

NCSX

COST and SCHEDULE

PERFORMANCE REPORTS

DECEMBER 2007

PRELIMINARY

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Schedule Barcharts	Issued under separate cover

NCSX Summary Overview

DECEMBER 2007

Cost Performance	BCWS	BCWP	ACWP
Cumulative from May 1st, 2007 =	\$9,812	\$9,013	\$8,247
Cost Through April 2007 =			\$67,178
Cost to date =			\$75,425
BCWR (work to go) =		\$41,840	
Contingency =		\$14,380	
Total TEC =		\$132,411	

CPI = 1.09 1.15 last month	Cost Variance =	766	Major Cost Variances	
SPI = 0.92 .91 last month	Schedule Variance =	-799	Mod Coil Punch List	CPI = .78 -88 (.76 last month)
			FP Assy tooling (job 1803)	CPI = .40 -122 (.38 last month)
			Systems Analysis (job 8204)	CPI = .67 -125 (.72 last month)
			Allocations (job 8998)	CPI = .69 -106 (.69 last month)

EAC= \$6,102	Scope Add-backs = \$5,690
<p>\$5,569 re-estimate</p> <ul style="list-style-type: none"> \$1,800 Field period assy-add'l metrology crews \$1,513 Field period assy-oversight/mgr/supervision \$500 Field period assy-add'l tasks/complexity \$200 Field period assy-laser tracker -\$312 Field period assy-CV to date \$500 WBS 82 project engineering management \$712 system analysis & dsn integration 8203/4 \$361 Project management/oversight wbs 81 \$220 mc punch list \$294 Other -\$219 WBS 19 stell core mgt & FP specs/dwgs <p>\$1,313 stretch-out cost (6.5mos. 2.5 last month's report)</p> <p>-780 Rate reductions</p>	<p>scope add-back and 40% contingency</p> <p>\$1,973 Trim coils incl coil services & instl (54coil set)</p> <ul style="list-style-type: none"> \$985 VPS (incl NB ducts, pumps,instl, water systems) \$189 Injectors \$35 Diagnostics \$882 I&C \$1,626 Contingency @40%

Cost/Schedule Uncertainties and Opportunities		
<table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Uncertainties</p> <ol style="list-style-type: none"> 1) Field period assy critical path plan uncertain. Unresolved resource issues (crane, space, metrology HW, metrology crews, 2nd shift use) 2) Trim coil and PF coil fabrication schedule from vendors 3) Station 5 and 6 assy sequence design not schedule until Feb and June will impact assy cost & schedule 4) Contingency cost and schedule analysis; will determine final ETC </td> <td style="width: 50%; vertical-align: top;"> <p>Opportunities</p> <ol style="list-style-type: none"> 1) Further overhead rate reductions </td> </tr> </table> <p>Critical path assessment</p> <p>#1 Critical path through field period and final machine assembly. Recent ETC updates indicate impact of 6 1/2 months. However, this current forecast has not been adopted by the job managers citing issues of crane utilization, laydown assy space at d-site and c-site, metrology crews needs, metrology hardware needs, and the reasonableness of extensive 2nd shift utilization.</p> <p>#2 Trim coil design, fabrication required for assembly in station 5. zero float</p>	<p>Uncertainties</p> <ol style="list-style-type: none"> 1) Field period assy critical path plan uncertain. Unresolved resource issues (crane, space, metrology HW, metrology crews, 2nd shift use) 2) Trim coil and PF coil fabrication schedule from vendors 3) Station 5 and 6 assy sequence design not schedule until Feb and June will impact assy cost & schedule 4) Contingency cost and schedule analysis; will determine final ETC 	<p>Opportunities</p> <ol style="list-style-type: none"> 1) Further overhead rate reductions
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Level II milestone status (near term)					
Design Reviews	Baseline	Forecast	DOE Date	Float (mos.)	Slip relative to baseline (mos.)
Base support - PDR	26-Nov-07	31-Jan-08		2.2	(2.0)
Dimensional control plans for station 3	15-Oct-07	31-Jan-08		(3.6)	(3.3)
PF Coils - FDR	24-Mar-08	11-Feb-08		1.5	1.4
Station 5 FDR	21-Nov-07	19-Feb-08		2.4	(2.6)
Base Support Structure FDR	4-Feb-08	21-Feb-08	May-08	2.2	(0.6)
Prepare Type-ABC closeout FDR	14-Jan-08	29-Feb-08			(1.6)
Coil Support Structures - FDR	21-Sep-07	21-Mar-08		2.3	(5.8)
LN2 manifolds&pipng- PDR	2-Apr-08	2-Apr-08		3.7	-
** Trim Coil PDR **		16-Apr-08		-	-
** Trim Coil + Structure FDR **		3-Jun-08		-	-
Station 6 FDR	4-Jun-08	25-Jun-08		2.6	(0.7)
Fabrication/Assembly					
Shims required for 1st 3 pack MC assy	20-Sep-07	9-Jan-08	Dec-07	(6.2)	(3.3)
Complete 1st MCHP Assy (Sta 2)	9-May-08	22-Jul-08	Sep-08	(6.6)	(2.4)
COMPLETE VPI OF 18th MOD COIL	15-Jul-08	30-Jun-08	Nov-08	0.7	0.5
CD-4	31-Jan-11	15-Aug-11	Dec-11	(6.6)	-

Contingency	BCWR		
Planned (baseline)=	14,380	50,853	28.3%
Drawdown to date =	0		
EAC (overrun)/underrun =	(4,789)		
Cost Variance (overrun)/underrun =	<i>incl above</i>		
Schedule Slip (@\$202k/mo.) =	(1,313)	ETC	
	8,278	48,708	17.0%
Current free balance contingency on remaining scope =	17.0%		

Risks (from updated risk registry)
 No risks retired or added.

ISSUES

- 1) Critical path; A field period and final machine assembly plan needs o be adopted by Viola & Perry that can be used as the backbone of the new proposed baseline. Current schedule forecast show a 6 1/2 slip but this may grow significantly greater once resource constraints are resolved.
- 2) upcoming design review dates for the Trim Coils, PF coils, Base support structure, and Coil support structure must be met to ensure reasonable chance of hardware deliveries.
- 3) The coil services lead design and fabrication schedule should be accelerated into FY08 to ensure supporting the field period assembly schedule.

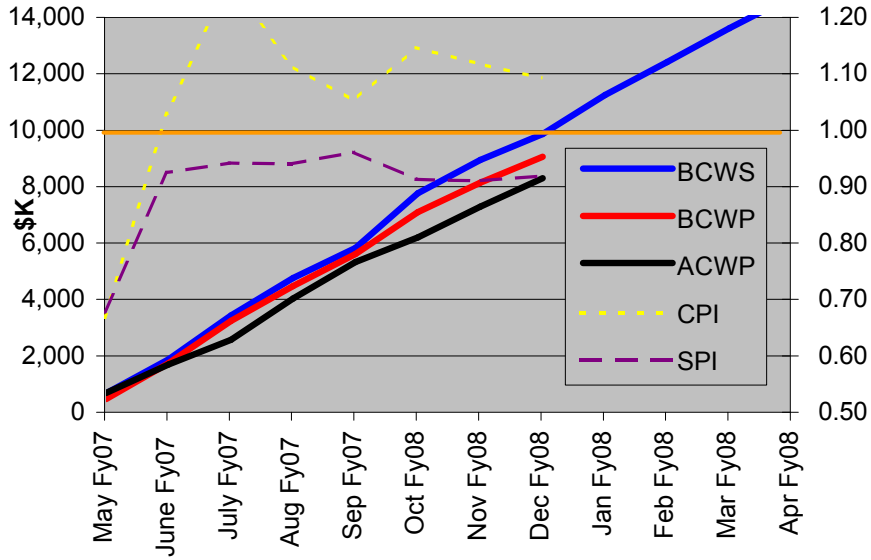
NCSX Cost Performance Report
Period May 1, 2007 through December 31, 2007
(Measured against unofficial proposed baseline)

RLM	JOB	CUMULATIVE							MONTHLY					BUDGET to COMPLETE (from May 1,2007)	EAC	C=calculated JM=Job Mgr estimate	increase/ (decrease)	
		BCWS	BCWP	ACWP	SPI	CPI	schedule variance	cost variance	BCWS	BCWP	ACWP	sched variance	cost variance					
Jim Anderson	Job: 8101 - Project Management &Control-ANDERS	472	470	442	1.00	1.06	(2)	28	67	82	52	15.25	29	3,843	4,158	Strykowski (Proj Mgr)	315	
	Job: 8102 - NCSX MIE Management ORNL-LYON	98	97	152	0.99	0.64	(1)	-55	13	13	13	(0)	0	499	545	Lyon	46	
	Job: 8998 - Allocations-STRYKOWSKY	235	234	339	0.99	0.69	(1)	-106	31	33	78	2	(46)	1,453	1,536	Strykowski	83	-52 overrun in FY07 & 31k projection for fy08
	Total Jim Anderson	805	801	933	1.00	0.86	(4)	-132	111	127	143	17	(16)	5,795	6,239			444
Larry Dudek	Job: 1204 - VV Sys Procurements (nonVVSA)-DUDEK	104	119	198	1.15	0.60	15	-79	29	22	19	(7)	3	408	916 *	goranson (incl transition ducts)	508	scope add-back
	Job: 1250 - Vacuum Vessel Fabrication**CLOSED**	(252)	(252)	(252)	1.00	1.00	0	0	-	0	-	0	0	(252)	(252)	no update	-	
	Job: 1408 - MC Winding Supplies-CHRZANOWSKI	253	243	130	0.96	1.87	(10)	113	22	22	12	0	11	350	267	chrzanowski	(83)	re-estimate
	Job: 1431 - Mod. Coil Interface Hardware-DUDEK	901	726	426	0.81	1.70	(175)	300	64	46	67	(18)	(21)	1,039	975	dudek etc	(64)	re-estimate
	Job: 1451 - Mod Coil Winding-CHRZANOWSKI	1,491	1,711	1,596	1.15	1.07	220	115	188	107	191	(81)	(85)	2,867	2,675	calculated	(192)	
	Job: 1459 - Mod Coil Fabr.Punch List-CHRZANOWSKI	216	305	393	1.41	0.78	89	-88	43	115	31	72	84	501	721	chrzanowski	220	Lifts, transportation, add'l re-work
	Job: 1802 - FP Assy Oversight&Support-VIOLA	433	389	485	0.90	0.80	(44)	-96	58	47	56	(11)	(9)	1,989	3,002	MV/RLS preliminary!	1,013	add'l management & pppl title III
	Job: 1803/1805- FPA Tooling/Constr-BROWN/DUDEK	219	81	203	0.37	0.40	(138)	-122	24	0	23	(24)	(23)	522	522	no update	-	
	Job:1810-Field Period Assy -Station 1 2 3 VIOLA	1,790	1,538	1,138	0.86	1.35	(253)	400	186	130	160	(56)	(30)	5,745	8,387	MV/RLS preliminary!	2,642	add'l met crews +\$1.8m,laser tracker +\$.2 & supervision=+\$.5, stat2&3 +=\$.5
	Job: 1815 - Field Period Assy Station 5	-	-	-	-	-	-	0	-	-	-	-	-	1,334	1,570	MV/RLS prelim	236	trim coils
	Job: 2101 - Fueling Systems-BLANCHARD	-	-	-	-	-	-	0	-	-	-	-	-	69	258 *	blanchard	189	scope add-back
	Job: 2201 - Vacuum Pumping Systems-BLANCHAR	-	-	-	-	-	-	0	-	-	-	-	-	172	575 *	blanchard	403	scope add-back
	Job: 3101 - Magnetic Diagnostics-STRATTON	280	215	135	0.77	1.60	(65)	80	24	46	1	22	45	291	326 *	stratton	35	scope add-back
	Job: 3601 - Edge Divertor Diagnostics-STRATTON	-	-	-	-	-	-	0	-	-	-	-	-	31	31	Stratton	-	re-estimate
	Job: 3801 - Electron Beam Mapping-STRATTON	-	-	-	-	-	-	0	-	-	-	-	-	263	263	Stratton	-	re-estimate
	Job: 3901 - Diagnostics sys Integration-STRATTON	18	18	32	1.01	0.58	0	-13	2	2	4	0	(2)	132	229	calculated	97	
	Job: 6101 - Water Systems-DUDEK	-	-	-	-	-	-	0	-	-	-	-	-	46	95 *	Dudek	49	scope add-back
	Job: 6201 - Cryogenic Syst-RAFTOPOLOUS	-	-	-	-	-	-	0	-	-	-	-	-	655	655	calculated	-	
	Job: 6301 - Utility Systems-DUDEK	-	-	-	-	-	-	0	-	-	-	-	-	105	105	calculated	-	
Job: 6401 - PFC/VV Htng/Cooling(bakeout)- KALISH	-	-	-	-	-	-	0	-	-	-	-	-	573	573	calculated	-		
Job: 7301 - Platform Design &	-	3	-	-	-	3	3	-	0	-	0	0	204	204	calculated	-		
Job: 7401 - TC Prep & Mach Assy Planning-PERRY	(303)	(303)	(269)	1.00	1.13	(0)	-34	2	2	7	(0)	(5)	1,417	1,417	no update	-		
Job: 7501 - Construction Support Crew-PERRY	-	-	-	-	-	-	0	-	-	-	-	-	1,407	1,407	no update	-		
Job: 7503 - Machine Assembly (station 6)-PERRY	-	-	-	-	-	-	0	-	-	-	-	-	4,511	4,603 *	strykowski	92	scope add-back	
Job: 7601 - Tooling Design & Fabrication-PERRY	-	-	-	-	-	-	0	-	-	-	-	-	412	412	no update	-		
Total Larry Dudek	5,150	4,793	4,215	0.93	1.14	(357)	578	642	539	572	(103)	(33)	24,791	29,936			5,145	

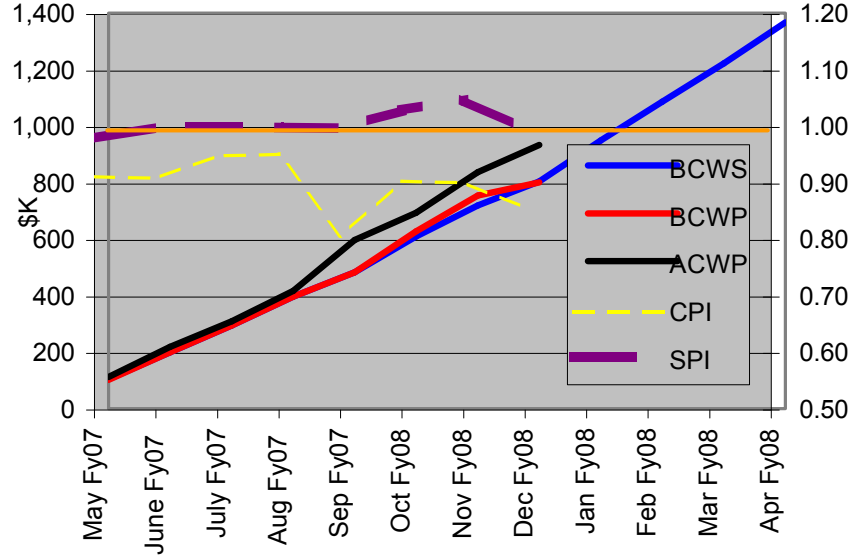
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RLM	JOB	CUMULATIVE							MONTHLY					BUDGET to COMPLETE (from May 1,2007)	EAC	C=calculated JM=Job Mgr estimate	increase/ (decrease)	
		BCWS	BCWP	ACWP	SPI	CPI	schedule variance	cost variance	BCWS	BCWP	ACWP	sched variance	cost variance					
Phil Heitzenroeder	Job: 1302 - PF Design -KALISH	134	115	69	0.86	1.65	(19)	45	25	1	8	(24)	(7)	257	156	calculated	(101)	
	Job: 1352 - PF Coil Procurement-KALISH	-	-	-			-	0	-	-	-	-	-	1,630	1,630	no update	-	
	Job: 1353 - CS Structure Procurement-DAHLGREN	-	-	-			-	0	-	-	-	-	-	337	337	no update	-	
	Job: 1354 - Trim Coil Design &Procurement-KALISH	75	30	27	0.40	1.09	(45)	2	30	1	8	(28)	(7)	162	1,552 *	kalish/strykowski (54 coil)	1,390 scope add-back	
	Job: 1355 - WBS 13 I&C Proc and Coil Assy-KALISH	-	-	-			-	0	-	-	-	-	-	73	169	Cole etc	96 re-estimate	
	Job: 1361 - TF Fabrication-KALISH	404	423	435	1.05	0.97	19	-12	59	32	45	(27)	(12)	1,003	1,003	no update	-	
	Job: 1404 - MCWF R&D 1st Prod	(36)	(36)	(35)	1.00	1.03	0	-1	-	-	-	-	-	(36)	(36)	no update	-	
	Job: 1411 - MCWF Fabr. S005242-HEITZENROEDE	(84)	(80)	(65)	0.96	1.23	4	-15	-	(0)	-	(0)	(0)	(80)	(80)	no update	-	
	Job: 1416 - Mod Coil Type AB Fnl Dsn-WILLIAMSON	261	130	161	0.50	0.81	(131)	-30	56	9	35	(47)	(26)	280	310	Cole etc	30 re-estimate less CV	
	Job: 1421 - Mod Coil Interface Design-WILLIAMSON	1,159	1,109	980	0.96	1.13	(50)	129	26	93	95	67	(1)	1,207	1,078	Cole etc	(129) re-estimate less CV	
	Job: 1429 - MC Interface R&D-GETTELFINGER	118	94	87	0.79	1.07	(24)	6	-	0	1	0	(0)	118	110	calculated	(8)	
	Job: 1501 - Coil Structures Design-DAHLGREN	186	148	208	0.80	0.71	(38)	-60	-	0	23	0	(23)	186	261	calculated	75	
	Job: 1550 - Coil Struct. Procurement -DAHLGREN	-	-	-			-	0	-	-	-	-	-	1,076	1,227	Dahlgren	151 re-estimate	
	Job: 1601 - Coil Services Design-GORANSON	6	42	-	6.99		36	42	-	8	-	8	8	861	1,141 *	goranson/strykowski	280 scope add-back	
	Job: 1701 - Cryostat Design-RAFTOPOLOUS	-	-	5		0.00	-	-5	-	-	-	-	-	207	207	no update	-	
	Job: 1702 - Base Support Struct Design-DAHLGREN	107	41	32	0.38	1.28	(66)	9	36	(0)	(1)	(36)	1	163	256	Dahlgren	93 re-estimate	
	Job: 1751 - Cryostat Procurement-RAFTOPOLOUS	-	-	-			-	0	-	-	-	-	-	325	325	no update	-	
	Job: 1752 - Base Support Proc-DAHLGREN	-	-	-			-	0	-	-	-	-	-	89	89	no update	-	
	Job: 1806 - FP Assembly specs	164	117	3	0.72	36.22	(47)	114	19	66	1	47	65	514	400	Cole etc	(114) re-estimate less CV	
	Job: 1901 - Stellarator Core Mngt&Integr-COLE	258	257	152	1.00	1.69	(1)	105	33	33	11	0	22	1,620	1,515	Cole etc	(105) re-estimate less CV	
	Job: 8202 - Engr Mgmt & Sys Eng Support-HEITZEN	497	497	491	1.00	1.01	(0)	5	53	54	55	1	(1)	2,649	3,149	simmons	500 re-estimate	
	Job: 8203 - Design Integration-BROWN	249	248	98	0.99	2.53	(1)	150	30	31	20	1	11	1,408	1,408	no update	-	
	Job: 8204 - Systems Analysis-BROOKS	249	249	374	1.00	0.67	0	-125	24	24	47	0	(23)	1,154	1,734	calculated	580	
	Job: 8205 - Dimensional Control Coordin-ELLIS	158	102	125	0.65	0.82	(56)	-23	20	13	17	(7)	(4)	598	730	calculated	132	
	Job: 8210 - FY07 Rebaseling tasks	19	19	55	1.00	0.34	0	-36	-	0	7	0	(7)	19	55	calculated	36	
	Job: 8215 Plant Design	23	7	-	0.32		(16)	7	3	2	-	(1)	2	121	227	strykowski/brown	106	
	Total Phil Heitzenroeder	3,946	3,510	3,203	0.89	1.10	(436)	307	414	369	372	(44)	(2)	15,941	18,953		3,012	3,012
	Al vonHalle	Job: 4101 - AC Power-RAMAKRISHNAN	(104)	(104)	(104)	1.00	1.00	(0)	0	-	-	-	-	-	55	55	Raki	0 re-estimate
		Job: 4301 - DC Systems-RAMAKRISHNAN	3	2	-	0.63		(1)	2	1	2	-	1	2	603	603	Raki	- re-estimate
		Job: 4401 - Control & Protection-RAMAKRISHNAN	-	-	-			-	0	-	-	-	-	-	1084	1,084	Raki	- re-estimate
Job: 4501 - Power Sys Dsn & Integr-RAMAKRISHNAN		-	-	(1)		0.00	-	1	-	-	-	-	-	683	833	Raki	150 re-estimate	
Job: 5101 - Network and Fiber		-	-	-			-	0	-	-	-	-	-	150	226 *	sichta	76 scope add-back	
Job: 5201 - I&C Systems-SICHTA		-	-	-			-	0	-	-	-	-	-	196	432 *	sichta	236 scope add-back	
Job: 5301 - Data Acquisition-SICHTA		-	-	-			-	0	-	-	-	-	-	165	179 *	sichta	14 scope add-back	
Job: 5401 - Facility Timing &		-	-	-			-	0	-	-	-	-	-	205	376 *	sichta	171 scope add-back	
Job: 5501 - Real Time Control		-	-	-			-	0	-	-	-	-	-	129	349 *	sichta	220 scope add-back	
Job: 5601 - Central Safety &Interlock Sys-SICHTA		-	-	-			-	0	-	-	-	-	-	222	387 *	sichta	165 scope add-back	
Job: 5801 - Central I&C Integr& Oversight-SICHTA		12	11	-	0.92		(1)	11	2	2	-	(0)	2	69	69 *	sichta	- scope add-back	
Job: 8501 - Integrated Systems Testing-GENTILE		-	-	-			-	0	-	-	-	-	-	765	765	no update	-	
Total Al vonHalle		(89)	(91)	(105)	1.03	0.87	(2)	14	3	4	-	1	4	4,326	5,358		1,032	1,313
Project stretch-out cost WBS 19,18,82,89)(@\$202k /mo.) =														1,313		1,313		
Overhead rate reductions =														(780)		(780)		
Total project (May 1 through completion)	9,812	9,013	8,247	0.92	1.09	(799)	766	1,169	1,039	1,087	(130)	(47)	50,853	61,019		10,166	10,166	
Contingency =													14,380					
Cost through April 30,2007=													67,178					
TOTAL TEC =													132,411					
EAC Growth =													6,102					
Scope Add backs=													4,064					
Contingency on scope add-backs=													1,626		5,690	10,166		
Projected new baseline =													144,203	11,791				

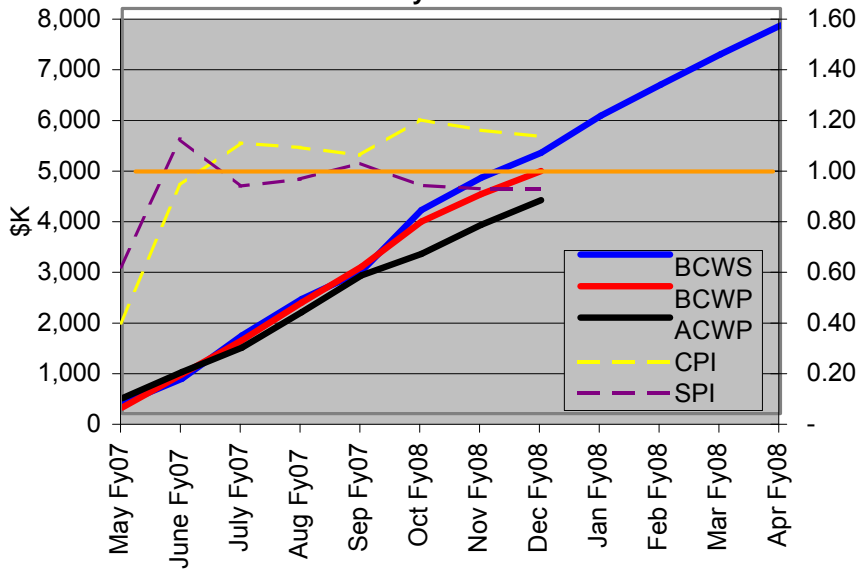
Total Project



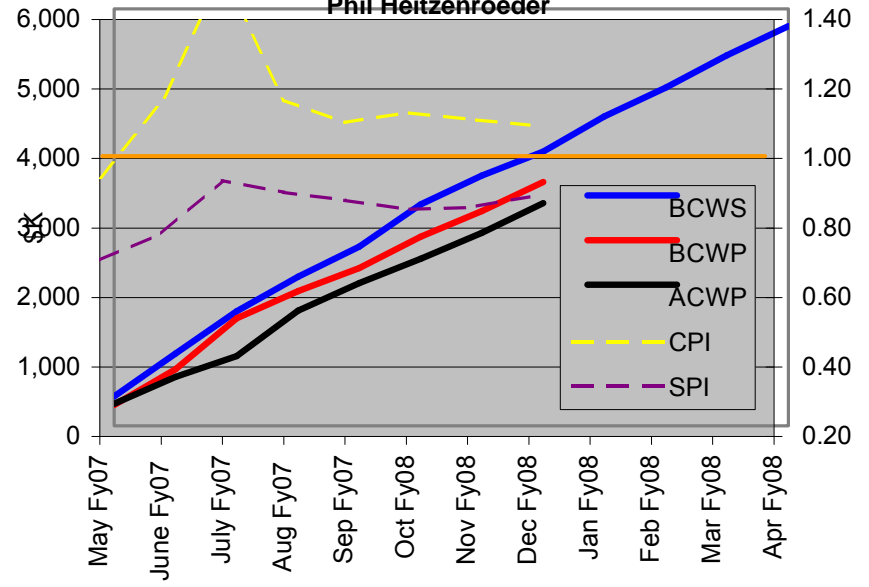
**Project Management and Oversight
Jim Anderson**



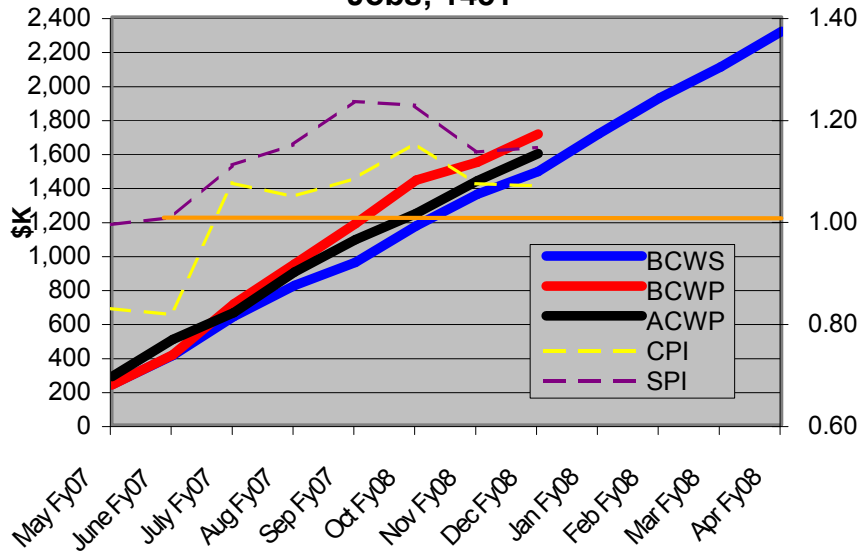
**Construction
Larry Dudek**



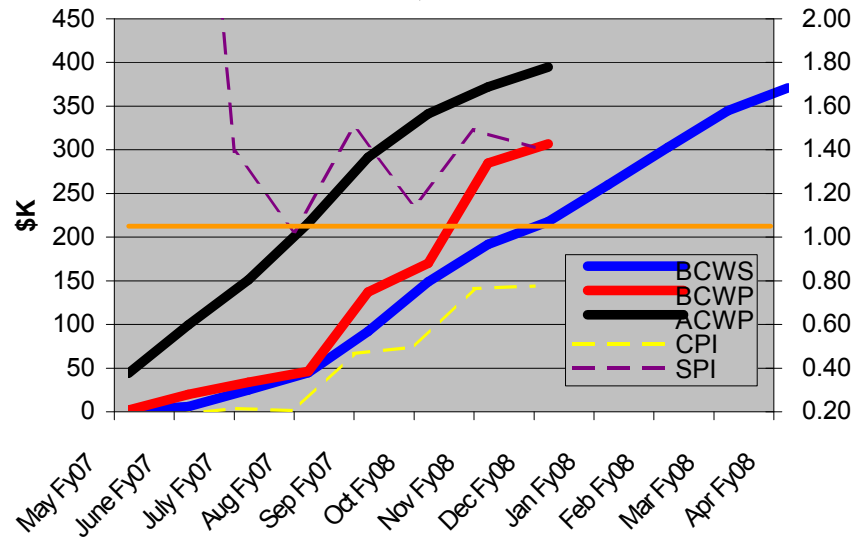
**Stellarator Design and Procurement
Phil Heitzenroeder**



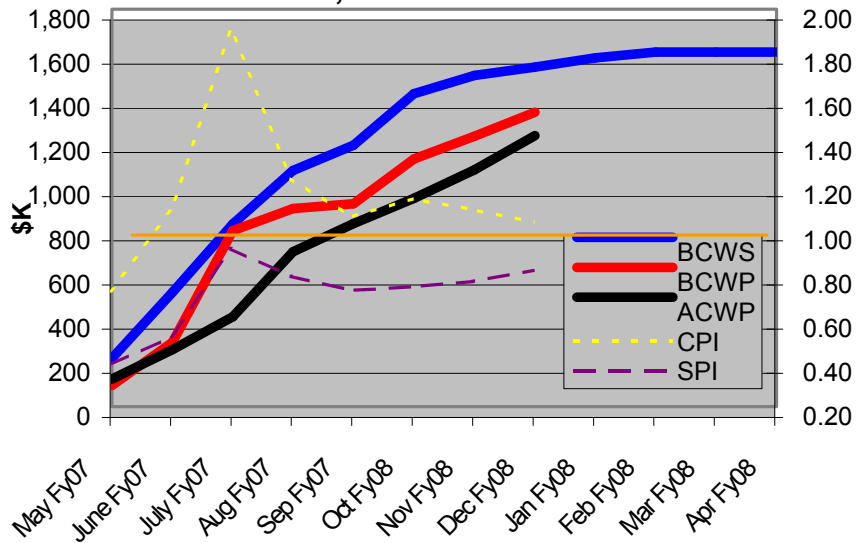
Mod Coil Winding Ops
Jobs; 1451



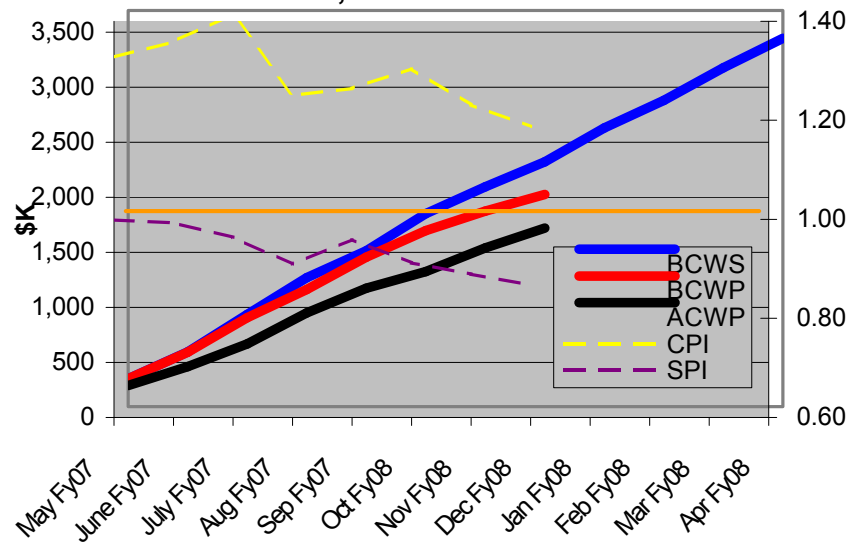
Mod Coil Punch List
Jobs; 1459



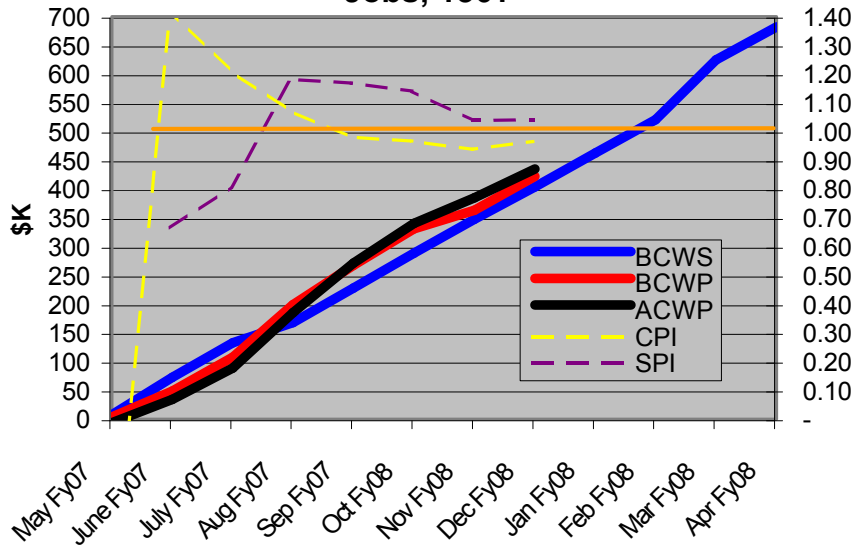
Mod Coil Design
Jobs; 1416/1421/1429



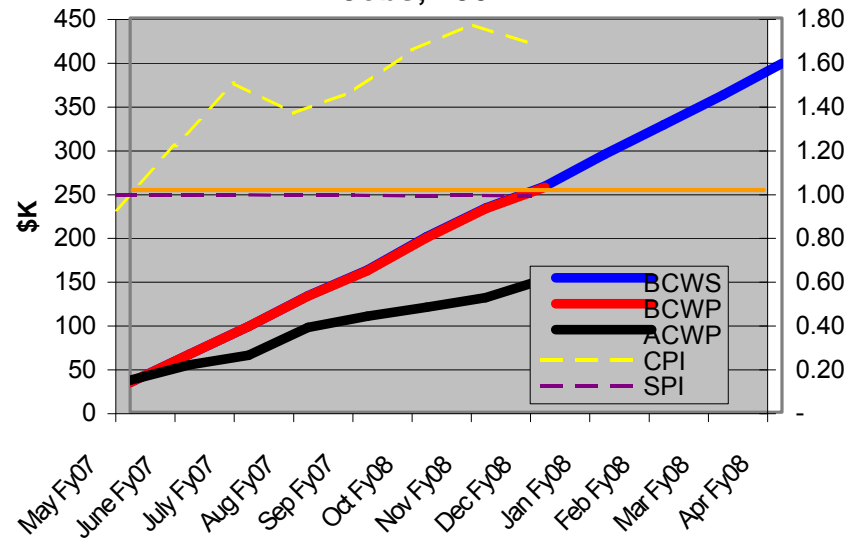
Field Period Assy
Jobs; 1802/1810/1815



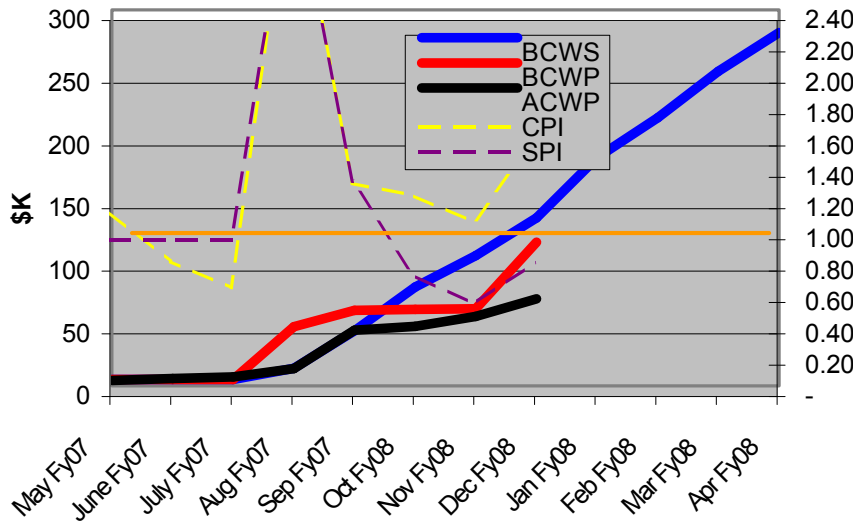
**TF Fabrication
Jobs; 1361**



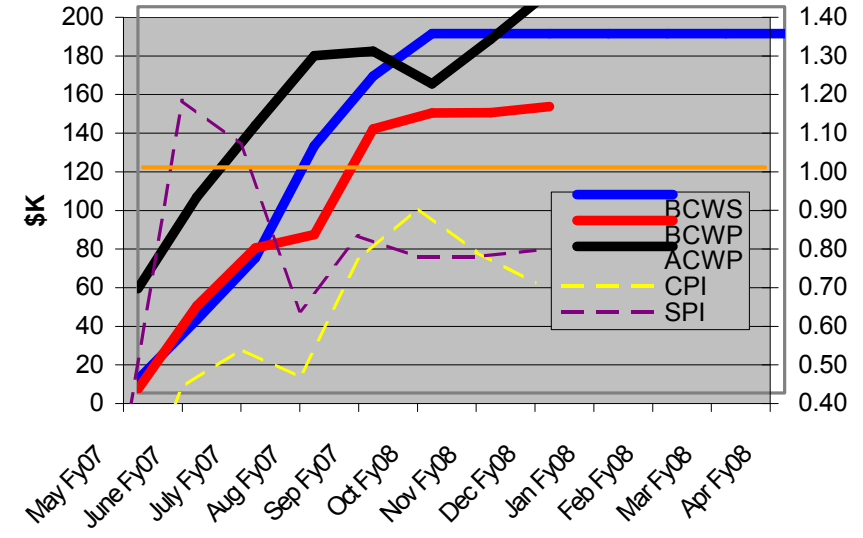
**Stellarator Core Mngtt&Integr
Jobs; 1901**



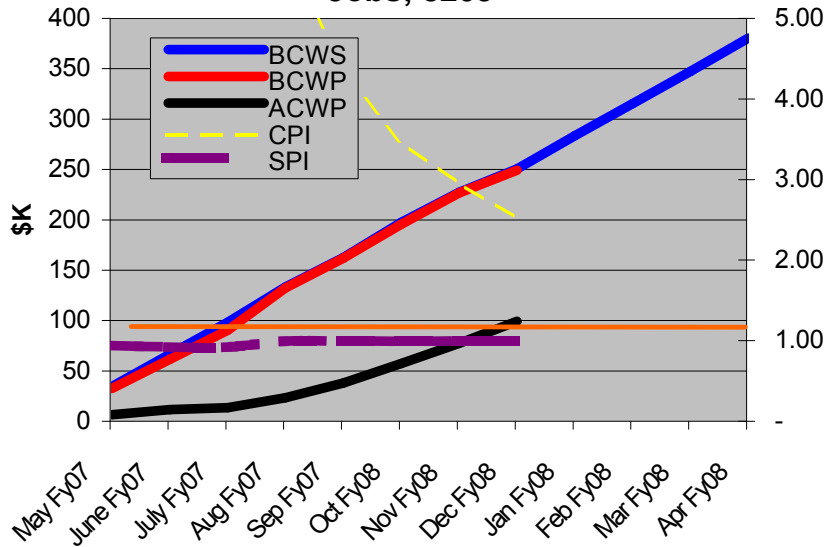
**PF Coil Design/procurement
Jobs; 1302/1352**



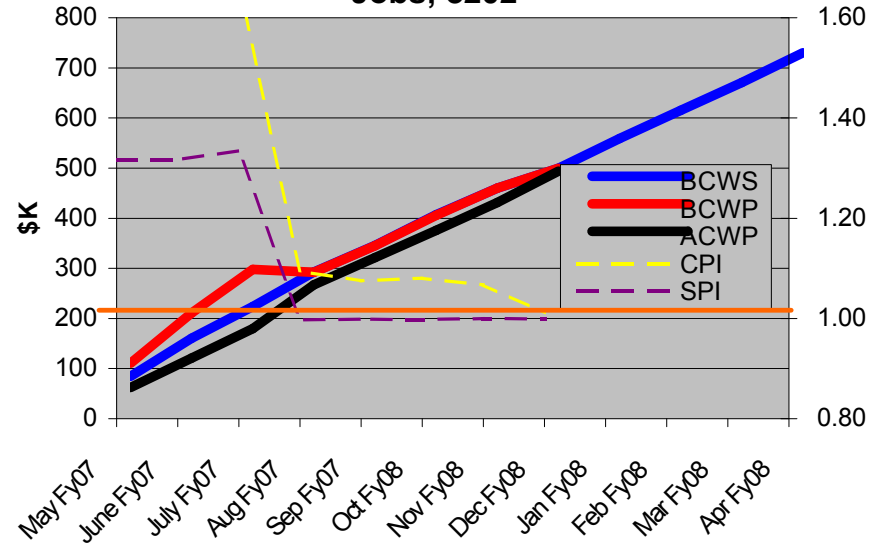
**Coil Structure Dsn/Proc
Jobs; 1501/1550**



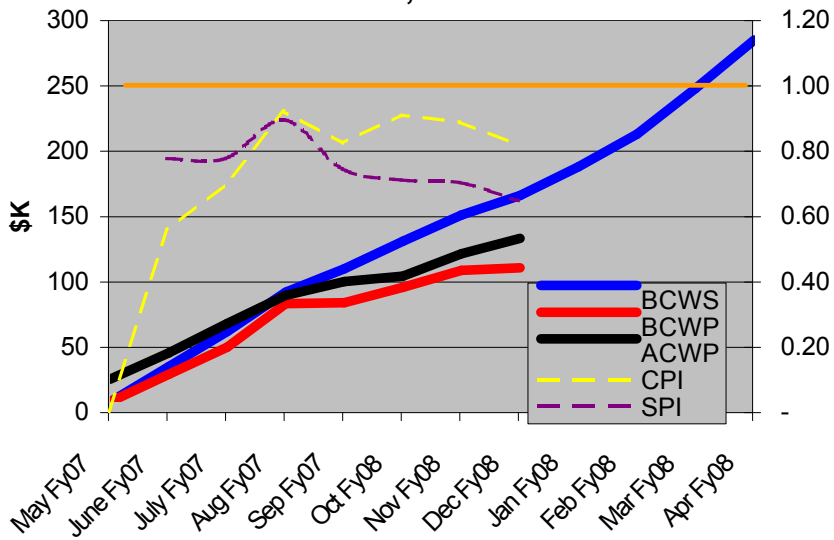
**Design Integration
Jobs; 8203**



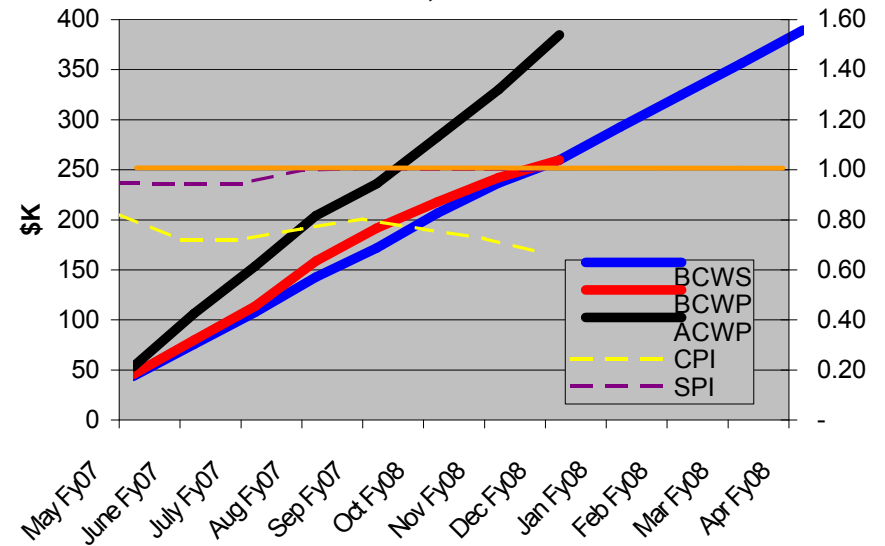
**Engr Mgmt & Sys Eng Support
Jobs; 8202**



**Dimensional Control Coordin
Jobs; 8205**



**Systems Analysis
Jobs; 8204**



Cost	period ending	MAY fy07	JUN fy07	JUL fy07	AUG fy07	SEP fy07	OCT fy08	NOV fy08	DEC fy08
Baseline		14,380	14,380	14,380	14,380	14,380	14,380	14,380	14,380
ECP drawdown		-	-	-	-	-	-	-	-
	(ECP Number)	none	none	none	none	none	none	none	
EAC (overrun/underrun)		-	-	-	-	(531)	(43)	(1,277)	(4,789)
Cost Variance (overrun/underrun)		(209)	49	672	452	278	901	854	incl above
Schedule Slip (@\$202k/mo.)		-	-	-	(221)	(548)	(375)	(505)	(1,313)
FREE BALANCE (\$K)		14,171	14,429	15,052	14,611	13,579	14,863	13,452	8,278
ETC		50,433	49,162	47,668	46,424	46,655	45,123	45,400	48,708
FREE BALANCE (% of ETC)		28.1%	29.4%	31.6%	31.5%	29.1%	32.9%	29.6%	17.0%
Target Drawdown Rate (%)		28.3%	28.3%	28.3%	28.3%	28.3%	28.3%	28.3%	28.3%
BCWR		50004	48796	47244	45880	44747	42784	41635	40752
BCWS		621	1208	1552	1364	1133	1963	1149	883
Target Contingency Freebalance (\$K)		14,151	13,809	13,370	12,984	12,663	12,108	11,783	11,533
Schedule									
Baseline		11	11	11	11	11	11	11	11
ECP Schedule Drawdown		0	0	0	0	0	0	0	0
Critical path Schedule Slip (months)		0	0	0	-1.1	-2.7	-1.857	-2.5	-6.5
FREE BALANCE (months)		11.0	11.0	11.0	9.9	8.3	9.1	8.5	4.5
Target (months)		10.80	10.61	10.41	10.21	10.02	9.82	9.63	9.43

