)																																																								
1 - Stellarator Core Systems																																																								
13 - Conventional Coils																																																								
Job: 1301 - TF Design-KALISH																																																								
Subcontract Procurement Plan																																																								
1301FD-05	Analysis Check	01MAR05A	210*	23DEC05	957	90	26,829.32																																																	
1301R-37	Prepare Coil Spec	01MAR05A	214*	06JAN06	244	85	0.00																																																	
131-300	Write Statement of work	09JAN06	5	13JAN06	243		0.00																																																	
131-305	Approve Specification	09JAN06	5	13JAN06	248		0.00																																																	
131-310	Approve statement of work	16JAN06	5	20JAN06	243		0.00																																																	
131-315	Vendor Info Meeting		0	10JAN06*	251		0.00																																																	
131-320	Source Selection Plan	05JAN06*	5	11JAN06	250		0.00																																																	
131-325	Disposition of chits	12JAN06*	7	20JAN06	243		0.00																																																	
131-330	Update Assembly Drawings	12JAN06*	5	18JAN06	243		0.00																																																	
131-335	Assembly Drawings Approval	19JAN06	2	20JAN06	243		0.00																																																	
131-345	Complete Procurement Package		0	20JAN06	243		0.00																																																	
131-350	Issue RFP		0	24JAN06	243		0.00																																																	
131-355	Proposals due		0	07FEB06	243		0.00																																																	
131-360	Initial Proposal rating		0	15FEB06	243		0.00																																																	
131-365	Project manager decision		0	22FEB06	243		0.00																																																	
131-370	Subcontract negotiations complete		0	02MAR06	243		0.00																																																	
131-375	DOE approve package		0	06MAR06	243		0.00																																																	
131-380	Contract Award		0	20MAR06	243		0.00																																																	
Job: 1361 - TF Fabrication-CHRZANOWSKI																																																								
TF Title III and Fabrication Oversight																																																								
131-031	Title III engr (FDR through 1st coil test 75%)	10OCT05A	182*	03JUL06	247		67,476.10																																																	
131-032	Title III engr (completion of coils 10%)	11JUL06	286	29AUG07	243		33,310.51																																																	
131-033	Winding operations field oversight	24MAR06*	382*	28SEP07	512		26,005.03																																																	
+ TF Braze Qualification																																																								
		10JUL06	60	29SEP06	765		30,284.80																																																	
+ Conductor Prep																																																								
		18SEP06	21	16OCT06	754		27,677.12																																																	
+ Coil Winding																																																								
		21MAR06	333	13JUL07	246		176,956.69																																																	
+ Ground Wrap & Mold Application																																																								
		05MAY06	307	24JUL07	246		78,240.20																																																	

Run Date 04JAN06 13:51

- ECP-41 Status_Forecast
- xecp-41 baseline
- Progress Bar
- Critical Activity

0512



NCSX

Sheet 1 of 7

Status through December 1st
ECP-41 Baseline

Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Total Float in days (21 days= 1 mo.)	Pct Complete as of 10/1/05	ECP41 Budget	FY06												FY07												FY08												FY09												
								S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
1352-125	Fabricate/Divr PF 1 NOT REQD USE PF1a	16JUN08	15	07JUL08	124		0.00																																																	
1352-130	Fabricate/Divr PF 2 NOT REQD USE PF1a	08JUL08	15	28JUL08	124		0.00																																																	
1352-135	Fabricate/Divr PF 3 NOT REQD USE PF1a	29JUL08	15	18AUG08	124		0.00																																																	
1352-135X	Refurbish NSTX PF1a	02OCT06*	5	06OCT06	589		1,331.52	em/tb=16																																																
722.010	PF Coil receipt inspect/test (formerly wbs 183)	22FEB08	125	18AUG08	124		31,275.16	em/sm=94; em/tb=218																																																
141-031	Title III engr WBS 132	27AUG07*	268	19SEP08	268		112,977.05	Kalish=551;ea/dm=69;																																																
Job: 1354 - Trim Coil Design &Procurement-KALISH																																																								
Trim Coils																																																								
1303-TRIM	Trim Coil Design	07SEP06*	88	18JAN07	117		42,155.97	Kalish=220;rushinski=180;analyst=180																																																
1303-136	Trim Coil PDR		0	07NOV06	126		0.00																																																	
1303-137	Trim Coil FDR		0	18JAN07	117		0.00																																																	
184-035	Bid & Award Ext Trim Coils	19JAN07	45	22MAR07	117		0.00																																																	
184-036	Award External Trim Coils		0	22MAR07	117		0.00																																																	
184-037	External Trim Coil Procurement/Fab*ecp16	23MAR07	87	25JUL07	117		34,275.00	41=25																																																
184-015	Title III WBS 133 Rxt Trim Coils	19JAN07	147	15AUG07	543		26,834.06	Rushinski=64;Kalish=232;;35=\$4k																																																
Job: 1303 -Centrol Solenoid Support Dsn-DAHLGREN																																																								
1303-100	CS Support Preliminary Design	01AUG06*	75	14NOV06	193		54,988.26	rushinski=88; dahlgren=225																																																
1303-105	CS Sprt PDR		0	14NOV06	193		0.00																																																	
1303-110	CS Support Final Design	15NOV06	75	09MAR07	193		105,470.98	rushinski=312; dahlgren=281																																																
1303-115	CS Support FDR		0	09MAR07	193		0.00																																																	
Job: 1353 - CS Structure Procurement-DAHLGREN																																																								
CS Support Structure																																																								
163-035	Bid & Award CS Support Struct	12MAR07	45	11MAY07	193		0.00																																																	
163-036.9	Award CS Support Structure		0	11MAY07*	193		0.00																																																	
163-037	CS Support Structure Procurement/Fab	14MAY07*	249	09MAY08	193		205,053.23	41=\$144.77; 35=\$2 k																																																
163-015	Title III design CS sprt struc	12MAR07	294	09MAY08	360		60,052.05	Kalish=250;Rushinski=83																																																
Job: 1355 - WBS 13 I&C Proc & Coil Assy-KALISH																																																								
TF/PF Load I&C																																																								
133-015	Title III WBS 134 Conv Coil I&C	09OCT06*	130	18APR07	626		1,141.72	;Kalish=2;Rushinski=6																																																
133-037	Conv Coil I&C WBS 134 Proc & Install	02OCT06*	130	11APR07	467		69,587.22	41=9.25k;em/sm=123;em/tb=491																																																
1355-100	CS and PF 1a Pre-Assy incl coil I&C procurement	19AUG08	15	09SEP08	124		20,510.40	em/tb=240																																																

Run Date 04JAN06 13:51

 ECP-41 Status_Forecast
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0512




NCSX

Sheet 3 of 7

Status through December 1st
ECP-41 Baseline

Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Total Float in days (21 days= 1 mo.)	Pct Complete as of 10/1/05	ECP41 Budget	FY06												FY07												FY08												FY09												
								S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
15 - Structures																																																								
Job: 1501 - Structures Design- DAHLGREN																																																								
1501-201	Write ICD's	22FEB06*	5	28FEB06	826		2,610.90	Dahlgren= 15																																																
1501-205	Update Design/models	13FEB06*	15	03MAR06	838		10,791.72	;Rushinski = 62																																																
1501-209	Prepare SRD	01MAR06	20	28MAR06	826		6,092.10	Dahlgren= 35																																																
1501-213	Approve ICD's	01MAR06	20	28MAR06	836		6,440.22	Dahlgren= 37																																																
1501-217	Update stress analysis	06MAR06	15	24MAR06	838		12,184.20	;Dahlgren=70																																																
1501-221	approve SRD	29MAR06	10	11APR06	826		0.00																																																	
1501-225	Write prelim purchase spec	29MAR06	10	11APR06	826		6,092.10	Dahlgren= 35																																																
1501-229	Create Prelim Assemblies	06MAR06	5	10MAR06	848		6,092.10	Dahlgren= 10 ;Rushinski =25																																																
1501-233	PDR Preparation	12APR06	5	18APR06	826		6,092.10	Dahlgren= 25 ;Rushinski =10 ;																																																
1501-PDR	PDR		0	18APR06	826		0.00	▼																																																
1501-241	Write final purchase spec	19APR06	10	02MAY06	846		5,221.80	Dahlgren= 30																																																
1501-246	Update Models	19APR06	10	02MAY06	826		9,573.30	Dahlgren= 15 ;Rushinski =40																																																
1501-249	Update Analysis	03MAY06	15	23MAY06	841		12,184.20	;Dahlgren=70																																																
1501-253	Prep Final Drawings	03MAY06	30	14JUN06	826		15,665.40	Dahlgren= 30 ;Rushinski =60																																																
1501-257	Detailed Hardware Analysis	03MAY06	10	16MAY06	846		3,481.20	Dahlgren= 20																																																
1501-261	Write Statement of work	03MAY06	10	16MAY06	846		3,481.20	Dahlgren= 20																																																
1501-265	Approve Purchase Spec	03MAY06	10	16MAY06	856		3,481.20	Dahlgren= 20																																																
1501-269	Check Analysis	24MAY06	10	07JUN06	841		11,313.90	Dahlgren=65																																																
1501-273	Approve SOW	17MAY06	10	31MAY06	846		0.00																																																	
1501-277	Prep Assy Dwgs	15JUN06	10	28JUN06	826		6,962.40	;Rushinski =40																																																
1501-281	Prep for FDR	29JUN06	5	06JUL06	826		5,221.80	Dahlgren= 30																																																
1501-FDR	FDR		0	06JUL06	826		0.00	▼																																																
Job:1550 - Structures Procurement -DAHLGREN																																																								
1501-245	Prep Spec,Solicit Bids, and Evaluate Bids	03JUL06	65	02OCT06	161		0.00	=																																																
162-036.9	Award Coil Support Structure		0	02OCT06*	161		0.00	▼																																																
162-037	WBS 151Coil Support Struc Procurement [A/1]	03OCT06	249	01OCT07	161		1,013,788.47	41=500\$k; 4E = 313.98 ; 35=02\$k ;																																																
162-031	Title III engr WBS 151	03OCT06	249	01OCT07	511		153,878.32	Kalish=720;ea//dm=218;																																																
153.037	WBS 153 Support Structure I&C Procurement/Fab	03OCT06*	249	01OCT07	511		9,022.42	em//sm=12;em//tb=48;41=\$2.52 k																																																
153.015	Title III design WBS 153 locall&C	03OCT06*	249	01OCT07	511		1,048.11	; em//sm=8																																																

Run Date 04JAN06 13:51

 ECP-41 Status_Forecast
 xecp-41 baseline
 Progress Bar
 Critical Activity

0512

NCSX

Sheet 4 of 7

Status through December 1st
ECP-41 Baseline

Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Total Float in days (21 days= 1 mo.)	Pct Complete as of 10/1/05	ECP41 Budget	FY06												FY07												FY08												FY09											
								S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	A					
17 - Cryostat and Base Support Structure																																																							
Job:1701-Cryost&Base Sprt Strct Dsn-GETTLFINGER																																																							
Base Support																																																							
161-001	Revise Preliminary Design for new supt locations	01APR04A	541	31MAY06	358	90	51,262.37	Messineo =170hr ;gettelfinger =202hr																																															
151-003	Base Support Struct PDR		0	31MAY06*	358		0.00																																																
161-011	Final Design Base Support Structure WBS 172	01JUN06	45	03AUG06	358		64,639.22	Messineo =170hr;Gettelfinger =202hr;																																															
172-199	Base Support Structure FDR		0	03AUG06	358		0.00																																																
Cryostat																																																							
162-100	Kickless cable testing	01DEC05	65	09MAR06	332		0.00	Unfunded EAC estimate em/tb=360; em/em=160; m&s=\$4k Total EAC= \$63k																																															
171-100	Investigate Alt Cryostat Architecture	03JAN06*	6*	10JAN06	345		0.00	UNFUNDED EAC= gettelfinger 16																																															
171-101	Finalize cryostat penetrations for VV	11JAN06	15*	31JAN06	345		0.00	UNFUNDED EAC= gettelfinger 24,																																															
171-102	Select gas-filled insulation-all svcs	11JAN06	15*	31JAN06	345		0.00	UNFUNDED EAC= gettelfinger 16																																															
171-103	Finalize cryo midplane arch	16JAN06*	32*	28FEB06	325		0.00	UNFUNDED EAC= gettelfinger 24,messineo32																																															
171-104	Plan WBS 16 interface	15FEB06*	33*	31MAR06	302		0.00	UNFUNDED EAC= gettelfinger 16, messineo 80																																															
151-011	Final Design Cryostat WBS 171	04AUG06*	231	26APR07	215		230,234.17	Gettelfinger =976hr ;Messineo =593hr ;																																															
171-199	Cryostat FDR		0	26APR07	215		0.00																																																
Job: 1751 - Cryostat Procurement																																																							
171 - Cryostat																																																							
151-031	Title III engr	27APR07	405	03DEC08	215		32,954.79	Gettelfinger =34hr ; messineo=220																																															
151-036.8	Prep Spec, Solicit bids, and Select Vendor	27APR07	65	30JUL07	215		0.00																																																
151-036.9	Award Cryostat Procurement		0	01OCT07*	242		0.00																																																
151-037	Cryostat Procurement [A/1]	02OCT07	141	25APR08	242		507,236.35	41=358.47\$k ; 35=02\$k ;																																															
Job: 1752 - Base Support Structure Procurement																																																							
172 - Base Support Structure																																																							
161-031	Title III engr WBS 172	06FEB07	240	22JAN08	438		10,726.43	Gettelfinger =60hr ;																																															
161-036.8	Prep Spec, Solicit bids, and Select Vendor	06FEB07*	65	07MAY07	235		0.00																																																
161-036.9	Award Machine Base&supports Procurement		0	07MAY07	235		0.00																																																
161-037	Machine Base&supports Procurement [A/1]	08MAY07	90	13SEP07	235		300,678.83	41=238\$k ; 35=02\$k ;																																															

Activity ID	Activity Description	Forecast Start	Forecast Duration (work days)	Forecast Finish	Total Float in days (21 days= 1 mo.)	Pct Complete as of 10/1/05	ECP41 Budget	FY06												FY07												FY08												FY09											
								S	O	N	D	J	F	M	A	M	J	J	A	S	S	O	N	D	J	F	M	A	M	J	J	A	S	S	O	N	D	J	F	M	A	M	J	J	A	S	S	O	N	D	J	F	A		
1803-5.004	Structural Analysis	17MAY06*	8*	26MAY06	254		13,924.80													Analyst=80hrs																																			
1803-5.005	PDR	30MAY06	5	05JUN06*	254		0.00																																																
1803-5.006	FDR	05JUL06	5	11JUL06*	234		0.00																																																
1803-5.007	Pre & Issue Specs and Dwgs	12JUL06	5	18JUL06	234		0.00																																																
1803-5.008	Procurement Lead Time	19JUL06	40	12SEP06	234		0.00																																																
1803-5.009	Fabricate	02OCT06*	65	10JAN07	221		52,714.95													41=\$38.45																																			
1803-5.100	FP Assy Platform	10APR06*	20*	05MAY06	261		0.00																																																
1803-5.200	Metrology layout/support stand dwgs	08MAY06*	5*	12MAY06	264		0.00																																																
6.00-Interface/Test Activities																																																							
1803-5.02A	Generate as built spherical seat dwg	01DEC05*	0*	30NOV05	406		0.00																																																
1803-5.05	Run test/metrology measurements	01DEC05*	6*	08DEC05	968		0.00																																																
1803-5.02	TFTR Test Cell FPA arrgmt dwg	05JUN06*	15*	23JUN06	834		0.00																																																
7.00-Oversight																																																							
1803-7.10	Tom Brown Engineering	03OCT05A	250*	29SEP06	765	LOE	189,377.28	Tom Brown=1088																																															
1803-7.20	Design Activity	03OCT05A	250*	29SEP06	765	LOE	149,999.85	Designer=1295 (75%)																																															
Tooling Design & Fabrication																																																							
713A.040	General procurements	02OCT06*	498	26SEP08	263		10,410.00																									41=\$7.5k																							
713A.050	Welding tools, materials & equipt	02OCT06*	498	26SEP08	263		10,410.00																									41=\$7.5k																							
713A.060	Instl He gas piping from NSTX to D-site tc NOT R	02OCT06*	65	10JAN07	270		0.00																									no longer req'd																							

Attachment 2

	Activity Name	Duration (Work Days)	Start Date	Finish Date	Resources Assigned	2006											
						January	February	March	April	May	June	July	August	September			
1	TF Design (1301-Kalish)	70.00	1/4/06	4/11/06		[Gantt bar from Jan 4 to Apr 11]											
2	Complete TF procurement pkg	15.00	1/4/06	1/24/06	Kalish	[Gantt bar from Jan 4 to Jan 24]											
3	Issue TF RFP	5.00	1/25/06	1/31/06	Kalish	[Gantt bar from Jan 25 to Jan 31]											
4	Develop proposals	25.00	2/1/06	3/7/06	Suppliers	[Gantt bar from Feb 1 to Mar 7]											
5	Evaluate proposals	10.00	3/8/06	3/21/06	Kalish	[Gantt bar from Mar 8 to Mar 21]											
6	Award contract	15.00	3/22/06	4/11/06	Kalish	[Gantt bar from Mar 22 to Apr 11]											
7	TF Fabrication (1361-Kalish)	120.00	4/12/06	9/26/06		[Gantt bar from Apr 12 to Sep 26]											
8	Initial Title III Engineering	60.00	4/12/06	7/4/06	Kalish	[Gantt bar from Apr 12 to Jul 4]											
9	Remaining FY06 Title III	60.00	7/5/06	9/26/06	Kalish	[Gantt bar from Jul 5 to Sep 26]											
10	PF Design (1302-Kalish)	135.00	2/1/06	8/8/06		[Gantt bar from Feb 1 to Aug 8]											
11	Complete PF PD	40.00	2/1/06	3/28/06	Kalish, Rushinski, Fan	[Gantt bar from Feb 1 to Mar 28]											
12	Complete PF FD	75.00	3/29/06	7/11/06	Kalish, Rushinski, Fan	[Gantt bar from Mar 29 to Jul 11]											
13	Complete PF procurement pkg	15.00	7/12/06	8/1/06	Kalish, Rushinski	[Gantt bar from Jul 12 to Aug 1]											
14	Issue PF RFP	5.00	8/2/06	8/8/06	Kalish	[Gantt bar from Aug 2 to Aug 8]											
15	Global Analysis (8204-Brooks)	90.00	1/4/06	5/9/06		[Gantt bar from Jan 4 to May 9]											
16	Resolve load path for inbd shear loads	10.00	1/4/06	1/17/06	Fan, Brooks	[Gantt bar from Jan 4 to Jan 17]											
17	Determine design requirements for base support structure	10.00	1/18/06	1/31/06	Brooks, Fan	[Gantt bar from Jan 18 to Jan 31]											
18	Complete documentation and checking of modular coil structural analyses	63.00	1/4/06	3/31/06	Fan	[Gantt bar from Jan 4 to Mar 31]											
19	Determine design requirements for coil structures	30.00	2/1/06	3/14/06	Brooks	[Gantt bar from Feb 1 to Mar 14]											
20	Develop trim coil concept and requirements	40.00	3/15/06	5/9/06	Brooks, Zarnstorff	[Gantt bar from Mar 15 to May 9]											
21	Other Work	193.00	1/4/06	9/29/06		[Gantt bar from Jan 4 to Sep 29]											
22	TF Analysis check	5.00	1/9/06	1/13/06	Dahlgren	[Gantt bar from Jan 9 to Jan 13]											
23	Complete structural analysis of SRX modification	10.00	1/16/06	1/27/06	Dahlgren	[Gantt bar from Jan 16 to Jan 27]											
24	Complete CNT documentation	10.00	1/30/06	2/10/06	Dahlgren	[Gantt bar from Jan 30 to Feb 10]											
25	NRL Support	165.00	2/13/06	9/29/06	Dahlgren	[Gantt bar from Feb 13 to Sep 29]											
26	Dimensional control support	190.00	1/4/06	9/26/06	Brooks	[Gantt bar from Jan 4 to Sep 26]											
27	Update shield wall layout	5.00	1/16/06	1/20/06	Messineo	[Gantt bar from Jan 16 to Jan 20]											
28	Prepare for cold testing	85.00	1/4/06	5/2/06	Gettelfinger	[Gantt bar from Jan 4 to May 2]											
29	NSTX COE responsibilities	190.00	1/4/06	9/26/06	Gettelfinger	[Gantt bar from Jan 4 to Sep 26]											
30	NSTX Water/bakeout responsibilities	190.00	1/4/06	9/26/06	Kalish	[Gantt bar from Jan 4 to Sep 26]											
31	Structures Design (1501-Dahlgren)	105.00	3/28/06	8/21/06		[Gantt bar from Mar 28 to Aug 21]											
32	Complete Structures PD	45.00	3/28/06	5/29/06	Dahlgren, Rushinski	[Gantt bar from Mar 28 to May 29]											
33	Complete Structures FD	45.00	5/30/06	7/31/06	Dahlgren, Rushinski	[Gantt bar from May 30 to Jul 31]											
34	Complete Structures procurement pkg	10.00	8/1/06	8/14/06	Dahlgren, Rushinski	[Gantt bar from Aug 1 to Aug 14]											
35	Issue Structures RFP	5.00	8/15/06	8/21/06	Dahlgren	[Gantt bar from Aug 15 to Aug 21]											
36	CS Support Structure Design (1303-Dahlgren)	59.00	1/4/06	3/27/06		[Gantt bar from Jan 4 to Mar 27]											
37	Complete CS Structure PD	25.00	1/4/06	2/7/06	Dahlgren, Rushinski	[Gantt bar from Jan 4 to Feb 7]											
38	Complete CS Structure FD	25.00	2/8/06	3/14/06	Dahlgren, Rushinski	[Gantt bar from Feb 8 to Mar 14]											
39	Complete CSS procurement pkg	5.00	3/15/06	3/21/06	Dahlgren, Rushinski	[Gantt bar from Mar 15 to Mar 21]											
40	Issue CSS RFP	4.00	3/22/06	3/27/06	Dahlgren	[Gantt bar from Mar 22 to Mar 27]											

	Activity Name	Duration (Work Days)	Start Date	Finish Date	Resources Assigned	2006											
						January	February	March	April	May	June	July	August	September			
41	FPA Tooling and Fixtures (1803-Brown)	190.00	1/9/06	9/29/06		[Gantt bar from Jan 9 to Sep 29]											
42	Develop magnetic alignment approach	20.00	1/9/06	2/3/06	Brooks, Zarnstorff	[Gantt bar from Jan 9 to Feb 3]											
43	Develop design of MC half period assembly fixture	20.00	2/6/06	3/3/06	Brown, Morris, Zarnstorff, Ju	[Gantt bar from Feb 6 to Mar 3]											
44	Develop design of remaining fixtures	150.00	3/6/06	9/29/06	Brown, Morris, Zarnstorff, Ju	[Gantt bar from Mar 6 to Sep 29]											
45	Trim Coil Design (1354-Dahlgren)	55.00	8/22/06	11/6/06		[Gantt bar from Aug 22 to Nov 6]											
46	Complete Trim Coil PD	20.00	8/22/06	9/18/06	Rushinski, Dahlgren	[Gantt bar from Aug 22 to Sep 18]											
47	Complete Trim Coil FD	20.00	9/19/06	10/16/06	Rushinski, Dahlgren	[Gantt bar from Sep 19 to Oct 16]											
48	Complete Trim Coil procurement pkg	10.00	10/17/06	10/30/06	Rushinski, Dahlgren	[Gantt bar from Oct 17 to Oct 30]											
49	Issue Trim Coil RFP	5.00	10/31/06	11/6/06	Dahlgren	[Gantt bar from Oct 31 to Nov 6]											
50	Cryostat Design (1701-Gettelfinger)	60.00	1/3/06	3/27/06		[Gantt bar from Jan 3 to Mar 27]											
51	Resolve issues, update cryostat PD	60.00	1/3/06	3/27/06	Gettelfinger, Messineo	[Gantt bar from Jan 3 to Mar 27]											
52	Base Support Structure Design (1701-Gettelfinger)	130.00	3/28/06	9/25/06		[Gantt bar from Mar 28 to Sep 25]											
53	Complete BSS PD	55.00	3/28/06	6/12/06	Fan, Gettelfinger, Messineo	[Gantt bar from Mar 28 to Jun 12]											
54	Complete BSS FD	60.00	6/13/06	9/4/06	Fan, Gettelfinger, Messineo	[Gantt bar from Jun 13 to Sep 4]											
55	Complete BSS procurement pkg	10.00	9/5/06	9/18/06	Gettelfinger, Messineo	[Gantt bar from Sep 5 to Sep 18]											
56	Issue BSS RFP	5.00	9/19/06	9/25/06	Gettelfinger	[Gantt bar from Sep 19 to Sep 25]											
						January	February	March	April	May	June	July	August	September			

Attachment 3

	Resource Name	2006								
		January	February	March	April	May	June	July	August	September
1	Brooks									
	Percent Usage	88%	79%	75%	75%	40%	25%	25%	25%	21%
	Hourly Usage	154.0h	126.0h	138.0h	120.0h	74.0h	44.0h	42.0h	46.0h	36.0h
	Assignments	154.0h	126.0h	138.0h	120.0h	74.0h	44.0h	42.0h	46.0h	36.0h
2	Brown									
	Percent Usage	0%	43%	50%	50%	50%	50%	50%	50%	50%
	Hourly Usage	0.0h	68.0h	92.0h	80.0h	92.0h	88.0h	84.0h	92.0h	84.0h
	Assignments	0.0h	68.0h	92.0h	80.0h	92.0h	88.0h	84.0h	92.0h	84.0h
3	Dahlgren									
	Percent Usage	84%	85%	77%	95%	95%	95%	95%	80%	95%
	Hourly Usage	148.0h	136.0h	141.2h	152.0h	174.8h	167.2h	159.6h	146.8h	159.6h
	Assignments	148.0h	136.0h	141.2h	152.0h	174.8h	167.2h	159.6h	146.8h	159.6h
4	Fan									
	Percent Usage	95%	65%	69%	55%	55%	55%	38%	30%	3%
	Hourly Usage	168.0h	104.0h	126.8h	88.0h	101.2h	96.8h	64.4h	55.2h	4.8h
	Assignments	168.0h	104.0h	126.8h	88.0h	101.2h	96.8h	64.4h	55.2h	4.8h
5	Gettelfinger									
	Percent Usage	84%	90%	90%	90%	72%	70%	70%	70%	58%
	Hourly Usage	148.0h	144.0h	165.6h	144.0h	132.0h	123.2h	117.6h	128.8h	96.8h
	Assignments	148.0h	144.0h	165.6h	144.0h	132.0h	123.2h	117.6h	128.8h	96.8h
		January	February	March	April	May	June	July	August	September

	Resource Name	2006								
		January	February	March	April	May	June	July	August	September
6	Jun									
	Percent Usage	0%	21%	25%	25%	25%	25%	25%	25%	25%
	Hourly Usage	0.0h	34.0h	46.0h	40.0h	46.0h	44.0h	42.0h	46.0h	42.0h
	Assignments	0.0h	34.0h	46.0h	40.0h	46.0h	44.0h	42.0h	46.0h	42.0h
7	Kalish									
	Percent Usage	95%	60%	83%	90%	100%	100%	64%	45%	30%
	Hourly Usage	168.0h	96.0h	152.8h	143.2h	184.0h	176.0h	107.2h	82.4h	50.4h
	Assignments	168.0h	96.0h	152.8h	143.2h	184.0h	176.0h	107.2h	82.4h	50.4h
8	Messineo									
	Percent Usage	51%	30%	33%	50%	50%	50%	50%	50%	29%
	Hourly Usage	90.4h	48.0h	61.6h	80.0h	92.0h	88.0h	84.0h	92.0h	48.0h
	Assignments	90.4h	48.0h	61.6h	80.0h	92.0h	88.0h	84.0h	92.0h	48.0h
9	Morris									
	Percent Usage	0%	55%	65%	65%	65%	65%	65%	65%	65%
	Hourly Usage	0.0h	88.4h	119.6h	104.0h	119.6h	114.4h	109.2h	119.6h	109.2h
	Assignments	0.0h	88.4h	119.6h	104.0h	119.6h	114.4h	109.2h	119.6h	109.2h
10	Rushinski									
	Percent Usage	45%	85%	75%	75%	75%	75%	75%	36%	50%
	Hourly Usage	80.0h	136.0h	138.0h	120.0h	138.0h	132.0h	126.0h	66.0h	84.0h
	Assignments	80.0h	136.0h	138.0h	120.0h	138.0h	132.0h	126.0h	66.0h	84.0h
		January	February	March	April	May	June	July	August	September

	Resource Name	2006								
		January	February	March	April	May	June	July	August	September
11	Suppliers									
	Percent Usage	0%	100%	22%	0%	0%	0%	0%	0%	0%
	Hourly Usage	0.0h	160.0h	40.0h	0.0h	0.0h	0.0h	0.0h	0.0h	0.0h
	Assignments	0.0h	160.0h	40.0h	0.0h	0.0h	0.0h	0.0h	0.0h	0.0h
12	Zarnstorff									
	Percent Usage	39%	29%	45%	65%	30%	15%	15%	15%	15%
	Hourly Usage	68.0h	46.0h	82.0h	104.0h	55.6h	26.4h	25.2h	27.6h	25.2h
	Assignments	68.0h	46.0h	82.0h	104.0h	55.6h	26.4h	25.2h	27.6h	25.2h
		January	February	March	April	May	June	July	August	September