

NCSX Project Team Meeting: Aug 20, 2008



- Safety Minute
- July Cost Performance Report
- Publication Plan
- 3-Week Look Ahead



	A	B	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	NCSX Closeout Scope																
2	Cost Performance Through July 2008																
4	WBS	Job	Job Title	Job Manager	BCWS	BCWP	ACWP	SPI	CPI	BUDGET (ETC (\$K) from 6/1/08)	ETC (or BCWR)	EAC (=ACWP +(ETC or BCWR))	over / (under)	June Costs (\$K)	July Costs (\$K)	Remaining Budget (\$K)	Variance Analysis
5	12 - Vac Vsl Sys	1204	VV System	Viola	-	-	4	-	-	0	-	4	4.2	4	-	(4)	
6	13 - Conventional Coils	1352	PF Coil Procurements	Chrzanowski	93	93	98	1.00	0.95	93	-	98	4.6	0	98	(5)	
7		1354	Trim Coil Design & Procurement	Kalish	24	22	22	0.92	0.99	24	2	24	0.2	22	1	2	
8		1361	TF Coil Fabrication	Kalish/Meigha	87	71	86	0.82	0.83	245	174	260	15.0	41	45	159	
9	14 - Modular Coils	1408	Modular Coil Winding Supplies	Chrzanowski	21	11	7	0.52	1.45	21	10	18	(3.3)	1	7	13	
10		1416	Modular Coil Type A&B Design	Cole	37	27	6	0.72	4.46	37	11	17	(20.8)	6	0.4	31	
11		1421	Modular Coil Interface Design	Cole	50	47	36	0.95	1.34	50	2	38	(11.9)	(7)	43	14	
12		1429	Mod Coil Interface R&D	Gettelfinger?	-	0	1	-	0.00	0	-	1	1.2	1	-	(1)	
13		1431	Modular Coil Interface Hardware	Dudek	97	97	92	1.00	1.05	97	-	92	(4.9)	92	-	5	
14		1451	Modular Coil Winding Operations	Chrzanowski	210	185	178	0.88	1.04	280	95	274	(6.3)	100	79	102	
15		1459	Modular Coil Fabrication Punch List Items	Chrzanowski	45	28	30	0.61	0.91	68	40	70	2.6	17	14	37	
16	15 - Coil Support Structures	1501	Coil Structures Design	Dahlgren	74	45	152	0.61	0.30	74	29	181	107.3	68	84	(78)	Re-iterated design based on Trim Coil design & Cryostat Concep. Fault modes & structural models developed which were not planned.
17	16 - Coil Services	1601	LN2 Distribution System	Goranson	30	30	61	1.00	0.50	30	-	61	30.6	24	39	(31)	
18		1701	Cryostat	Raftopoulos	-	0	16	-	0.00	0	-	16	16.2	16	-	(16)	
19	17 - Cryost&Base Sprt Struct	1702	Base Support Structure Design	Dahlgren	12	12	19	1.00	0.63	12	-	19	7.0	38	(19)	(7)	
20	18 - Field Period Assembly	1802	FPA Oversight & Support	Viola	163	189	113	1.16	1.68	355	167	279	(76.2)	68	45	243	
21		1803/05	FPA Tooling Design & Constructability and Procurements	Brown	99	107	144	1.08	0.75	114	7	151	36.5	111	33	(30)	
22		1806	FPA Specifications & Drawings	Cole	6	6	15	1.00	0.41	6	-	15	8.5	8	8	(9)	
23		1810	FPA Operations - Stations 1, 2 & 3	Viola	473	493	580	1.04	0.85	812	319	899	86.5	353	227	232	
24	19 - Stell Core Mgmt&Integr	1901	Stellarator Core Mgmt & Integr	Cole	67	57	58	0.85	0.99	127	71	128	0.8	8	52	70	
25	3 - Diagnostic Systems	3101	Magnetic Diagnostic Systems	Stratton	28	28	41	0.99	0.68	28	-	41	13.1	32	9	(13)	
26		3901	Diagnostics System Integration	Stratton	-	0	8	-	0.00	0	-	8	7.7	2	8	(8)	
27	4 - Power Sys	4301	DC Systems	Raki	-	0	7	-	0.00	0	-	7	7.0	0	7	(7)	
28		4401	Control & Protection	Raki	-	0	4	-	0.00	0	-	4	4.1	0	4	(4)	
29	5 - I&C	5801	Central I&C Integration	Reiersen	-	0	2	-	0.00	0	-	2	2.2	2	-	(2)	
30	6 - Facility Systems	6201	Cryogenic systems	Raftopoulos	-	0	44	-	0.00	0	-	44	43.7	32	12	(44)	
31	7 - Test Cell Preparation and Machine Assy	7401	TC Prep 7 Mach Assy Planning	Perry	-	0	3	-	0.00	0	-	3	2.7	3	0	(3)	
32	81 - Project Mgmt & Integr	8101	Project Management @ PPPL	Rej	173	179	171	1.04	1.05	633	454	624	(8.9)	93	77	463	
33		8102	Project Management @ ORNL	Harris	52	27	21	0.53	1.30	137	109	130	(6.2)	9	12	116	
34		8998	PPPL Direct Allocations	Strykowski	73	73	55	1.00	1.31	202	129	185	(17.3)	28	29	146	
35	82 - Project Engineering	8202	Engineering Management & Systems Engineering	Heitzenroeder	97	128	70	1.32	1.82	363	235	306	(57.4)	41	30	293	
36		8203	Design Integration	Brown	7	7	26	1.00	0.27	14	7	33	18.8	10	7	(12)	
37		8204	Systems Analysis & Techn Assurance	Brooks	21	21	38	1.00	0.56	42	21	59	16.5	20	9	4	ACWP adjusted for charging error
38		8205	Dimensional Control Coordination	Ellis	19	22	15	1.15	1.46	34	12	27	(7.0)	9	8	19	
39		8210	Proj Rebaseline Estimate	Reiersen	-	0	8	-	0.00	0	-	8	7.7	1	7	(8)	
40		8220	Equipment Disposition & Facility Restoration	Perry	89	93	28	1.04	3.36	530	438	465	(65.0)	4	24	503	
41		8221	Documentation for Closeout	Heitzenroeder	307	174	85	0.57	2.04	1,134	960	1,045	(88.4)	38	49	1,048	
42		8222	Prepare manuscripts for peer-reviewed archi	Neilson	-	0	2	-	0.27	300	300	301	1.1	2	299		
43		8501	Integrated Test Documentation	Gentile	-	0	1	-	0.00	0	-	1	0.7	1	0	(1)	
45			Subtotal =		2,453	2,272	2,345	0.93	0.97	5,861	3,589	5,934	72.8	1,306	1,039	3,517	
46			Contingency =							1,172							
47			Total =							7,033							

NCSX Publication Plan

“Title” or Topic	Venue or Journal / Date	Lead Author	Outline or Abstract Date	First Draft Date
I. Commitments				
“Progress in NCSX Construction”	SOFT-25 8/8/08	Dudek		7/28/08
“Engineering Accomplishments in the Construction of NCSX”	TOFE-18 9/28/08	Neilson	7/23/08	8/29/08
“Design and Construction Solutions in the Accurate Realization of NCSX Magnetic Fields”	IAEA FEC-22 10/12/08	Heitzenroeder		
Physics Design Overview		Zarnstorff		
Dimensional Control for Assembly		Ellis		Jan./Feb '09
Machine Assembly Engineering Advances		Viola		
Modular Coil Interface Design Basis (Analysis & Test Results)		Freudenberg		
Global analysis of the NCSX Structural System	SOFE-09	Fan	9/30/08	
NCSX Rogowski coils	SOFE-09	Labik		
Tooling for Limited-Access Assembly	SOFE-09	Fogarty		
Cost and schedule lessons learned and opportunities for improvement	SOFE-09	Neilson, Strykowski, Heitzenroeder		
II. Ideas				
Modular Coil Fabrication Summary		Chrzanowski		
Conventional coils and support structures		Kalish, Dahlgren, Chrzanowski		

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Metrology Advances Summary (<i>results, comparisons and applicability of arms, laser, PG?</i>)		Raftopoulos, Priniski, Dodson		
Low-Distortion Welded Joints		Viola, England		
Application of High-Performance Aerogel/Nanogel Insulating Materials (Analysis & Test Results)		Goranson		
Compact bolted fasteners with insulation and friction-enhanced shims		Dudek		
Strategies for achieving tolerance goals: trim coils, realignment to recover tolerances		Brooks		
System Engineering	AICHE Conf., Nov., 2008 ?	Simmons		
Configuration & Data Management	ACDM Conf., April, 2009 ?	Simmons		

Conferences

1. 25th Symposium on Fusion Technology (SOFT), Rostock, Germany, Sept. 15-19, 2008. (Publish in Fusion Engineering & Design)
2. 18th Technology of Fusion Energy (TOFE), San Francisco, Sept. 29- Oct. 2, 2008 (Publish in Fusion Science & Technology)
3. 22nd IAEA Fusion Energy Conference, Geneva, Switzerland, October 13-18, 2008 (Publish in Nuclear Fusion)
4. 18th International Toki Conference (ITC-18), Toki, Japan, Dec. 9-12, 2008
5. 23rd Symposium on Fusion Engineering (SOFE-23), San Diego, CA, May 31- June 5, 2009. (Publish in IEEE Trans. Plasma Science)
6. ASME Design Engineering Division, 2009?