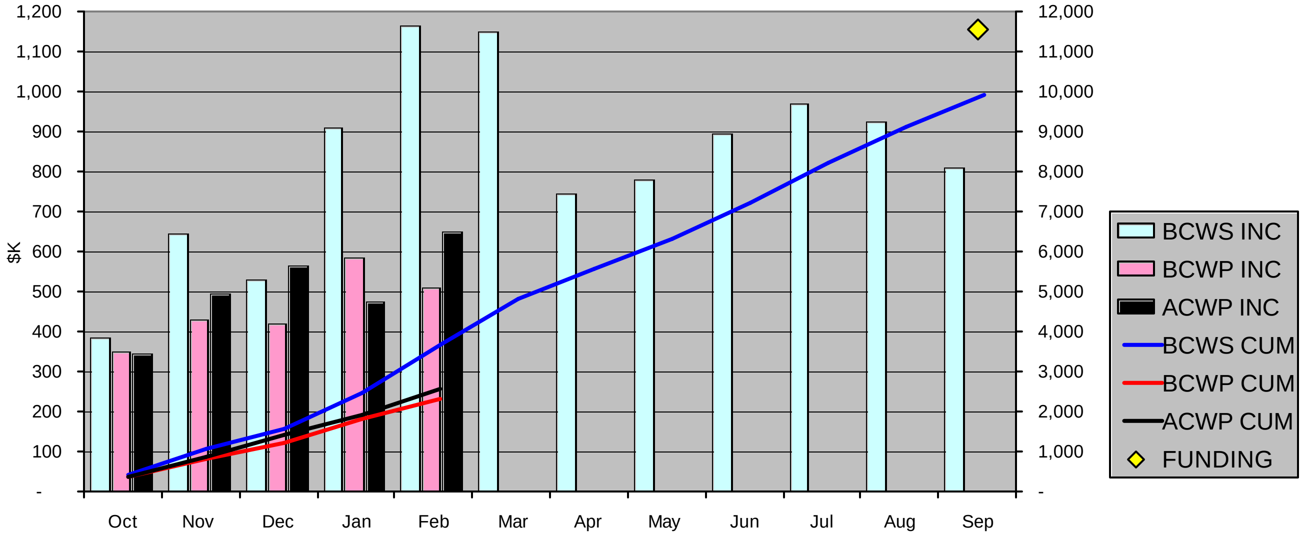
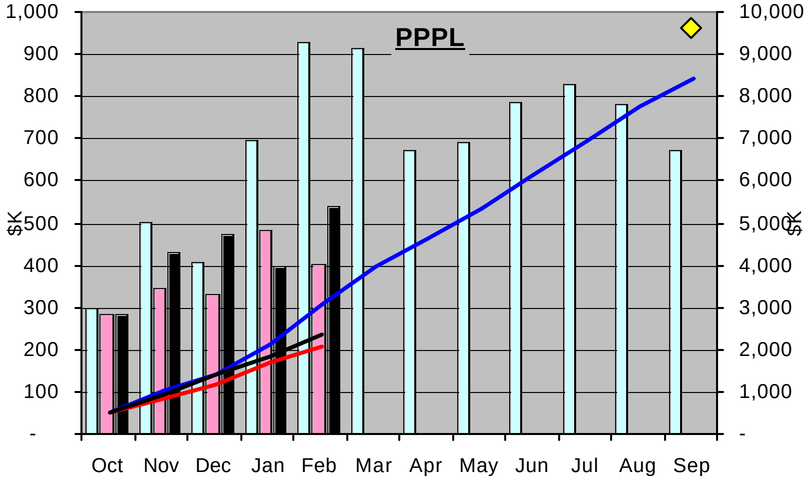
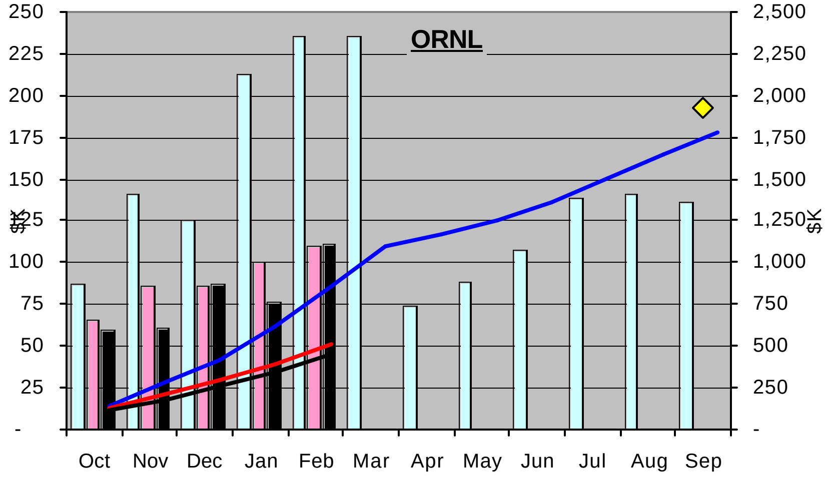
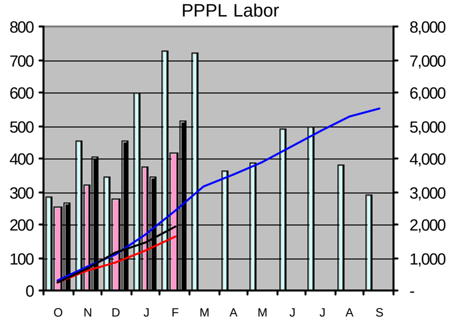
NCSX PPPL/ORNL MIE
FY 2003 Cost Performance



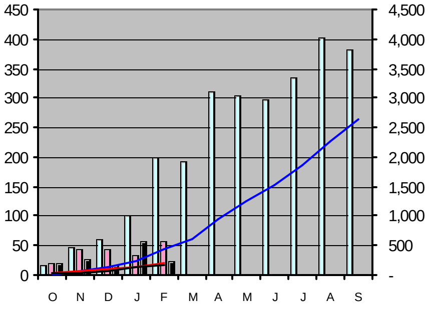




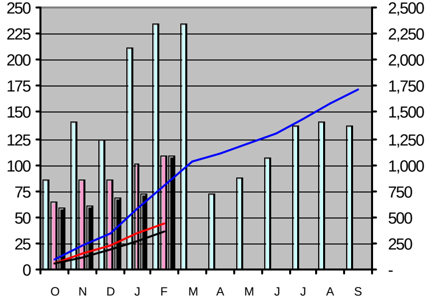
PPPL Labor



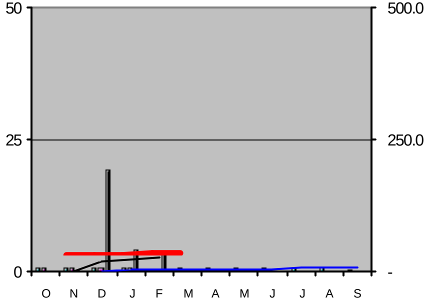
PPPL NON-Labor



ORNL Labor



ORNL NON-Labor



PrincetonUniversity Plasma Physics Laboratory

PPPL COST PERFORMANCE REPORT WORKBREAKDOWN STRUCTURE

NCSX

******* Fiscal Year 03 only *******

FEBRUARY FY03

		CURRENT PERIOD			CUMULATIVE TO DATE							FY03		
		Budgeted Cost			Budgeted Cost			VARIANCES				Budget		
		BCWS	BCWP	ACWP	BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI	Baseline	Forecast	Vari
PPPL and ORNL		$K			$K							$K	$K	
Advanced Conceptual Design														
1 - Stellarator Core Systems		885	320	403	2,417	1,415	1,498	-1,001	.59	-83	.94	7,061	7,462	-401
11	In-Vessel Components	6			8	0		-8	.05	0		18	22	-4
	1101 - Limiter Advanced Concep Design	6			8	0		-8	.05	0		18	22	-4
	1102 - Limiter Prelim & Final Design													
12	Vacuum Vessel Systems	168	22	58	400	129	148	-271	.32	-19	.87	1,106	1,714	-608
	1201 - Vacuum Vessel Dsn	104	21	37	284	85	115	-198	.30	-30	.74	378	269	109
	1202 - Vacuum Vessel R&D	65	1	21	116	44	33	-72	.38	11	1.32	625	1,324	-699
	1203 - Vacuum Vessel Final Dsn											102	121	-19
13	Conventional Coils	47	0	3	68	7	17	-61	.10	-10	.41	432	419	13
	1301 - Convential Coils Design	47	0	3	68	7	17	-61	.10	-10	.41	432	419	13
14	Modular Coils	539	247	292	1,583	1,136	1,144	-447	.72	-8	.99	4,353	4,058	295
	1401 - Mod. Coil Design (casting&winding)	78	46	24	249	118	121	-131	.47	-3	.98	364	326	38
	1402 - Mod.Coil Analyses	53	2	26	151	102	139	-49	.68	-37	.74	201	264	-63
	1403 - Mod. Coil Final Design											358	300	58
	1404 - Mod. Coil Winding Form R&D	61		7	127	44	105	-83	.35	-60	.42	1,751	1,643	108
	1405 - Mod. Coil Winding R&D Prep	85	36	120	422	430	403	8	1.02	27	1.07	530	585	-55
	1406 - Mod. Coil Winding R&D	163	94	38	373	235	216	-139	.63	18	1.08	618	720	-102
	1407 - Mod. Coil Winding Facility	98	69	77	261	207	160	-54	.79	47	1.29	531	220	311
	1408 -Mod. Coil Prototype Coil Winding												0	0
15	1501 - Structures Design	21	0		41	13	18	-28	.32	-5	.71	283	283	0
16	1601 - Coil Services Design	11			23			-23				89	89	0
17	1701 - Cryostat & Base Support Struct Dsn	23			49		1	-49		-1		141	141	0
18	1801 - Field Period Assembly Design	4		3	16		4	-16		-4		93	103	-10
19	1901 - Stellarator Core Management&Integr	65	52	47	228	130	165	-99	.57	-36	.78	547	633	-86
2 - Plasma Heating, Fueling & Vac Systems		29	18	34	110	27	64	-84	.24	-38	.42	288	288	0
	2001 - VPS,Gas & Cond sys Design/Oversig	5	8	1	11	8	2	-3	.75	6	3.89	22	22	0
	2501 - Neutral Beam Refurbishment	24	10	33	100	19	62	-81	.19	-44	.30	266	266	0
3 - Diagnostics		31	10	18	133	49	99	-84	.37	-50	.50	225	227	-2
39	3901 - Diagnostics systems Integration	31	10	18	133	49	99	-84	.37	-50	.50	225	227	-2
4 - Electrical Power Systems		56	5	6	95	7	7	-88	.07	0	.93	257	256	1
43	4301 - Electrical Dsn DC SystemsWBS 432&	30	4	3	51	5	5	-46	.11	1	1.13	125	125	0
44	4401 - Electrical Dsn Control & Protection	4			4			-4				23	23	0
45	4501 - Electr System Design & Integration	7	1	2	25	1	2	-23	.05	-1	.54	66	66	0
46	4601 - FCPC Bldg Modifications	15			15			-15				42	42	0
5 - Central I&C Systems		2			8			-8				24	24	0
58	5801 - Central I&C Integration & Oversight	2			8			-8				24	24	0
6 - Facility Systems		9	6	3	31	19	11	-11	.63	9	1.81	66	66	0
65	6501 - Facility Systems Integration	9	6	3	31	19	11	-11	.63	9	1.81	66	66	0
7 - Test Cell Preparation and Machine Assy		5	5	3	20	20	12	0	1.00	8	1.65	109	80	29
71	7101 - Shield Wall Modifications Design											51	51	0
74	7401 - TC Prep & Mach Assy Plan&Oversigh	5	5	3	20	20	12	0	1.00	8	1.65	58	29	30
8 - Project Oversight and Support		147	146	185	821	758	841	-63	.92	-83	.90	1,882	2,054	-171
81	Project Management and Control	64	64	62	321	321	324	0	1.00	-3	.99	800	763	37
	8101 - Project Management and Control	47	46	47	231	231	227	0	1.00	5	1.02	579	556	23
	8102 - NCSX MIE Management ORNL	8	8	7	46	46	55	0	1.00	-9	.83	109	104	5
	8998 - Allocations	9	9	8	44	44	43	0	1.00	2	1.04	111	103	8
82	Project Engineering	54	54	79	355	292	340	-63	.82	-48	.86	732	816	-83
	8202 - Engineering Mgmt & Sys Engr Suppo	30	23	54	223	188	241	-35	.84	-54	.78	445	579	-134
	8203 - Design Integration	14	13	21	67	67	77	0	1.00	-10	.87	168	185	-16
	8204 - Systems Analysis	11	18	4	65	37	21	-28	.57	16	1.74	119	52	67
84	Project Physics	28	28	44	145	145	177	0	1.00	-33	.82	350	475	-125
	8401 - Project Physcis	20	20	25	100	100	157	0	1.00	-56	.64	251	376	-125
	8402 - Project Physics MIE ORNL	8	8	19	44	44	20	0	1.00	24	2.16	99	99	0
Subtotal		**1,164**	**511**	**651**	**3,634**	**2,295**	**2,533**	**-1,339**	**.63**	**-237**	**.91**	**9,912**	**10,456**	**-545**
Contingency														
Management Reserve												1,635	1,091	545
TOTAL PPPL/ORNL												**11,547**	**11,547**	
Funding														
Financial Plan BA												10,828	10,828	
FY02 Carryover												445	445	
Rate Adjustment setaside												274	274	
ERWM Allocation Increment]														
TOTAL PPPL/ORNL FUNDING												**11,547**	**11,547**	

PrincetonUniversity Plasma Physics Laboratory
PPPL COST PERFORMANCE REPORT WORKBREAKDOWN STRUCTURE
NCSX
**** *Fiscal Year 03 only* ****
FEBRUARY FY03

	CURRENT PERIOD			CUMULATIVE TO DATE							FY03		
	Budgeted Cost			Budgeted Cost			VARIANCES				Budget		
	BCWS	BCWP	ACWP	BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI	Baseline	Forecast	Vari
PPPL													
Advanced Conceptual Design													
1 - Stellarator Core Systems	666	227	318	1,705	1,056	1,176	-649	.62	-120	.90	5,545	6,163	-618
11 In-Vessel Components													
1101 - Limiter Advanced Concep Design													
1102 - Limiter Prelim & Final Design													
12 Vacuum Vessel Systems	81	2	26	114	14	65	-101	.12	-51	.21	635	1,407	-772
1201 - Vacuum Vessel Dsn	18	1	5	40	4	32	-36	.09	-28	.12	55	58	-3
1202 - Vacuum Vessel R&D	62	1	21	75	10	33	-64	.14	-23	.31	565	1,324	-759
1203 - Vacuum Vessel Final Dsn											15	25	-10
13 Conventional Coils	47	0	3	68	7	17	-61	.10	-10	.41	419	419	0
1301 - Convential Coils Design	47	0	3	68	7	17	-61	.10	-10	.41	419	419	0
14 Modular Coils	453	201	269	1,298	998	1,005	-300	.77	-7	.99	3,664	3,492	172
1401 - Mod. Coil Design (casting&winding)	3		0	7		11	-7		-11		7	11	-4
1402 - Mod.Coil Analyses	44	2	26	132	102	139	-29	.78	-37	.74	175	264	-89
1403 - Mod. Coil Final Design											110	92	18
1404 - Mod. Coil Winding Form R&D	59		7	104	24	75	-79	.23	-51	.32	1,694	1,600	94
1405 - Mod. Coil Winding R&D Prep	85	36	120	422	430	403	8	1.02	27	1.07	530	585	-55
1406 - Mod. Coil Winding R&D	163	94	38	373	235	216	-139	.63	18	1.08	618	720	-102
1407 - Mod. Coil Winding Facility	98	69	77	261	207	160	-54	.79	47	1.29	531	220	311
1408 -Mod. Coil Prototype Coil Winding												0	0
15 1501 - Structures Design	21	0		41	13	18	-28	.32	-5	.71	270	270	0
16 1601 - Coil Services Design	11			23			-23				89	89	0
17 1701 - Cryostat & Base Support Struct Dsn	23			49		1	-49		-1		141	141	0
18 1801 - Field Period Assembly Design	4		3	16		4	-16		-4		93	103	-10
19 1901 - Stellarator Core Management&Integr	26	24	17	96	24	66	-72	.25	-41	.37	235	242	-7
2 - Plasma Heating, Fueling & Vac Systems	29	18	34	110	27	64	-84	.24	-38	.42	288	288	0
2001 - VPS,Gas & Cond sys Design/Oversig	5	8	1	11	8	2	-3	.75	6	3.89	22	22	0
2501 - Neutral Beam Refurbishment	24	10	33	100	19	62	-81	.19	-44	.30	266	266	0
3 - Diagnostics	31	10	18	133	49	99	-84	.37	-50	.50	225	227	-2
39 3901 - Diagnostics systems Integration	31	10	18	133	49	99	-84	.37	-50	.50	225	227	-2
4 - Electrical Power Systems	56	5	6	95	7	7	-88	.07	0	.93	257	256	1
43 4301 - Electrical Dsn DC SystemsWBS 432&	30	4	3	51	5	5	-46	.11	1	1.13	125	125	0
44 4401 - Electrical Dsn Control & Protection	4			4			-4				23	23	0
45 4501 - Electr System Design & Integration	7	1	2	25	1	2	-23	.05	-1	.54	66	66	0
46 4601 - FCPC Bldg Modifications	15			15			-15				42	42	0
5 - Central I&C Systems	2			8			-8				24	24	0
58 5801 - Central I&C Integration & Oversight	2			8			-8				24	24	0
6 - Facility Systems	9	6	3	31	19	11	-11	.63	9	1.81	66	66	0
65 6501 - Facility Systems Integration	9	6	3	31	19	11	-11	.63	9	1.81	66	66	0
7 - Test Cell Preparation and Machine Assy	5	5	3	20	20	12	0	1.00	8	1.65	109	80	29
71 7101 - Shield Wall Modifications Design											51	51	0
74 7401 - TC Prep & Mach Assy Plan&Oversigh	5	5	3	20	20	12	0	1.00	8	1.65	58	29	30
8 - Project Oversight and Support	130	130	158	731	668	766	-63	.91	-98	.87	1,674	1,851	-177
81 Project Management and Control	56	55	55	276	276	269	0	1.00	6	1.02	691	659	32
8101 - Project Management and Control	47	46	47	231	231	227	0	1.00	5	1.02	579	556	23
8102 - NCSX MIE Management ORNL													
8998 - Allocations	9	9	8	44	44	43	0	1.00	2	1.04	111	103	8
82 Project Engineering	54	54	79	355	292	340	-63	.82	-48	.86	732	816	-83
8202 - Engineering Mgmt & Sys Engr Suppc	30	23	54	223	188	241	-35	.84	-54	.78	445	579	-134
8203 - Design Integration	14	13	21	67	67	77	0	1.00	-10	.87	168	185	-16
8204 - Systems Analysis	11	18	4	65	37	21	-28	.57	16	1.74	119	52	67
84 Project Physics	20	20	25	100	100	157	0	1.00	-56	.64	251	376	-125
8401 - Project Physcis	20	20	25	100	100	157	0	1.00	-56	.64	251	376	-125
8402 - Project Physics MIE ORNL													
Subtotal	928	401	540	2,833	1,846	2,135	-986	.65	-289	.86	8,187	8,955	-767
Management Reserve											1,439	671	767
TOTAL PPPL											9,626	9,626	
Funding													
Financial Plan BA											8,907	8,907	
FY02 Carryover											+ 445	+ 445	
Rate Adjustment setaside											+ 274	+ 274	
TOTAL PPPL FUNDING											9,626	9,626	

PrincetonUniversity Plasma Physics Laboratory

PPPL COST PERFORMANCE REPORT WORKBREAKDOWN STRUCTURE

NCSX

****** *Fiscal Year 03 only* ******

FEBRUARY FY03

	CURRENT PERIOD			CUMULATIVE TO DATE							FY03		
	Budgeted Cost			Budgeted Cost			VARIANCES				Budget		
	BCWS	BCWP	ACWP	BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI	Baseline	Forecast	Vari
ORNL													
Advanced Conceptual Design													
1 - Stellarator Core Systems	219	93	85	711	359	322	-352	.50	37	1.11	1,516	1,299	217
11 In-Vessel Components	6			8	0		-8	.05	0		18	22	-4
1101 - Limiter Advanced Concep Design	6			8	0		-8	.05	0		18	22	-4
1102 - Limiter Prelim & Final Design													
12 Vacuum Vessel Systems	88	20	32	286	115	83	-170	.40	32	1.38	471	307	164
1201 - Vacuum Vessel Dsn	86	20	32	244	82	83	-162	.33	-2	.98	323	211	112
1202 - Vacuum Vessel R&D	2	0		42	34		-8	.81	34		61	0	61
1203 - Vacuum Vessel Final Dsn											87	96	-9
13 Conventional Coils											13		13
1301 - Convential Coils Design											13		13
14 Modular Coils	86	46	24	285	138	139	-147	.48	-1	.99	689	566	123
1401 - Mod. Coil Design (casting&winding)	75	46	24	243	118	110	-125	.49	8	1.07	357	315	42
1402 - Mod.Coil Analyses	9			19			-19				26	0	26
1403 - Mod. Coil Final Design											248	208	40
1404 - Mod. Coil Winding Form R&D	2			23	20	29	-3	.86	-9	.69	58	43	15
1405 - Mod. Coil Winding R&D Prep												0	0
1406 - Mod. Coil Winding R&D												0	0
1407 - Mod. Coil Winding Facility												0	0
1408 -Mod. Coil Prototype Coil Winding												0	0
15 1501 - Structures Design											13	13	0
16 1601 - Coil Services Design												0	0
17 1701 - Cryostat & Base Support Struct Dsn												0	0
18 1801 - Field Period Assembly Design												0	0
19 1901 - Stellarator Core Management&Integr	39	28	29	132	105	100	-27	.80	6	1.06	312	391	-79
2 - Plasma Heating, Fueling & Vac Systems													
2001 - VPS,Gas & Cond sys Design/Oversig													
2501 - Neutral Beam Refurbishment													
3 - Diagnostics													
39 3901 - Diagnostics systems Integration													
4 - Electrical Power Systems													
43 4301 - Electrical Dsn DC SystemsWBS 432&													
44 4401 - Electrical Dsn Control & Protection													
45 4501 - Electr System Design & Integration													
46 4601 - FCPC Bldg Modifications													
5 - Central I&C Systems													
58 5801 - Central I&C Integration & Oversight													
6 - Facility Systems													
65 6501 - Facility Systems Integration													
7 - Test Cell Preparation and Machine Assy													
71 7101 - Shield Wall Modifications Design													
74 7401 - TC Prep & Mach Assy Plan&Oversigh													
8 - Project Oversight and Support	17	17	26	90	90	75	0	1.00	14	1.19	208	203	6
81 Project Management and Control	8	8	7	46	46	55	0	1.00	-9	.83	109	104	5
8101 - Project Management and Control													
8102 - NCSX MIE Management ORNL	8	8	7	46	46	55	0	1.00	-9	.83	109	104	5
82 Project Engineering													
8202 - Engineering Mgmt & Sys Engr Suppo													
8203 - Design Integration													
8204 - Systems Analysis													
84 Project Physics	8	8	19	44	44	20	0	1.00	24	2.16	99	99	0
8401 - Project Physcis													
8402 - Project Physics MIE ORNL	8	8	19	44	44	20	0	1.00	24	2.16	99	99	0
Subtotal	236	110	111	801	449	397	-353	.56	52	1.13	1,724	1,502	223
Contingency													
Management Reserve											197	419	-223
TOTAL ORNL											1,921	1,921	
Funding													
Financial Plan BA											1,921	1,921	
TOTAL ORNL FUNDING											1,921	1,921	

NCSX Cost Analysis

PPPL

	Funding BA	Budget (incl carryover & rate adj)	Cost Thru Feb	ETC (1)	EAC	Forecast Cost Variances	Proposed Fin Plan Change Request	Action:
MIE Project								
MIE	6,537	5,412		6,317	6,280			
Management Reserve		1,439			671	+$726 VV R&D contracts (loaded), -$67 MCC R&D contracts, +$83 Proj Engr, +$125 Project Physics,-$139 Winding R&D (PPPL)	None at this time. Funds reasonably balanced.	1) Accelerate $734k Labor Intensive work from FY04 into 03. (This approximates 1 engr, 7 techs, 1 designer) PROPOSAL **a)** Removal of shield blocks in PBX TC (ACTION: ERIK TO ESTIMATE) **b)** electrical engr/dsn (ACTION: RAKI/WAYNE TO ITEMIZE AND PRIORITIZE TASKS) **c)** Spend $30k for materials and fabricate turning fixtures ($250k worth of labor!) ACTION: Hutch/Wayne
ACD	2,370	2,775	2,135	540	2,675			2) Evaluate Project Physics charges between res prep and MIE.
subtotal	**8,907**	**9,626**	**2,135**	**6,857**	**9,626**			
Res Prep	546	526	162	250	412	-$128k Physics		
TOTAL PPPL NCSX	**9,453**	**10,152**	**2,297**	**7,107**	**10,038**			

(1) Based upon MIE project starting April 1st and all R&D work budgeted under MIE

ORNL

	Funding BA	Budget (incl carryover & rate adj)	Cost Thru Feb	ETC (1)	EAC	
MIE Project						
MIE	1,171	974		994	994	
Management Reserve		197			419	-$164k VV engr/design, -$123k MCC engr/design, +$79k WBS 19
ACD	750	750	397	111	508	
subtotal	**1,921**	**1,921**	**397**	**1,105**	**1,921**	
Res Prep	260	260	48	67	115	
TOTAL ORNL NCSX	**2,181**	**2,181**	**445**	**1,172**	**2,036**	

(1) Based upon MIE project starting April 1st and all R&D work budgeted under MIE

TOTAL PROJECT

	Funding BA	Budget (incl carryover & rate adj)	Cost Thru Feb	ETC (1)	EAC
MIE Project					
MIE	7,708	6,386	-	7,311	7,274
Management Reserve	-	1,636	-	-	1,090
ACD	3,120	3,525	2,532	651	3,183
subtotal	10,828	11,547	2,532	7,962	11,547
Res Prep	806	786	210	317	527
TOTAL ORNL NCSX	**11,634**	**12,333**	**2,742**	**8,279**	**12,074**

NCSX March 1st Cost Performance Analysis

Vacuum Vessel Design and vendor R&D program

Job 1201 and 1202	BCWS	BCWP	ACWP	Sched Vari.	SPI	Cost Vari.	CPI
Paul Goranson	400	129	148	-271	0.32	-19	0.87

TASKS

VV design & final geometry forecast 5/9, Thermal analysis 4/10, EM & Stress analysis 4/15, scope sheets mid may and design of bolted joint design 5/30. POTENTIAL PDR IMPACT.

L4-041& L4-042, L4-069, L4-064, L4-054 thru 62, L4-043

VV prototype award now forecast for 3/24/03 (approx 2 months late) which could delay receipt of MIT, cost and schedule plans. Delivery of phase I being negotiated to 6 weeks after award which would mean a May 5th delivery.

121-5-16 thru 5-25

Cost Variance driven by PPPL EA engineering.

Conventional Coils Design

Job 1301	BCWS	BCWP	ACWP	Sched Vari.	SPI	Cost Vari.	CPI
Mike Kalish	68	7	17	-61	0.10	-10	0.41

One month delayed start on General arrngts and models.

130-1-01 & 1-2

Modular Coil Design, analyses and vendor R&D program

Jobs 1401, 1402 and 1404	BCWS	BCWP	ACWP	Sched Vari.	SPI	Cost Vari.	CPI
Dave Williamson	527	264	365	-263	0.50	-101	0.72

Detailed design, models, specs and ICD's forecast by mid April. EM, struct and thermal analysis end April.

140-5-4 , 140-5-12, L4-105 thru 140-2-3, 140-4-1 thru 140-4-3

MCC R&D Vendor awards 3/14/03 and 3/17 (2 months late). With 10 week lead time vendor delivery of cost/schedule mit plans by 5/27/03.

142-1-2A & B

Cost variance driven by PPPL labor in support of MCC procurement efforts and PPPL support of analyses.

Modular coil in-house winding R&D activities

1406, and 1407	BCWS	BCWP	ACWP	Sched Vari.	SPI	Cost Vari.	CPI
Jim Chrzanowski	634	442	376	-192	0.70	66	1.18

Determination of materials properties and allowables only 10% complete. Keystoning task late getting started. 141-2-1.01, 141-2-3

Selection of epoxy resin system forecast 5/24 (2 1/2 mo. late) and completion of keystoning test forecast for 4/11 (1/2 mo. Late). 141-2-1.1

FDR for autoclave forecast 3/31 (2 mo. Late). Autoclave fabrication defered to FY04. No impact to project schedule. 141-3-31

Stellarator Core Structure, Coil Services,Cryostat,and Field Period Assy Design

Jobs 1501,1601,1701, and 1801	BCWS	BCWP	ACWP	Sched Vari.	SPI	Cost Vari.	CPI
Feder, Williamson, Gettlefinger, Chrzaonwski	116	13	23	-103	0.11	-10	0.57

Updating of conceptual design and advanced conceptual design tasks started late. various

Stellarator Core Management & Integration

Job 1901	BCWS	BCWP	ACWP	Sched Vari.	SPI	Cost Vari.	CPI
Brad Nelson	228	130	165	-98	0.57	-35	0.79

Update stellarator core concept dsn 2 mo. behind. Document time constant & reqmnts for insulating breaks 3 mos. behind. Time constant loop voltage transient field error analysis 1 month behind. Stellarator core asasy dsn criteria 5 mo. Late starting

121-1-01, 193-1-1 thru 193-1-5, 192-2-4

Cost Variance driven by PPPL EA engr labor

Neutral Beam Refurbishment

Job 2501	BCWS	BCWP	ACWP	Sched Vari.	SPI	Cost Vari.	CPI
Tim Stevenson	100	19	62	-81	0.19	-43	0.31

Leak detector procurement on hold under continuing resolution (-33k) no impact; inhouse leak detector to be refurbished. 250-0025.5

Late start ramping up on all hardware evaluations and testing. (-48k) various

Diagnostics

Job 3901	BCWS	BCWP	ACWP	Sched Vari.	SPI	Cost Vari.	CPI
Dave Johnson	133	49	99	-84	0.37	-50	0.49

General diagnostic integration, Magnetics integration, SXR Tomography, and Port Orientation issues 1-2 months behind plan.

PPPL researcher charges greater that estimated for work performed.

Electrical systems design and integration

Jobs 4301 and 4501	BCWS	BCWP	ACWP	Sched Vari.	SPI	Cost Vari.	CPI
Raki Ramakrishnan	95	6	7	-89	0.06	-1	0.86

A conceptual study was undertaken for power supplies that may be needed for the Trim Coils along with the possible cable routes. Further work is required after finalizing the number of trim coils and their requirements. No other work was performed.

Project Engineering	BCWS	BCWP	ACWP	Sched Vari.	SPI	Cost Vari.	CPI
Jobs 8202, 8203, and 8204	355	292	340	-63	0.82	-48	0.86
Wayne Reiersen							

Plans and procedures as well as development of technical data behind by 2 months.

1 - Stellarator Core Systems

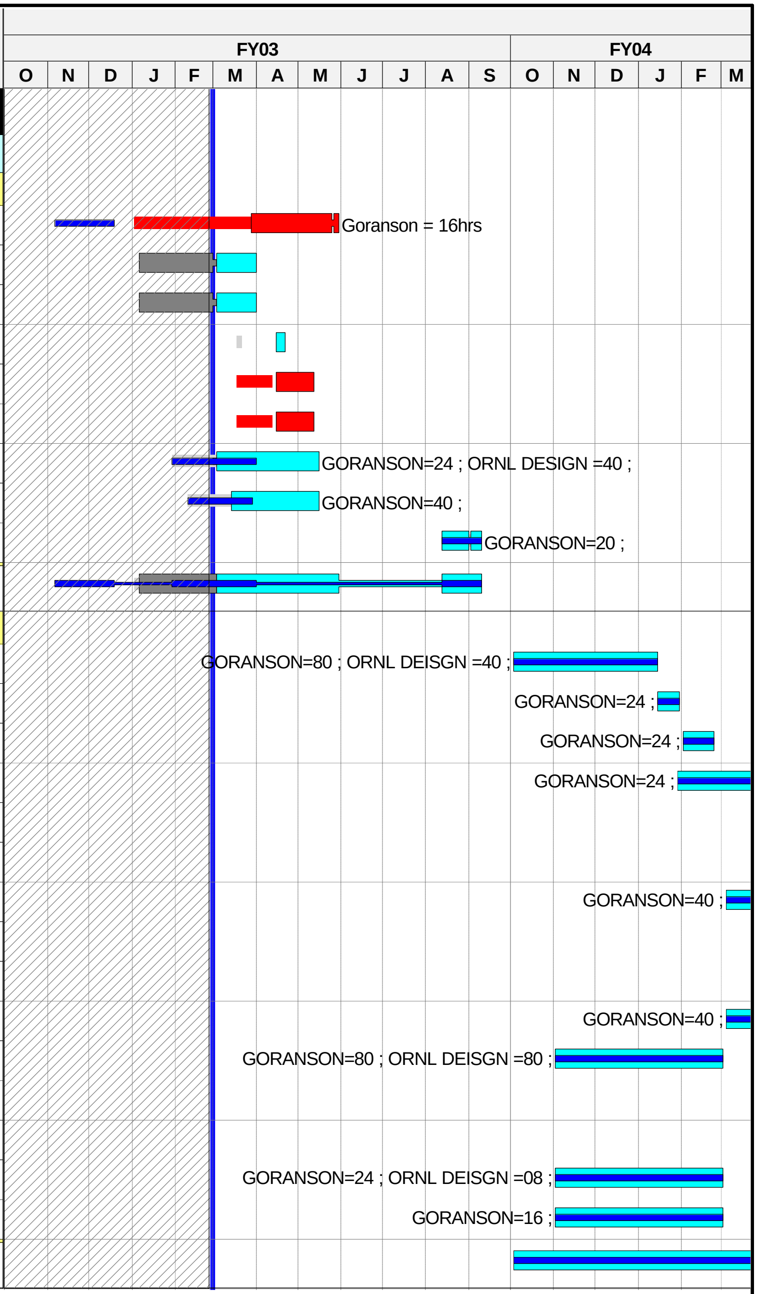
11 - In-Vessel Components

Job: 1101 - Limiter Adv Concep Design-GORANSON

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
111-2-01	Update Concep Dsn for limiter	28MAR03*	30MAY03	20	432.00	2,160.00	-9
L4-035	Incorporate radiation shields in FW panels (if r	06JAN03A	31MAR03	33	0.00	0.00	4
L4-036	Calculate bakeout heat loads on VV and in-vessel	06JAN03A	31MAR03	33	0.00	0.00	4
L4-037	Update design of initial limiter configuration	15APR03*	21APR03		0.00	0.00	9
L4-038	Perform design studies for CFC liner with divert	15APR03*	12MAY03		0.00	0.00	-6
L4-039	Perform design studies for flowing Li divertor,	15APR03*	12MAY03		0.00	0.00	-6
111-2-1	Interface control documents for invessel compnts	01MAR03A	15MAY03		0.00	7,640.00	1
111-3-1	Update cost estimate for Limiter	14MAR03*	15MAY03		0.00	5,400.00	1
111-3-2	Update planning for FY-04	12AUG03*	09SEP03		0.00	2,700.00	2,363
Subtotal		06JAN03A	09SEP03		432.00	17,900.00	2,363

Job: 1102 - Limiter Prelim&Final Design-GORANSON

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
111-1-1	CAD models and drawings of limiter dsn	03OCT03*	15JAN04		0.00	15,200.00	2,243
111-1-2	Thermal analysis of limiters	16JAN04	30JAN04		0.00	3,240.00	2,243
111-1-3	Stress analysis of limiters	02FEB04	24FEB04		0.00	3,240.00	2,243
111-1-4	Assembly plan for limiters	30JAN04*	15APR04		0.00	3,240.00	2,206
111-2-2	Interface control document for diagnostics	31MAY04*	27AUG04		0.00	3,240.00	2,110
111-2-3	Interface control document for Utilities	31MAY04*	27AUG04		0.00	8,040.00	2,110
111-4-1	Design-to specification	05MAR04*	21APR04		0.00	5,400.00	2,202
111-4-2	Draft Build-to (manufacturing) specification for	12AUG04*	09SEP04		0.00	2,700.00	2,101
111-4-3	Final Build-to (manufacturing) specification for	12AUG04*	09SEP04		0.00	2,700.00	2,101
111-5-1	Demonstrate installation feasibility	05MAR04*	19MAY04		0.00	5,400.00	2,182
111-6-1	CAD models and drawings of limiter final design,	03NOV03*	01MAR04		0.00	19,600.00	2,239
111-6-2	Final thermal analysis of limiters	01JUN04*	30SEP04		0.00	5,400.00	2,086
111-6-3	Final stress analysis of vessel lmiters	01JUN04*	30SEP04		0.00	9,210.00	2,086
114-1-1	Sensor specification and schematics of sensor pl	03NOV03*	01MAR04		0.00	4,120.00	2,239
114-1-2	Interface and cost data input for tasks 111-2, 1	03NOV03*	01MAR04		0.00	2,160.00	2,239
Subtotal		03OCT03	30SEP04		0.00	92,890.00	2,086



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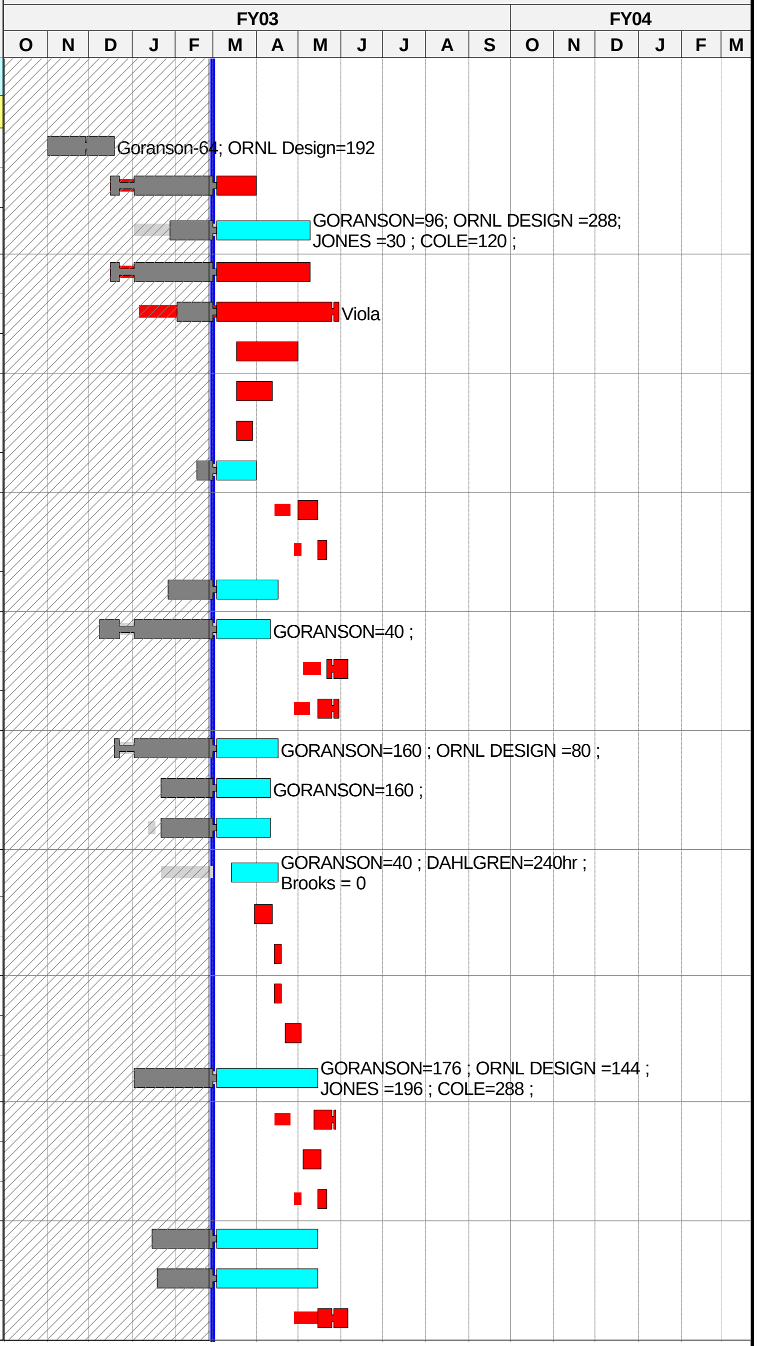
FY03 Work Authorization Plan

STATUS THROUGH
2/28/03

12 - Vacuum Vessel Systems

Job: 1201 - Vacuum Vessel Dsn-GORANSON

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
L4-001	Reconstruct conceptual design of stellarator cor	01NOV02A	18DEC02A	100	29,760.00	29,760.00	
L4-003	Define VV shell and FW geometry	16DEC02A	31MAR03	40	0.00	0.00	-6
L4-041	Design of VV	28JAN03A	09MAY03	25	16,117.50	64,470.00	5
L4-042	Establish final port geometry	16DEC02A	09MAY03	30	0.00	0.00	0
L4-043	Develop design of bolted angled joint	03FEB03A	30MAY03	35	0.00	0.00	-9
L4-044	Build geometric mock-up to demo feasibility	17MAR03*	30APR03	-	0.00	0.00	-13
L4-045	Establish feasibility of swiping vac seals	17MAR03*	11APR03	-	0.00	0.00	0
L4-046	Resolve interference with VV supports	17MAR03*	28MAR03	-	0.00	0.00	0
L4-047	Establish envelopes & locations in vsl cmpnts	17FEB03A	31MAR03	10	0.00	0.00	9
L4-048	Establish port allocations	01MAY03*	14MAY03	-	0.00	0.00	-13
L4-049	Perform FMECA	15MAY03*	21MAY03	-	0.00	0.00	-13
L4-050	Establish instrumentation requirements	27JAN03A	15APR03	10	0.00	0.00	2
L4-053.5	Prepare performance (design-to) specification fo	09DEC02A	10APR03	20	1,080.00	5,400.00	16
L4-052	Evaluate design versus performance reqmnts	22MAY03*	05JUN03	-	0.00	0.00	-13
L4-053	Review and promote models/drawings	15MAY03*	29MAY03	-	0.00	0.00	-8
L4-071.5	Develop design for VV insulation & attachments	19DEC02A	15APR03	10	3,040.00	30,400.00	23
L4-069	Perform thermal analysis of VV	22JAN03A	10APR03	20	4,320.00	21,600.00	26
L4-071	Calculate Heat leakage to cold mass	22JAN03A	10APR03	30	0.00	0.00	16
L4-064	Perform EM & Stress Analysis of VV	14MAR03*	15APR03	0	0.00	42,014.40	13
L4-065	Develop FEA model incl supports	31MAR03*	11APR03	-	0.00	0.00	0
L4-066	Calc. buckling FOS &stresses under atmosp	14APR03*	18APR03	-	0.00	0.00	0
L4-067	Calculate disruption loads	14APR03*	18APR03	-	0.00	0.00	0
L4-068	Calculate stresses under combined loads	21APR03*	02MAY03	-	0.00	0.00	0
L4-054	Develop Interfaces	02JAN03A	14MAY03	18	17,622.36	97,902.00	2
L4-055	Prepare Scope sheet items PFC's (WBS 12/11)	13MAY03*	27MAY03	-	0.00	0.00	-6
L4-056	Prepare Scope sheet items (WBS 12/14)	05MAY03*	16MAY03	-	0.00	0.00	0
L4-057	Prepare Scope sheet items 12/21-23	15MAY03*	21MAY03	-	0.00	0.00	-3
L4-058	Prepare Scope sheet items ICH (WBS12/24)	16JAN03A	14MAY03	10	0.00	0.00	2
L4-059	Prepare Scope sheet items NB (WBS 12/25)	20JAN03A	14MAY03	5	0.00	0.00	2
L4-060	Prepare Scope sheet items diag (WBS 12/3)	15MAY03*	05JUN03	-	0.00	0.00	-13



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FY03 Work Authorization Plan

STATUS THROUGH
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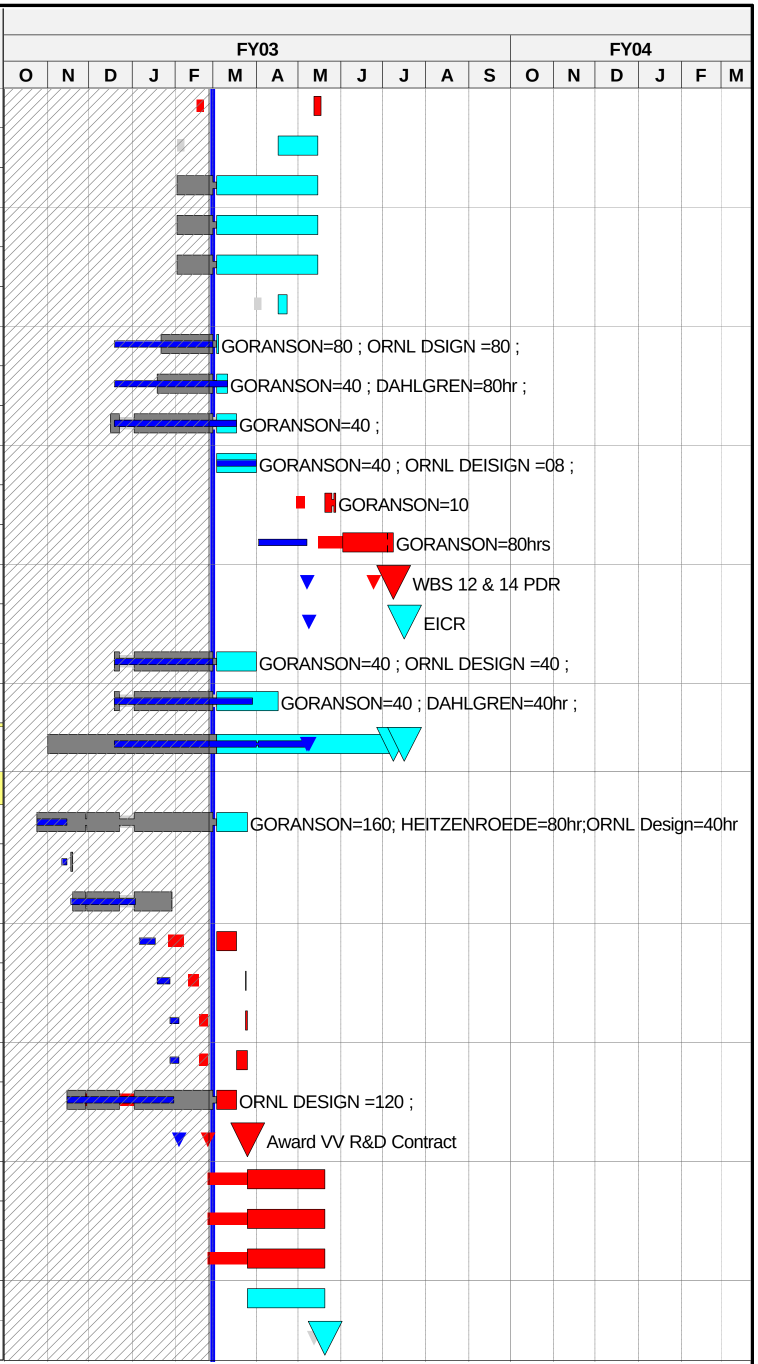
Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
L4-061	Prepare Scope sheet item grounding (WBS 12/4)	12MAY03*	16MAY03	-	0.00	0.00	0
L4-062	Prepare Scope sheet items I&C (WBS 12/5)	16APR03*	14MAY03	2	0.00	0.00	2
L4-062.2	Prepare Scope sheet items (WBS 12/13)	03FEB03A	14MAY03	2	0.00	0.00	2
L4-062.4	Prepare Scope sheet items (WBS 12/17)	03FEB03A	14MAY03	2	0.00	0.00	2
L4-062.6	Prepare Scope sheet items (WBS 12/18)	03FEB03A	14MAY03	2	0.00	0.00	2
L4-063	Prepare Scope sheet VV Htg/Clng (WBS 12/6)	16APR03*	22APR03	-	0.00	0.00	18
124-1-1	Support Syst-CAD models,assly dwgs, Interfaces	22JAN03A	03MAR03	20	3,920.00	19,600.00	54
124-1-2	Support Syst-Stress analysis	20JAN03A	10MAR03	5	880.24	17,604.80	49
124-1-3	Support Syst-Thermal analysis	16DEC02A	17MAR03	25	1,350.00	5,400.00	44
125-1-1	Sensor specification,locations,interface w/vv	03MAR03*	31MAR03	0	0.00	6,280.00	34
L4-079	Finalize budgetary cost and schedule (WBS 12	20MAY03*	27MAY03	0	0.00	1,350.00	-6
121-4-15	PDR Preparation	02JUN03	07JUL03	0	0.00	10,800.00	-9
125-1-PDR	Vacuum Vessel and Modular Coil Prelim Dsn Review		07JUL03*	-	0.00	0.00	-9
125-1-ICR	NCSX External Independent Cost Review		15JUL03*	-	0.00	0.00	2,402
123-1-1	Schematics and CAD assembly drawing of piping	19DEC02A	31MAR03	15	1,470.00	9,800.00	29
123-1-2	Flow analysis	19DEC02A	15APR03	50	5,751.20	11,502.40	18
Subtotal		01NOV02A	15JUL03		85,311.30	373,883.60	2,402
Job: 1202 - Vacuum Vessel R&D-GORANSON							
121-5-1	Procurement Oversight and Support	24OCT02A	24MAR03	LOE	31,977.42	38,204.80	2,481
121-5-12	Develop and Issue RFP	18NOV02A	18NOV02A	100	0.00	0.00	
121-5-14	Proposal Prep by subcontractors	19NOV02A	29JAN03A	100	0.00	0.00	
121-5-16	Evaluate Proposals	03MAR03	17MAR03	90	0.00	0.00	-6
121-5-17	Update Documentation (SOW,spec,dwgs)	24MAR03	21MAR03	-	0.00	0.00	-6
121-5-18	Finalize Contract	24MAR03	24MAR03	-	0.00	0.00	-6
121-5-19	DOE Approval	18MAR03	24MAR03	-	0.00	0.00	-6
121-5-2	Update CAD models, drawings and specifications	15NOV02A	17MAR03	90	11,880.00	13,200.00	-1
121-5-25	Award 2 VV R&D ContractS		24MAR03	-	0.00	0.00	-6
L4-076	Report on mfg methods	25MAR03*	19MAY03	-	0.00	0.00	-1
L4-077	Preliminary MIT and QA Plans for VVSA	25MAR03	19MAY03	-	0.00	0.00	-1
L4-077.1	Budgetary and cost estimates from R&D Vendors	25MAR03	19MAY03	-	0.00	0.00	-6
L4-077.2	MIT and QA plan for PVVS	25MAR03	19MAY03	-	0.00	0.00	77
L4-077.3	Relaese fo Prototype Fabrication		19MAY03	-	0.00	0.00	77



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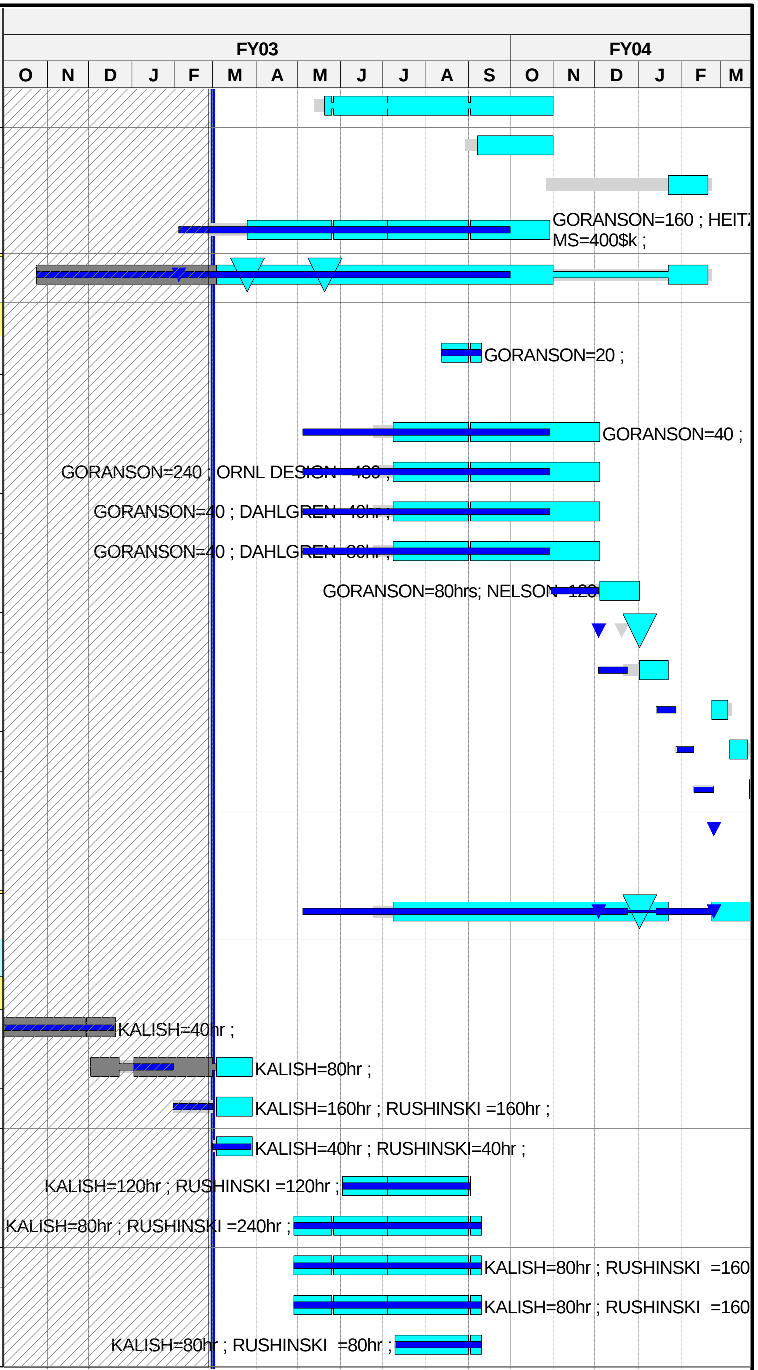
FY03 Work Authorization Plan

STATUS THROUGH
2/28/03

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
L4-78	Vendor design/Fab prototype	20MAY03	31OCT03	-	0.00	0.00	77
L4-79	Report on add'l manufacturing activities	08SEP03	31OCT03	-	0.00	0.00	77
L4-80	Vendors Prep Final plans & firm fixed price est	23JAN04	20FEB04	-	0.00	0.00	73
121-5-3	VV R&D and oversight	25MAR03	28OCT03	LOE	0.00	574,663.50	100
Subtotal		24OCT02A	20FEB04		43,857.42	626,068.30	2,245
Job: 1203 - Vacuum Vessel Final Dsn-GORANSON							
121-3-2	Update planning for FY-04	12AUG03*	09SEP03		0.00	2,700.00	2,363
121-36-9.2	Release for Fabrication		29OCT04		0.00	0.00	63
121-4-3	Build-to (manufacturing) specification for	08JUL03*	04DEC03		0.00	5,400.00	73
121-6-1	CAD models and drawings of vessel final design,	08JUL03*	04DEC03		0.00	85,200.00	73
121-6-2	Final thermal analysis of vessel assembly	08JUL03*	04DEC03		0.00	11,681.44	73
121-6-3	Final stress analysis of vessel assembly	08JUL03*	04DEC03		0.00	17,962.88	73
121-6-4	FDR Prep	05DEC03*	01JAN04		0.00	0.00	73
121-6-5	FDR		01JAN04		0.00	0.00	73
121-6-6	Finalize tech Doc package & Resolve chits	02JAN04	22JAN04		0.00	0.00	73
121-6-8	Evaluate and Select VV Production Vendor	23FEB04	05MAR04		0.00	0.00	73
121-6-83	Negotiate with vendor	08MAR04	19MAR04		0.00	0.00	73
121-6-85	DOE Approve VV Selection & contract	22MAR04	02APR04		0.00	0.00	73
121-6-9	Award VV Production Vendor (Phase funded)		02APR04		0.00	0.00	73
121-6-9.1	Release for Engr/design/tooling/fixtures		02APR04		0.00	0.00	73
Subtotal		08JUL03	29OCT04		0.00	122,944.32	2,065
13 - Conventional Coils							
Job: 1301 - Convential Coils Design-KALISH							
130-1-01	Update Conceptual design	01OCT02A	20DEC02A	100	6,102.40	6,102.40	
130-1-1	Draft of 1) SRD, and 2) SDD Section III - Requir	02DEC02A	28MAR03	10	1,220.48	12,204.80	2,477
130-1-2	General arrangement models and drawings	03MAR03*	28MAR03		0.00	48,819.20	2,477
130-1-3	Interface control document input for modular coi	03MAR03*	28MAR03		0.00	12,204.80	2,477
130-1-4	Interface control document for Conventional Coil	02JUN03*	02SEP03		0.00	36,614.40	2,368
130-2-1	PF Coil drawings, models, SDD Sect IV text	28APR03*	09SEP03		0.00	48,819.20	2,363
130-2-2	TF Coil drawings, models, SDD Sect IV text	28APR03*	09SEP03		0.00	36,614.40	2,363
130-2-3	External Trim Coil drawings, models, SDD Sect IV	28APR03*	09SEP03		0.00	36,614.40	2,363
130-2-4	Coils I&C	10JUL03*	09SEP03		0.00	24,409.60	2,363



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FY03 Work Authorization Plan

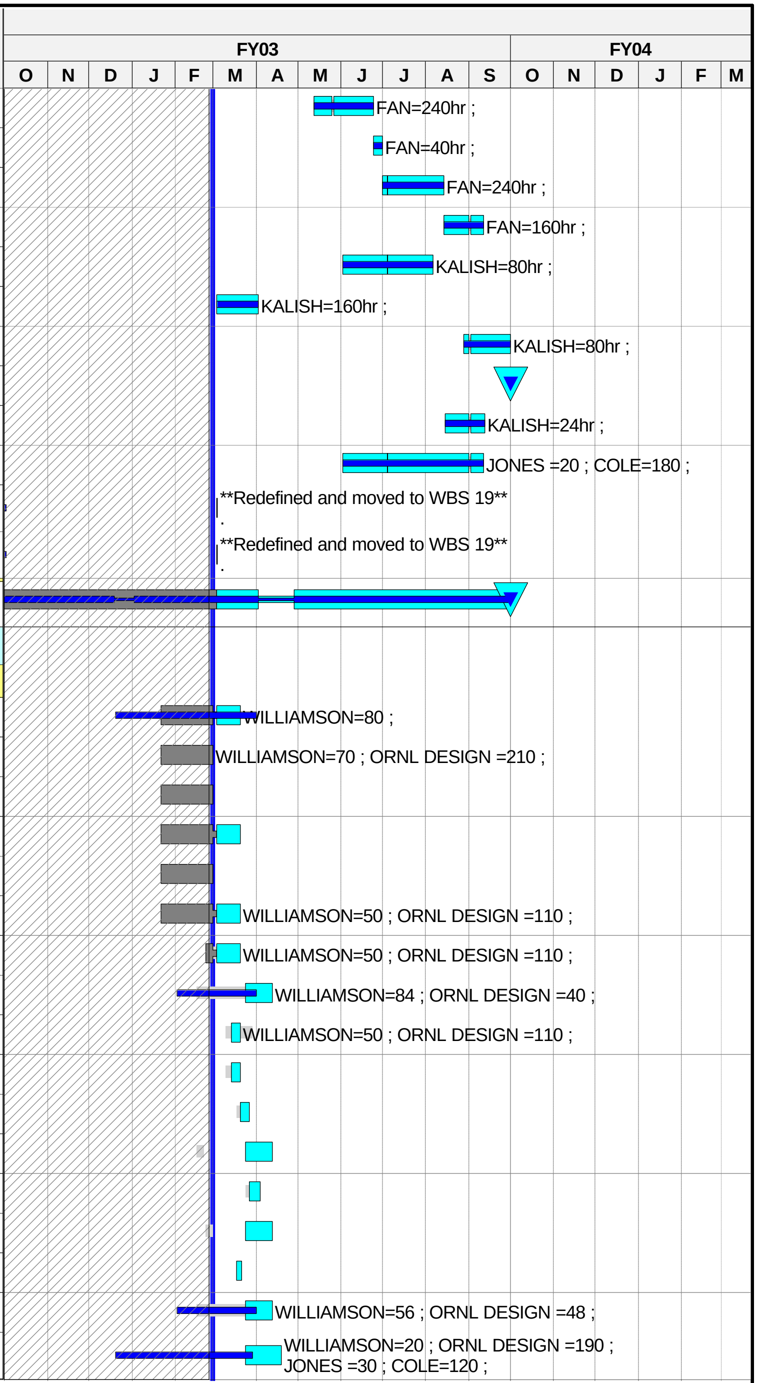
STATUS THROUGH
2/28/03

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
130-3-1	Develop thermal/structural FEA models of cols, i	12MAY03*	23JUN03		0.00	36,614.40	2,417
130-3-2	Incorporate EM loads and load cases from global	24JUN03*	30JUN03		0.00	6,102.40	2,412
130-3-3	Evaluate stress/deflection due to EM / gravity /	01JUL03*	13AUG03		0.00	36,614.40	2,381
130-3-4	Prepare analysis reports, SDD analysis summary,	14AUG03*	11SEP03		0.00	24,409.60	2,361
130-4-1	Document fabrication and assembly options for co	02JUN03*	05AUG03		0.00	12,204.80	2,387
130-4-2	Prepare cost and schedule estimates WBS 13	03MAR03*	01APR03		0.00	24,409.60	2,475
130-4-3	Prepare PDR documentation WBS 13	28AUG03*	30SEP03		0.00	12,204.80	2,348
130-4-3.1	Conventional Coils and Structure PDR (WBS 13&15)		30SEP03		0.00	0.00	2,348
130-4-4	Prepare FY04 workplans	15AUG03*	12SEP03		0.00	3,661.44	2,360
192-1-2-13	Self consistent models/dwgs Conv coil/strct PDR	02JUN03*	10SEP03		0.00	13,220.00	2,362
192-2-1-13	Coil geometry tolerance guidance (wbs 13)	03MAR03*	28FEB03		0.00	0.00	2,497
192-2-3-13	Eddy current analysis&struct time constant wbs13	03MAR03*	28FEB03		0.00	0.00	2,497
Subtotal		01OCT02A	30SEP03		7,322.88	431,844.64	2,348

14 - Modular Coils

Job: 1401 - Mod Coil Dsn -WILLIAMSON

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
140-1-1	Design-to specification (SRD)	22JAN03A	19MAR03	70	8,064.00	11,520.00	32
140-5-11	Develop detailed ProE models of winding forms	22JAN03A	28FEB03A	100	33,180.00	33,180.00	
L4-093	Incorporate features to resolve issue of multipl	22JAN03A	28FEB03A	100	0.00	0.00	
L4-094	Incorporate final port geometry into shell cutou	22JAN03A	19MAR03	50	0.00	0.00	17
L4-098	Develop design of wings, including structural at	22JAN03A	28FEB03A	100	0.00	0.00	
140-5-12	Develop detailed ProE models winding packs&leads	22JAN03A	19MAR03	50	9,650.00	19,300.00	12
L4-097	Develop detailed ProE models clamps&cooling sys	24FEB03A	19MAR03	50	9,650.00	19,300.00	7
140-2-1	Develop ICD for conv coils.vessel,structure	24MAR03*	11APR03		0.00	16,496.00	20
L4-091.1	Develop assy models,incl bolts,insul,	13MAR03*	19MAR03		0.00	19,300.00	12
L4-092	Develop design of insulating, bolted joints at f	13MAR03*	19MAR03		0.00	0.00	12
L4-095	Incorporate feature to support the VV	20MAR03*	26MAR03		0.00	0.00	12
L4-105	Develop ICD with conventional coils (WBS 12)	24MAR03*	11APR03		0.00	0.00	20
L4-096	Incorporate features required for FP and final a	27MAR03*	02APR03		0.00	0.00	27
L4-106	Develop ICD with coil structures (WBS 13)	24MAR03*	11APR03		0.00	0.00	20
L4-107	Develop ICD with diagnostics (WBS 15)	17MAR03*	21MAR03		0.00	0.00	35
140-2-3	Develop ICD with cryo,power, I&C	24MAR03*	11APR03		0.00	13,344.00	20
140-5-2	Prepare Preliminary Design Drawings	24MAR03*	18APR03		0.00	43,610.00	20



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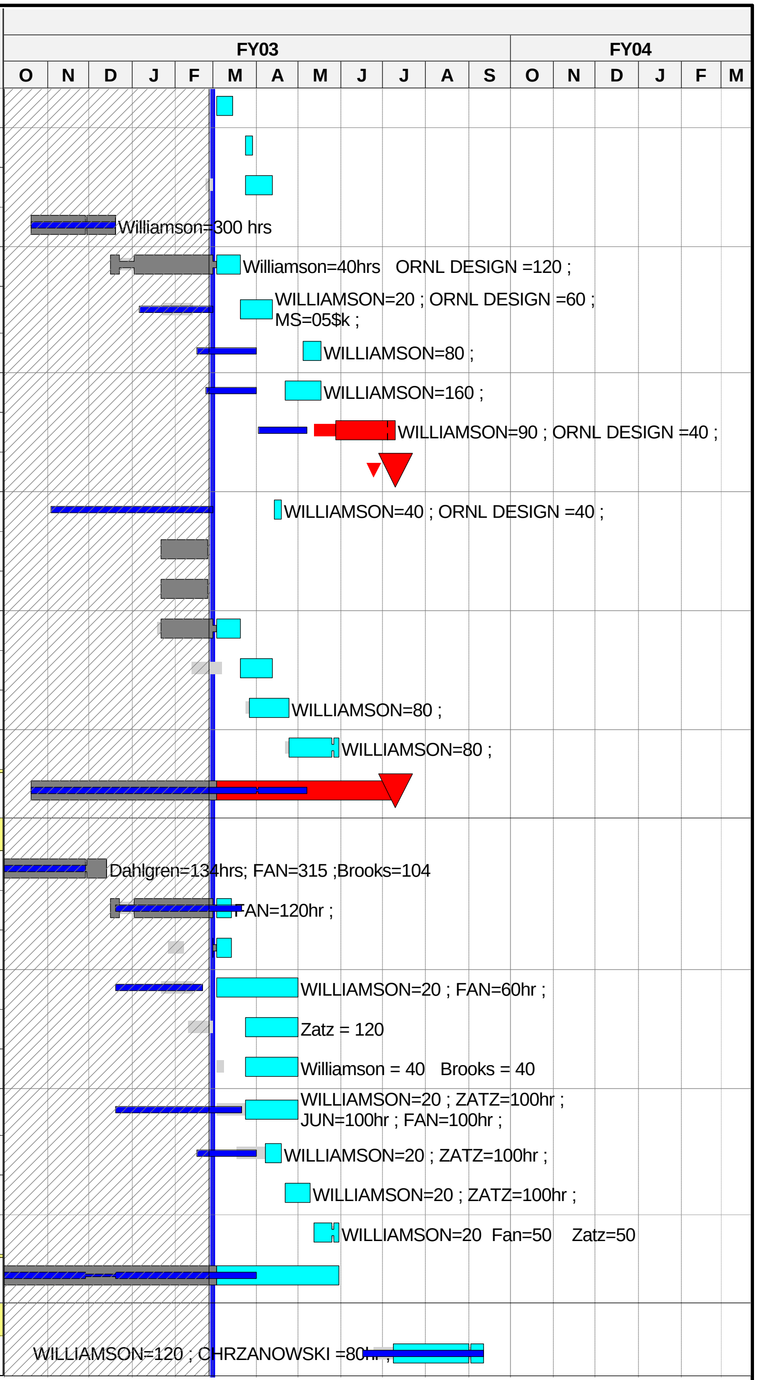
FY03 Work Authorization Plan

STATUS THROUGH
2/28/03

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
L4-108	Develop ICD with WBS 4, including grounding and	03MAR03*	14MAR03		0.00	0.00	40
L4-109	Develop ICD with I&C (WBS 5)	24MAR03*	28MAR03		0.00	0.00	30
L4-110	Develop ICD with cryogenic systems (WBS 62)	24MAR03*	11APR03		0.00	0.00	20
140-1-01	Update CDR models and drawings	21OCT02A	20DEC02A	100	43,200.00	43,200.00	
140-1-02	Revise ProE conceptual-level models	16DEC02A	19MAR03	90	14,042.16	15,602.40	5
140-5-4	Procure STL models for asm verification	20MAR03*	11APR03		0.00	16,080.00	5
140-1-2	Develop build-to specifications	05MAY03*	16MAY03		0.00	11,520.00	25
140-3-1	Develop cost and schedule estimates	21APR03*	16MAY03		0.00	23,040.00	20
140-5-3	Prepare MCC Design Review Documentation	28MAY03*	09JUL03		0.00	0.00	-11
140-PDR	WBS 14 & 12 pdr		09JUL03*		0.00	0.00	-11
143-1-1	Develop Instrumentation Drawings	14APR03*	18APR03		0.00	10,160.00	20
L4-004	Define geometry of modular coil winding forms	22JAN03A	24FEB03A	100	0.00	0.00	
L4-012	Resolve issue of final fit-up of multiple mating	22JAN03A	24FEB03A	100	0.00	0.00	
L4-014	Define geometry of SLA model	22JAN03A	19MAR03	50	0.00	0.00	5
L4-015	Order/fabricate model	20MAR03*	11APR03		0.00	0.00	5
L4-100	Prepare FMEA	27MAR03*	23APR03		0.00	0.00	12
L4-102	Evaluate design versus performance requirements	24APR03*	29MAY03		0.00	0.00	12
Subtotal		21OCT02A	09JUL03		117,786.16	295,652.40	-11
Job: 1402 - Mod.Coil Analyses-WILLIAMSON							
140-4-01	Update conceptual design analysis	01OCT02A	13DEC02A	100	85,891.28	85,891.28	
140-4-2	Update 2D/3D thermal analysis incl insulation	16DEC02A	12MAR03	90	16,476.48	18,307.20	53
L4-160	Perform cooldown analysis following a pulse	28FEB03A	12MAR03	90	0.00	0.00	58
140-4-1	Develop FE models and perform EM &struc analysis	03MAR03*	30APR03		0.00	12,033.60	23
L4-155	Calculate EM loads, identify critical load cases	24MAR03*	30APR03		0.00	18,307.20	31
L4-156	Update material properties based on R&D results	24MAR03*	30APR03		0.00	11,862.40	31
140-4-3	Perform stress analysis for critical cases	24MAR03*	30APR03		0.00	48,648.00	31
140-4-4	Prepare local models& stress analysis	07APR03*	18APR03		0.00	18,136.00	31
L4-159	Model cooldown from ambient	21APR03*	09MAY03		0.00	18,136.00	16
L4-159.1	Prepare Design Review Documentation f/analyses	12MAY03*	30MAY03		0.00	18,136.00	16
Subtotal		01OCT02A	30MAY03		102,367.76	249,457.68	16
Job: 1403 - Mod. Coil Final Design-WILLIAMSON							
140-1-3	Final Build-to (manufacturing) specification for	08JUL03*	10SEP03		0.00	29,484.80	89



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▬	2/1/03 Status
▬	3/1/03 Status (forecast)
▬	Progress Bar
🟥	Critical Activity

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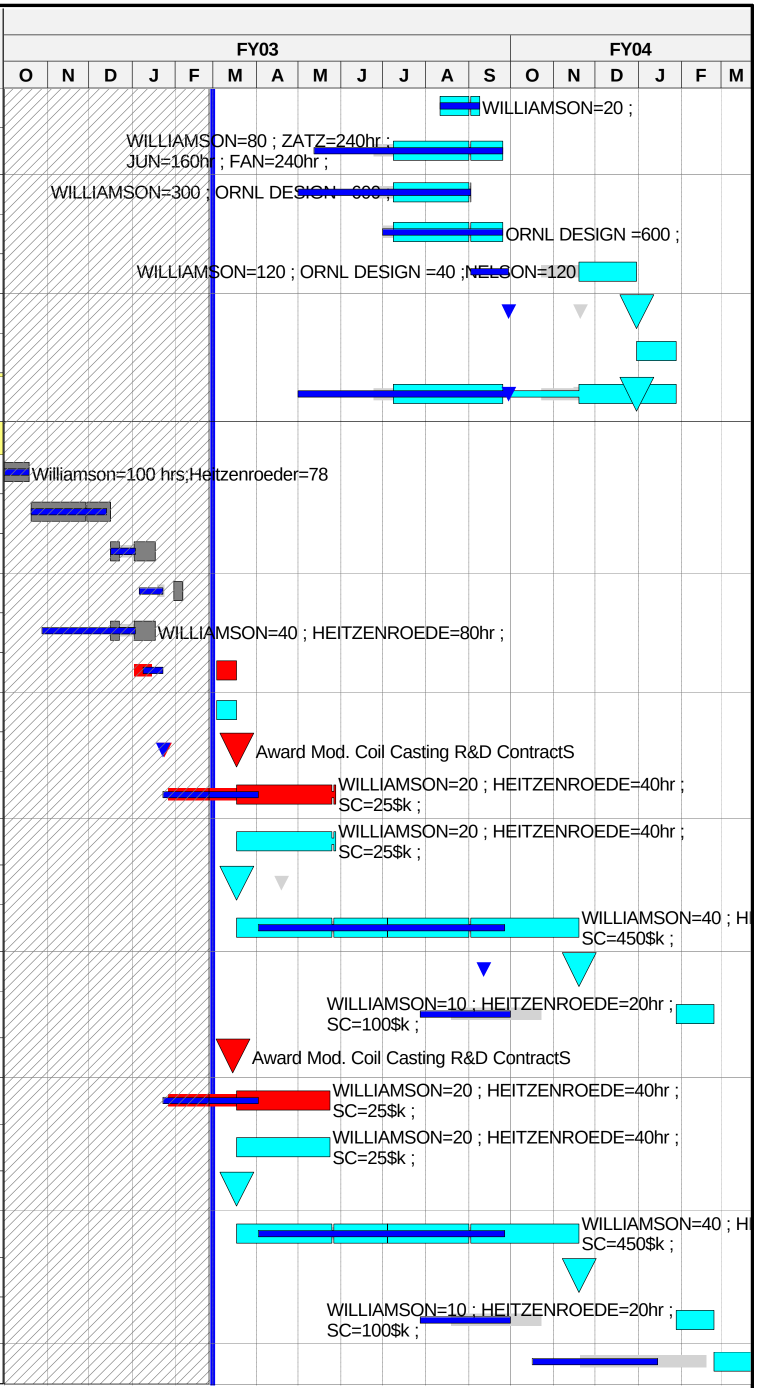
FY03 Work Authorization Plan

STATUS THROUGH 2/28/03

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
140-3-5	Update planning for FY-04	11AUG03*	08SEP03		0.00	2,880.00	91
140-4-5	Re-assess all analysis for final design and upda	08JUL03*	25SEP03		0.00	109,158.40	78
140-6-1	CAD models of modular coil assembly final design	08JUL03*	02SEP03		0.00	109,200.00	95
140-6-2	CAD drawings of all parts, subassemblies, interf	08JUL03*	25SEP03		0.00	66,000.00	78
140-6-3	Final design review documentation prep	19NOV03	30DEC03		0.00	41,360.00	40
140-6-3.1	FDR Modular Coils		30DEC03		0.00	0.00	40
140-6-4	Disposition FDR Chits and finalize procurmnt pkg	31DEC03	27JAN04		0.00	0.00	40
Subtotal		08JUL03	27JAN04		0.00	358,083.20	40
Job:1404-Mod Coil Winding Form R&D-HEITZENROEDER							
142-1-05	Pre Documentation and Issue RFP	01OCT02A	18OCT02A	100	26,299.68	26,299.68	
142-1-06	Vendors Prep Proposals	21OCT02A	16DEC02A	-	0.00	0.00	
142-1-07	Evaluate & Negotiate Proposals w/vendors	17DEC02A	17JAN03A	-	0.00	0.00	
142-1-08	DOE Review & Approve	31JAN03A		-	0.00	0.00	
142-1-1	Answer bidder questions, eval bids,select vendrs	17DEC02A	17JAN03A	LOE	17,964.80	17,964.80	
142-1-10	Proj UpdateTech Pkg (remove cladding)	03MAR03	17MAR03	-	0.00	0.00	-11
142-10.1	Proj UpdateTech Pkg (M50 coils,cooling,VPI)	03MAR03*	17MAR03	-	0.00	0.00	9
142-1-15	Award MCC R&D Contract to EIO		17MAR03*	-	0.00	0.00	-11
142-1-2A	Phase I -MIT Plan/cost for produc articles EIO	18MAR03	27MAY03	0	0.00	41,982.40	-11
142-1-2AP	Phase I -MIT plan for prototype EIO	18MAR03	27MAY03	0	0.00	41,982.40	2,436
142-1-30	RELEASE EIO FOR PROTOTYPE FABRICATION		17MAR03	0	0.00	0.00	40
142-1-3A	Phase II - Fabricate Prototype- [EIO]	18MAR03*	18NOV03	0	0.00	615,989.63	40
C-061	Castings-R&D Casting Reports EIO		18NOV03		0.00	0.00	40
142-1-4A	Phase III - Final MIT plans, detailed est EIO	28JAN04*	24FEB04	0	0.00	108,735.00	40
142-1-16	Award MCC R&D Contract to JP Pattern		14MAR03*	-	0.00	0.00	-10
142-1-2B	Phase I -MIT Plan/cost prod articles JP Pattern	17MAR03	23MAY03	0	0.00	41,982.40	-10
142-1-2BP	Phase I -MIT plan for prototype JP PAttern	17MAR03	23MAY03	0	0.00	41,982.40	2,437
142-1-31	RELEASE JP Pattern FOR PROTOTYPE FABRICATION		17MAR03	0	0.00	0.00	40
142-1-3B	Phase II - Fabricate Prototype- JP Pattern	18MAR03*	18NOV03	0	0.00	615,989.63	40
C-062	Castings-R&D Casting Reports JP Pattern		18NOV03		0.00	0.00	40
142-1-4B	Phase III-Final MIT plans,detail est JP Pattern	28JAN04*	24FEB04	0	0.00	108,735.00	40
C-071	Project eval R&D cost proposals & select vendor	25FEB04	23MAR04		0.00	0.00	40



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⬜ 2/1/03 Status
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⬛ Progress Bar
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FY03 Work Authorization Plan

STATUS THROUGH
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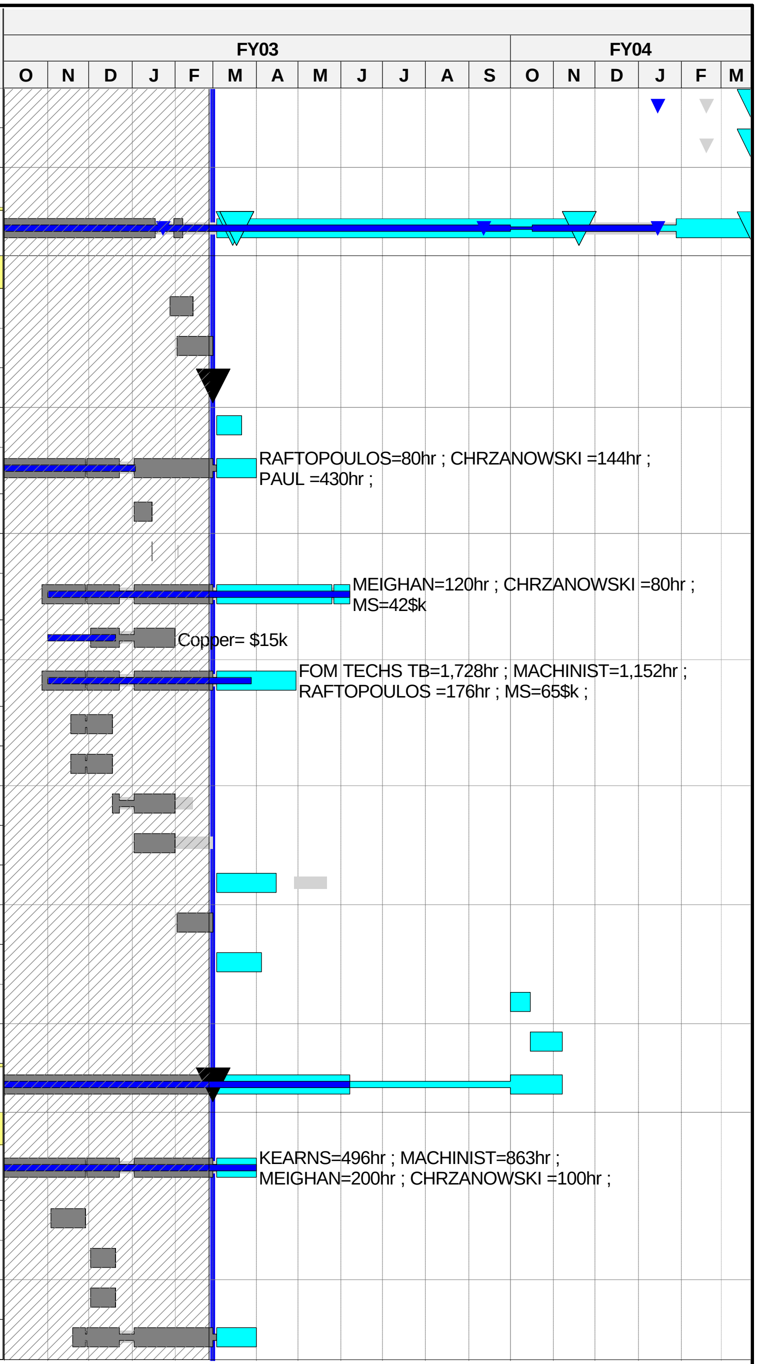
Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
C-081	Castings-Award Mfg contract (phase funded)	24MAR04			0.00	0.00	40
C-082	Castings-Release f/ engr/tooling&1st 9 castings	24MAR04			0.00	0.00	40
C-083	Castings-Release for last 9 castings	01OCT04*			0.00	0.00	221
Subtotal		01OCT02A	30SEP04		44,264.48	1,661,643.34	2,086
Job: 1405-Mod Coil Winding R&D Prep-CHRZANOWSKI							
142-9-0	Dev SOW for cladding R&D	29JAN03A	14FEB03A	N/A	0.00	0.00	
142-9-1	Internal R&D for cladding	03FEB03A	28FEB03A	100	0.00	0.00	
142-9-2	Choose cladding method		28FEB03A	100	0.00	0.00	
142-9-3	Update performance spec/dwgs for cladding f/PDR	03MAR03	21MAR03		0.00	0.00	35
141-1-1	Design Prototypes for R&D Activities	01OCT02A	31MAR03	95	73,265.75	77,121.84	2,476
L4-141	Develop process design	02JAN03A	15JAN03A	100	0.00	0.00	
L4-142	Peer review process design	15JAN03A	15JAN03A	100	0.00	0.00	
141-1-2	Procure supplies/equip. for R&D Trials	28OCT02A	06JUN03	75	59,732.70	79,643.60	2,428
141-1-2.1	Procure copper	02DEC02A	31JAN03A	100	19,800.00	19,800.00	
141-1-3	Fabricate winding forms/molds for trials	28OCT02A	28APR03	80	277,357.89	353,896.64	178
L4-139	Fabricate 1st (straight) winding form at PPPL	18NOV02A	17DEC02A	100	0.00	0.00	
L4-140	Place contract for 2nd and 3rd winding forms	18NOV02A	17DEC02A	100	0.00	0.00	
L4-146	Fab and Deliver 2nd winding form	18DEC02A	31JAN03A	100	0.00	0.00	
L4-149.1	Fab & Deliver 3rd winding form	03JAN03A	31JAN03A	100	0.00	0.00	
L4-152	Fab and deliver 4th winding form (oval)	03MAR03	14APR03		0.00	0.00	188
L4-300	Place contract for Oval Tee Mold (5th)	03FEB03A	27FEB03A	100	0.00	0.00	
L4-302	Fab & Deliver Oval Tee Mold (5th)	03MAR03*	04APR03		0.00	0.00	2,472
L4-304	Place Contract for Tee Return Molds (6th)	01OCT03*	14OCT03		0.00	0.00	2,320
L4-306	Fab & Deliver Return Molds (6th)	15OCT03	07NOV03		0.00	0.00	2,320
Subtotal		01OCT02A	07NOV03		430,156.34	530,462.08	2,320
Job: 1406 - Mod. Coil Winding R&D-CHRZANOWSKI							
141-2-1	Develop VPI mold & impregnation techniques	01OCT02A	31MAR03	80	126,182.86	157,728.57	189
L4-129	Prepare TFTR basement for winding R&D, set up eq	04NOV02A	27NOV02A		0.00	0.00	
L4-130	Select epoxy resin	02DEC02A	20DEC02A		0.00	0.00	
L4-131	Prepare NEPA and WP to cover winding development	02DEC02A	20DEC02A		0.00	0.00	
L4-132	Develop VPI procedure for impregnating molded co	19NOV02A	31MAR03	80	0.00	0.00	124



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▬ 2/1/03 Status
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▬ Progress Bar
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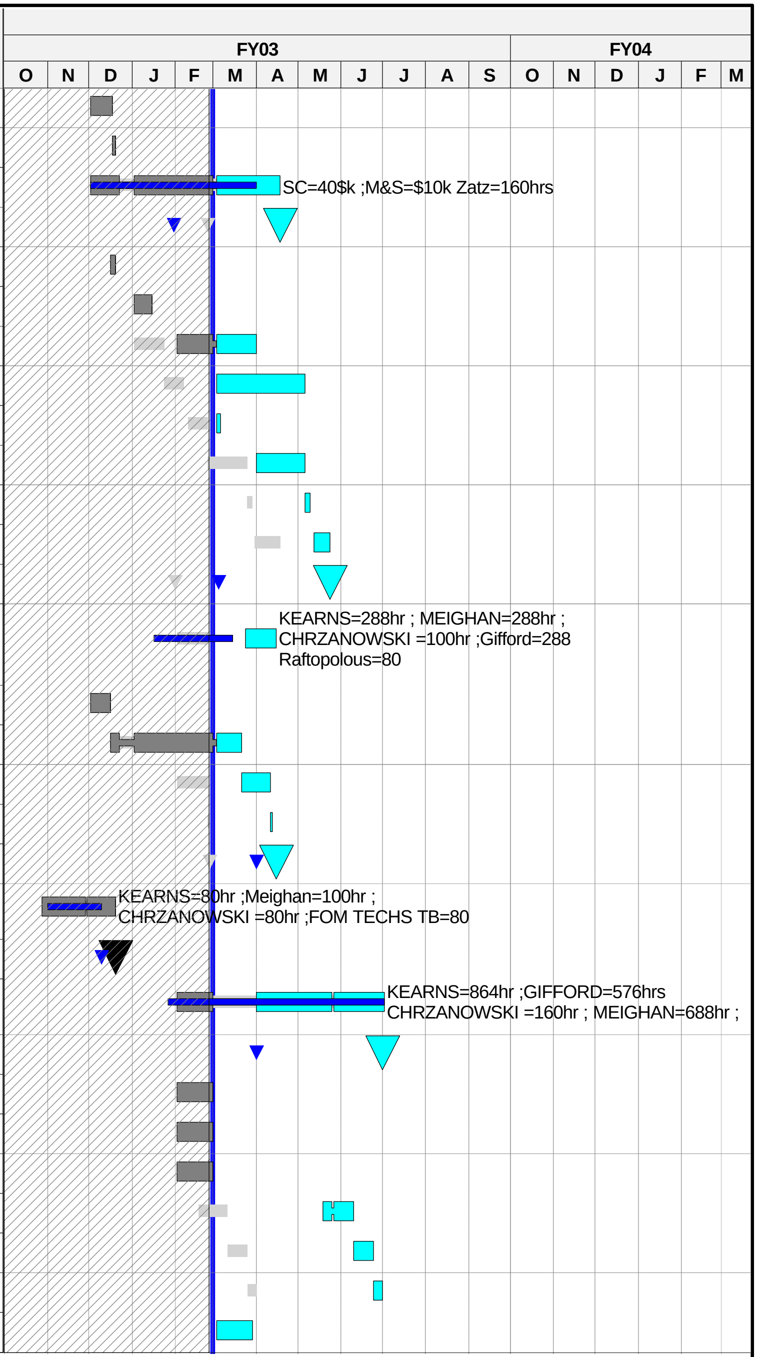
FY03 Work Authorization Plan

STATUS THROUGH
2/28/03

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
L4-133	Prep single conductor molds and test samples	02DEC02A	17DEC02A		0.00	0.00	
L4-134	VPI single conductor test samples	18DEC02A	20DEC02A		0.00	0.00	
141-2-1.01	Determine material properties and allowables	02DEC02A	17APR03	10	3,760.96	90,409.60	176
141-1-3.1	Fabricate Tensile Test Specimens		17APR03		0.00	0.00	2,463
L4-119	Establish test rqmts	16DEC02A	20DEC02A		0.00	0.00	
L4-121	Peer review test plans and specimens	02JAN03A	15JAN03A	100	0.00	0.00	
L4-124	Place contracts for outside testing	03FEB03A	31MAR03	50	0.00	0.00	150
L4-122	Fabricate molds for test speciments	03MAR03*	05MAY03		0.00	0.00	2,451
L4-123	Fabricate test specimens	03MAR03*	05MAR03		0.00	0.00	2,494
L4-125	Perform tests on test specimens,estab properties	01APR03*	05MAY03		0.00	0.00	150
L4-126	Review results of test program	06MAY03*	09MAY03		0.00	0.00	150
L4-127	Update design criteria	12MAY03*	23MAY03		0.00	0.00	150
141-2-1.1	Select Epoxy Resin System		23MAY03*		0.00	0.00	2,387
141-2-3	Perform conductor Keystone tests	24MAR03*	14APR03		0.00	98,277.12	179
L4-113	Design winding form	02DEC02A	16DEC02A		0.00	0.00	
L4-114	Peer review plans for keystoning	17DEC02A	20MAR03		0.00	0.00	180
L4-116	Tape and wind conductor on winding form, measure	21MAR03	10APR03		0.00	0.00	180
L4-117	Review results of keystoning test	11APR03	11APR03		0.00	0.00	180
141-2-3.1	Keystone tests complete		14APR03		0.00	0.00	179
141-2-2	Receive, inspect and VPI test coil wound at UT	28OCT02A	20DEC02A	100	33,875.80	33,875.80	
141-2-2.1	VPI of test Coil from UT		20DEC02A		0.00	0.00	
141-2-4	Perform VPI and winding testing	03FEB03A	01JUL03	30	59,475.22	198,250.72	124
141-2-4.1	Prelim VPI Process for Mod Coils		30JUN03		0.00	0.00	2,412
L4-143	Wind conductor on 1st winding form	03FEB03A	28FEB03A	100	0.00	0.00	
L4-144	Apply mold and VPI 1st winding	03FEB03A	28FEB03A	100	0.00	0.00	
L4-145	Inspect and test 1st windings	03FEB03A	28FEB03A	100	0.00	0.00	
L4-146.1	Prep & Wind conductor 2nd (twisted) winding form	19MAY03	09JUN03		0.00	0.00	2,387
L4-147	Apply mold and VPI 2nd winding	10JUN03	23JUN03		0.00	0.00	2,387
L4-148	Inspect and test 2nd winding	24JUN03	30JUN03		0.00	0.00	2,387
L4-149.2	Prep & Wind conductor 3rd (twisted) winding form	03MAR03*	28MAR03		0.00	0.00	189



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▬	2/1/03 Status
▬	3/1/03 Status (forecast)
▬	Progress Bar
▬	Critical Activity

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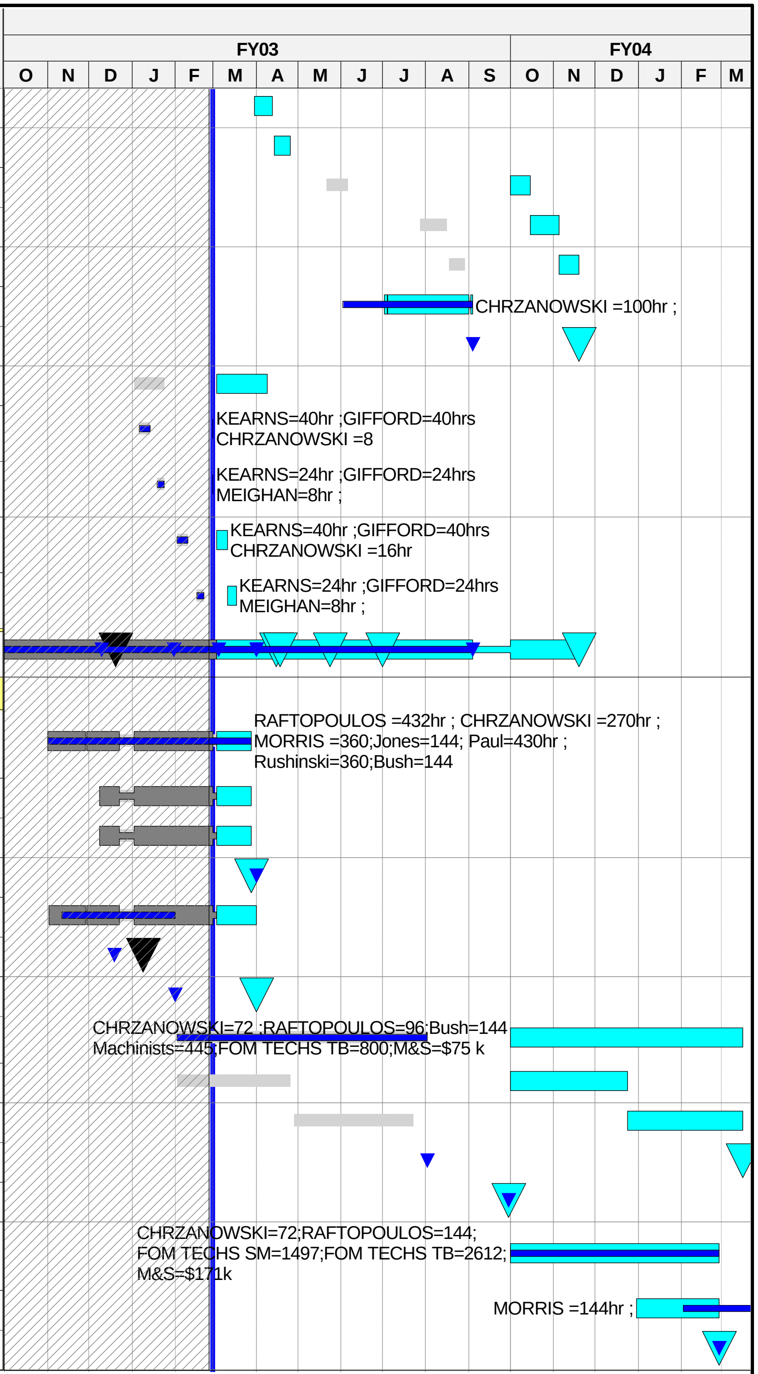
STATUS THROUGH 2/28/03

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
L4-150	Apply mold and VPI 3rd winding	31MAR03*	11APR03		0.00	0.00	189
L4-151	Inspect and test 3rd winding	14APR03	25APR03		0.00	0.00	189
L4-177	Prep &Wind conductor 4th (vertical) winding form	01OCT03*	14OCT03		0.00	0.00	70
L4-178	Apply mold and VPI 4th winding	15OCT03*	04NOV03		0.00	0.00	70
L4-179	Inspect and test 4th winding	05NOV03	18NOV03		0.00	0.00	70
141-2-5	Develop winding and VPI procedures for prototype	02JUL03*	03SEP03		0.00	15,256.00	124
141-2-5.1	Final VPI Process for Mod Coils		18NOV03*		0.00	0.00	70
L4-115	Fab winding form (outside vendor)	03MAR03*	07APR03		0.00	0.00	2,471
141-QPS-1	Wind 2nd Test Coil @ PPPL *deleted*	28FEB03A	28FEB03A	DEL	7,056.48	7,056.48	
141-QPS-2	VPI 2nd Test Coil *deleted*	28FEB03A	28FEB03A	DEL	4,301.52	4,301.52	
141-QPS-3	Wind (4) conductor Coil	03MAR03*	10MAR03	TBD	0.00	8,276.96	2,486
141-QPS-4	VPI (4) Conductor Coil	11MAR03*	17MAR03	TBD	0.00	4,301.52	2,486
Subtotal		01OCT02A	18NOV03		234,652.84	617,734.29	2,313
Job: 1407 -Mod Coil Winding Facility-CHRZANOWSKI							
141-3-1	Design Tooling and Winding Facility	01NOV02A	27MAR03	75	206,931.54	275,908.72	294
L4-170	Develop facility requirements and design	09DEC02A	27MAR03	30	0.00	0.00	294
L4-171	Complete product specification and fab drawings	09DEC02A	27MAR03	30	0.00	0.00	294
141-3-1.4	Complete Design of Tooling and autoclav(SOW 4.8)		27MAR03		0.00	0.00	294
141-3-1.1	Design Autoclave	02NOV02A	31MAR03	90	0.00	0.00	172
141-3-1.2	PDR Autoclave		08JAN03A	100	0.00	0.00	
141-3-1.3	FINAL design Autoclave		31MAR03*		0.00	0.00	172
141-3-3	Fabricate Autoclave	01OCT03*	16MAR04		0.00	261,874.54	44
L4-173	Procure components for autoclave	01OCT03	23DEC03		0.00	0.00	44
L4-174	Fabricate and install autoclave	24DEC03	16MAR04		0.00	0.00	44
141-3-3.1	Fabricate Autoclave		16MAR04		0.00	0.00	44
141-3-35.1	FDR Winding Facility and Tooling		29SEP03*		0.00	0.00	57
141-3-35	Fabricate remainder of winding facility	01OCT03*	27FEB04		0.00	632,927.58	56
141-3-2	Upgrade tooling drawings as required	31DEC03	27FEB04		0.00	15,347.52	56
141-3-35.2	Fabricate Remainder of winding facility complete		27FEB04*		0.00	0.00	56



Run Date **19MAR03 10:23**

▬	2/1/03 Status
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▬	Critical Activity

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FY03 Work Authorization Plan

STATUS THROUGH
2/28/03

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
Subtotal		01NOV02A	16MAR04		206,931.54	1,186,058.36	44

Job:1408-Mod Coil Proto Coil Winding-CHRZANOWSKI

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
141-3-45	Wind, VPI & test prototype coil	17MAR04*	16JUN04		0.00	306,342.12	44
141-3-45.1	Complete Prototype Winding (SOW 4.9)		16JUN04*		0.00	0.00	44
141-3-45.2	Final Procedures & Process Plan (SOW 4.10)		16JUN04		0.00	0.00	44
Subtotal		17MAR04	16JUN04		0.00	306,342.12	44

15 - Structures

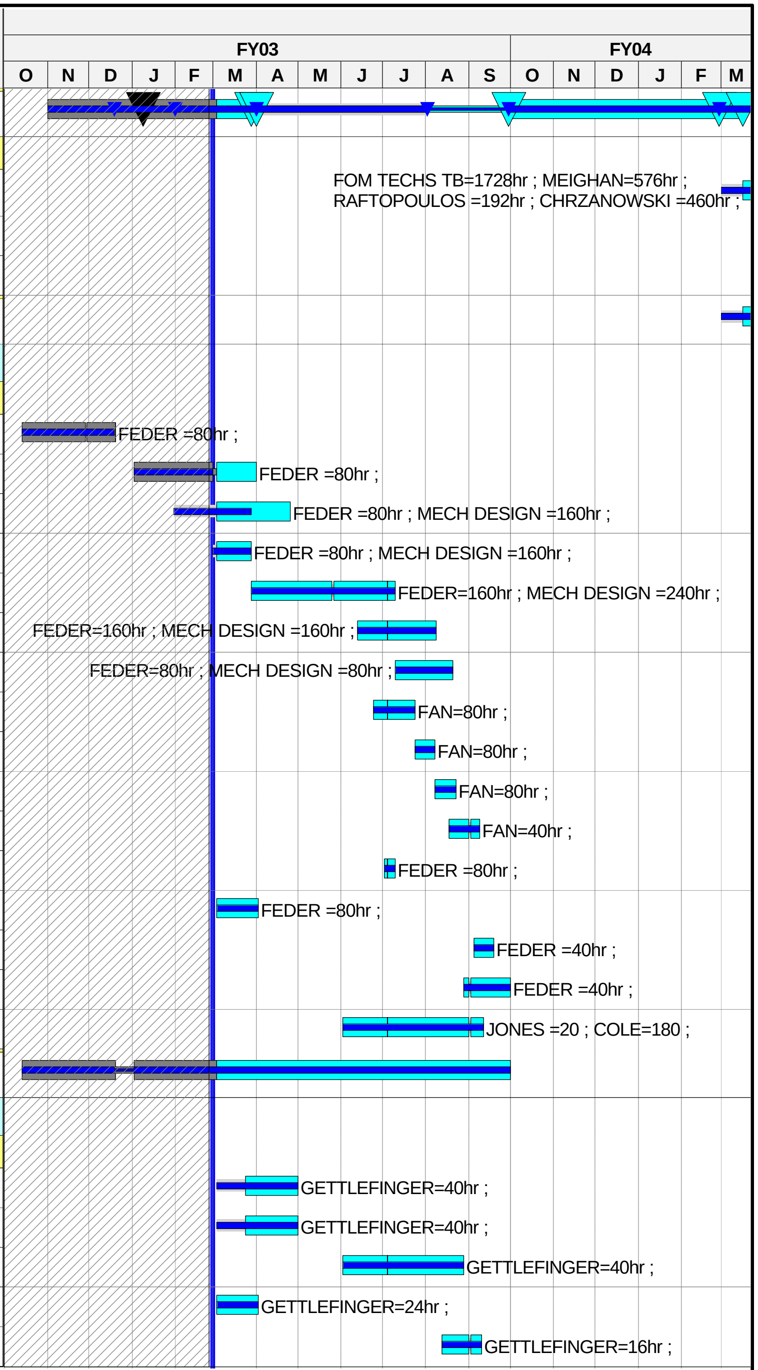
Job: 1501 - Structures Design-FEDER

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
150-1-0	Update Conceptual Design	14OCT02A	20DEC02A	100	12,268.80	12,268.80	
150-1-1	Draft of 1) SRD, and 2) SDD Section III - Requir	02JAN03A	31MAR03	10	1,226.88	12,268.80	2,476
150-1-2	General arrangement models and drawings	03MAR03*	24APR03		0.00	28,249.60	2,458
150-1-3	Interface drawings	03MAR03*	27MAR03		0.00	28,249.60	2,478
150-2-1	Drawings, models, SDD Sect IV text for TF and ou	28MAR03*	09JUL03		0.00	48,508.80	2,406
150-2-2	Same data for central solenoid supports and TF b	12JUN03*	08AUG03		0.00	40,518.40	2,384
150-2-3	Support structure I&C	10JUL03*	20AUG03		0.00	20,259.20	2,376
150-3-1	Develop thermal/structural FEA models of cols, i	24JUN03*	23JUL03		0.00	12,204.80	2,396
150-3-2	Incorporate EM loads and load cases from global	24JUL03*	06AUG03		0.00	12,204.80	2,386
150-3-3	Evaluate stress/deflection due to EM / gravity /	07AUG03*	22AUG03		0.00	12,204.80	2,374
150-3-4	Prepare analysis reports, SDD analysis summary,	18AUG03*	08SEP03		0.00	6,102.40	2,364
150-4-1	Document fabrication and assembly options for co	02JUL03*	09JUL03		0.00	12,268.80	2,406
150-4-2	Update cost and schedule estimates WBS 15	03MAR03*	01APR03		0.00	12,268.80	2,475
150-4-3	Prepare plans for FY-04	05SEP03*	18SEP03		0.00	6,134.40	2,356
150-4-4	Prepare PDR documentation for WBS 15	28AUG03*	30SEP03		0.00	6,134.40	2,348
192-1-2-15	Self consistent models/dwgs Conv coil/strct PDR	02JUN03*	10SEP03		0.00	13,220.00	2,362
Subtotal		14OCT02A	30SEP03		13,495.68	283,066.40	2,348

16 - Coil Services

Job: 1601 - Coil Services Design-WILLIAMSON

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
161-1-1	Draft "design-to" spec.	24MAR03*	30APR03		0.00	6,134.40	2,454
161-1-2	Interface control documents for modular coils	24MAR03*	30APR03		0.00	6,134.40	2,454
161-1-3	Interface control document for conventional coil	02JUN03*	27AUG03		0.00	6,134.40	2,371
161-2-1	Update cost estimate for LN2 distribution system	03MAR03*	01APR03		0.00	3,680.64	2,475
161-2-2	Update planning for FY-04	12AUG03*	09SEP03		0.00	2,453.76	2,363



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▭ 2/1/03 Status
🟦 3/1/03 Status (forecast)
▬ Progress Bar
🟥 Critical Activity

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FY03 Work Authorization Plan

STATUS THROUGH 2/28/03

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
162-1-1	Interface control documents for modular coils	03MAR03*	30APR03		0.00	9,153.60	2,454
162-1-2	Interface control document for conventional coil	02JUN03*	27AUG03		0.00	9,153.60	2,371
162-2-1	Update cost estimate coil electrical leadsWBS162	03MAR03*	01APR03		0.00	3,661.44	2,475
162-2-2	Update planning for FY-04	12AUG03*	09SEP03		0.00	2,440.96	2,363
163-1-1	Design-to specification **N/R**	03MAR03	28FEB03		0.00	0.00	2,497
163-1-2	Coil protection system architecture and sys resp	03MAR03*	31MAR03		0.00	11,445.60	2,413
163-1-3	Define Interfaces	01APR03*	28APR03		0.00	11,445.60	2,413
163-2-1	Interface control documents for modular coils	29APR03*	27JUN03		0.00	5,722.80	2,413
163-2-2	Interface control document for conventional coil	02JUN03*	27AUG03		0.00	5,722.80	2,371
163-3-1	Update cost estimate coil protection systWBS 163	03MAR03*	01APR03		0.00	3,433.68	2,475
163-3-2	Update planning for FY-04	12AUG03*	09SEP03		0.00	2,289.12	2,363
Subtotal		03MAR03	09SEP03		0.00	89,006.80	2,363

17 - Cryostat and Base Support Structure

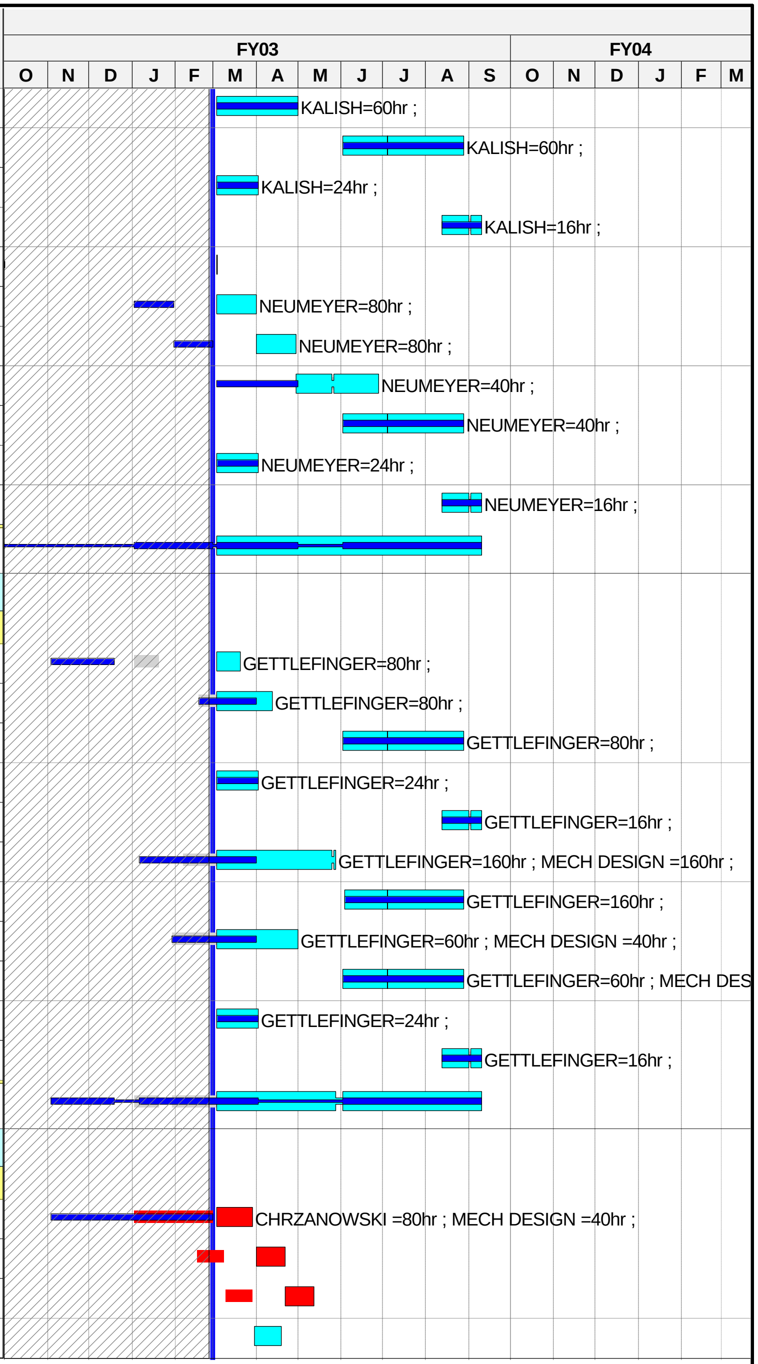
Job:1701-Cryost&Base Sprt Strct Dsn-GETTLEFINGER

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
171-1-0	Update Conceptual design	03MAR03*	19MAR03		0.00	12,268.80	2,484
171-1-1	Cryostat interface with VV and Mod coils	03MAR03*	11APR03		0.00	12,268.80	2,467
171-1-2	Cryostat interface with conv coils & structure	02JUN03*	27AUG03		0.00	12,268.80	2,348
171-2-1	Cryostst-update cost estimat	03MAR03*	01APR03		0.00	3,680.64	2,475
171-2-2	Cryostat-update planning for FY-04	12AUG03*	09SEP03		0.00	2,453.76	2,363
172-1-1	Base structure Design CAD models/dwgs	03MAR03*	27MAY03		0.00	40,518.40	2,436
172-1-2	Base Struct Design analysis reports	03JUN03*	27AUG03		0.00	24,537.60	2,371
172-2-1	Base Struct interface with VV and Mod coils	03MAR03*	30APR03		0.00	13,196.80	2,454
172-2-2	Base Struct interface with conv coils and struc	02JUN03*	27AUG03		0.00	13,196.80	2,348
172-3-1	Base Struct- update cost estimate	03MAR03*	01APR03		0.00	3,680.64	2,475
172-3-2	Base Struct-Update planning for FY-04	12AUG03*	09SEP03		0.00	2,453.76	2,363
Subtotal		03MAR03	09SEP03		0.00	140,524.80	2,363

18 - Field Period Assembly

Job: 1801 - Field Period Assly Dsn-CHRZANOWSKI

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
185-1-1	Revised conceptual plan for field period assembl	03MAR03*	28MAR03		0.00	16,200.00	0
L4-016	Develop concept of tooling and assembly features	01APR03*	21APR03		0.00	0.00	-1
L4-017	Document procedure for FP assembly, conduct revi	22APR03*	12MAY03		0.00	0.00	-1
L4-018	Develop concept of tooling and assembly features	31MAR03*	18APR03		0.00	0.00	15



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⬜ 2/1/03 Status
🟦 3/1/03 Status (forecast)
⬛ Progress Bar
🟥 Critical Activity

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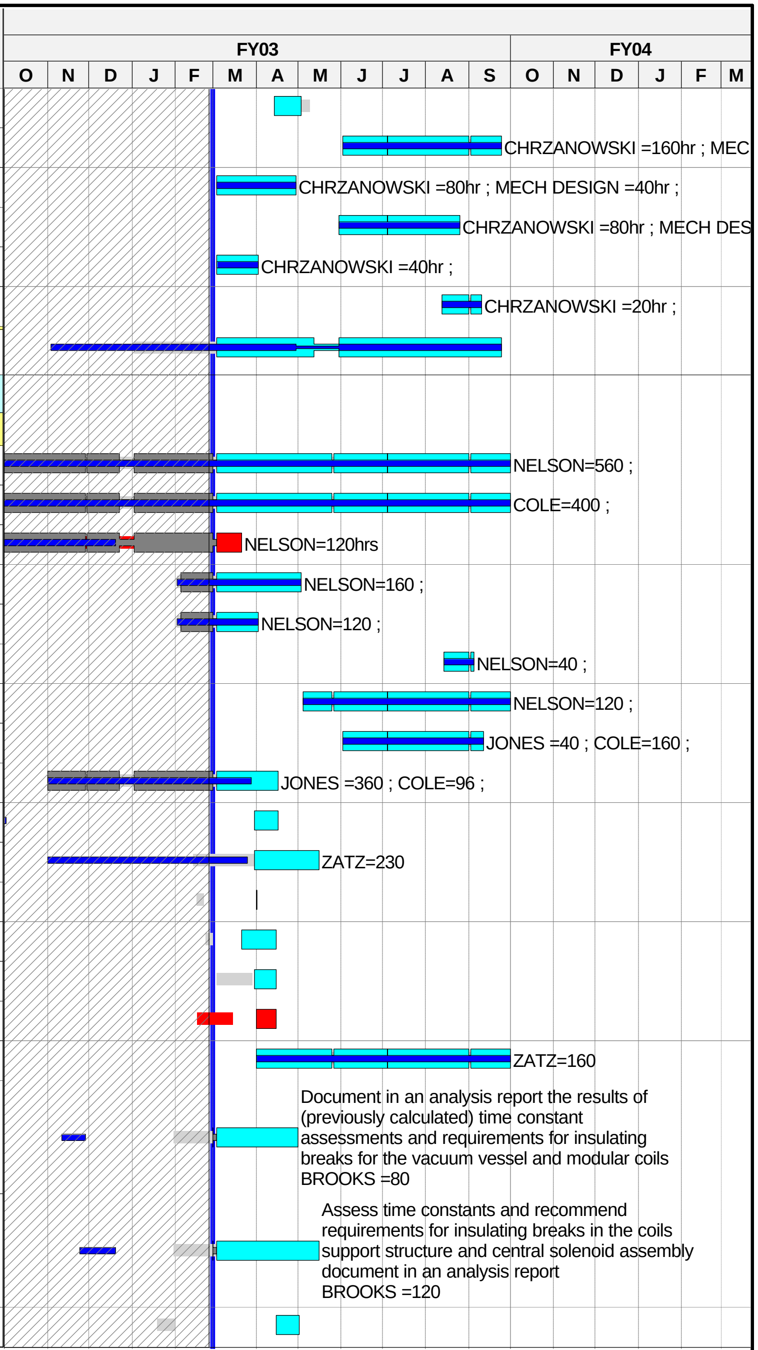
FY03 Work Authorization Plan

STATUS THROUGH
2/28/03

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
L4-019	Document procedure for final assembly, conduct r	14APR03*	02MAY03		0.00	0.00	5
185-1-2	Layouts and preliminary tooling models and draw	02JUN03*	24SEP03		0.00	34,897.00	2,352
185-2-1	Interface control documents for vacuum vessel an	03MAR03*	28APR03		0.00	16,200.00	2,456
185-2-2	Interface control document for conventional coil	30MAY03*	25AUG03		0.00	16,200.00	2,373
185-3-1	Update cost estimate field period assmbly WBS 18	03MAR03*	01APR03		0.00	6,102.40	2,475
185-3-2	Update planning for FY-04	12AUG03*	09SEP03		0.00	3,051.20	2,363
Subtotal		03MAR03	24SEP03		0.00	92,650.60	2,352
19 - Stellarator Core Management and Integration							
Job: 1901 - Stellarator Core Mngtt&Integr-NELSON							
0191-1-5	LOE-Day to day telecons, meetings,Design and R&D	01OCT02A	30SEP03	LOE	36,644.16	91,840.00	2,348
0192-1-3	LOE-Day to day coordin of Pro-E & Pro-Intrali	01OCT02A	30SEP03	LOE	22,982.40	57,600.00	2,348
121-1-01	Update Conceptual Design of Stellarator Core	01OCT02A	21MAR03	85	16,728.00	19,680.00	-6
191-1-1	Modular Coil / VV dsn review and documentation	05FEB03A	02MAY03	5	1,312.00	26,240.00	2,452
191-1-2	CD 2 cost and schedule update for WBS 1	05FEB03A	01APR03	5	984.00	19,680.00	2,475
191-1-3	FY04 work plans	14AUG03*	04SEP03		0.00	6,560.00	2,366
191-1-4	Conventional Coils / support structure dsn rvw	05MAY03*	30SEP03		0.00	19,680.00	2,348
192-1-2	Self consistent models/dwgs Conv coil/strct PDR	02JUN03*	10SEP03		0.00	26,440.00	2,362
192-1-4	Prepare Stellarator Core Assembly dwgs &assy seq	01NOV02A	15APR03	60	26,654.40	44,424.00	2,465
192-2-2	Material permeability limits vs location	31MAR03*	15APR03		0.00	0.00	2,465
192-2-4	Prepare stellarator core assembly dsn criteria	31MAR03*	15MAY03		0.00	35,088.80	2,443
L4-022	Define preliminary S1, S2, and S3 states	01APR03*	31MAR03		0.00	0.00	2,476
L4-023	Confirm final S1, S2, and S3 states	21MAR03*	14APR03		0.00	0.00	2,466
L4-024	Perform flexibility studies	31MAR03*	14APR03		0.00	0.00	2,466
L4-025	Perform initial divertor (edge modeling) studies	01APR03*	14APR03		0.00	0.00	-6
192-2-5A	continuing analysis/final rprts f/mod coil FY 03	01APR03*	30SEP03		0.00	19,527.68	2,348
193-1-1	Doc time cnstnt/rqmnts f/ insul breaks vv/mc	28FEB03A	30APR03	50	6,102.40	12,204.80	2,454
193-1-2	Doc time cnstnt/rqmnts insul breaks struct/solen	28FEB03A	15MAY03	50	9,153.60	18,307.20	2,443
L4-029	Assess time constants and derived rqmts in struc	15APR03*	01MAY03		0.00	0.00	2,388



Document in an analysis report the results of (previously calculated) time constant assessments and requirements for insulating breaks for the vacuum vessel and modular coils
BROOKS =80

Assess time constants and recommend requirements for insulating breaks in the coils support structure and central solenoid assembly document in an analysis report
BROOKS =120

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⬜	2/1/03 Status
🟦	3/1/03 Status (forecast)
⬛	Progress Bar
🟥	Critical Activity

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FY03 Work Authorization Plan

STATUS THROUGH 2/28/03

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
193-1-3	Time cnstnt,loop voltage, transient filed errors	28FEB03A	15MAY03	50	9,153.60	18,307.20	2,443
L4-028	Document time constants and derived rqmts for MC	03MAR03*	14MAR03		0.00	0.00	2,409
L4-030	Assess time constants and field errors in couple	02MAY03*	15MAY03		0.00	0.00	2,388
L4-032	Assess potential sources of field errors in TC	02JUN03*	27JUN03		0.00	0.00	2,388
193-1-4	Doc. tolerance studies for mod,TF,&PF coils	14APR03*	01MAY03		0.00	18,307.20	2,453
L4-031	Document tolerance studies and derived rqmts	16MAY03*	30MAY03		0.00	0.00	2,388
193-1-5	Doc. VV disruption loads	15APR03*	01MAY03		0.00	6,102.40	2,453
193-1-6	EM analysis in final design	01APR03*	30SEP03		0.00	106,792.00	2,348
L4-182	Update the ICH (WBS 24) conceptual design for an	14FEB03A	15APR03	2	0.00	0.00	2,440
Subtotal		01OCT02A	30SEP03		129,714.56	546,781.28	2,348

2 - Plasma Heating, Fueling & Vac Systems

21 - Fueling Systems

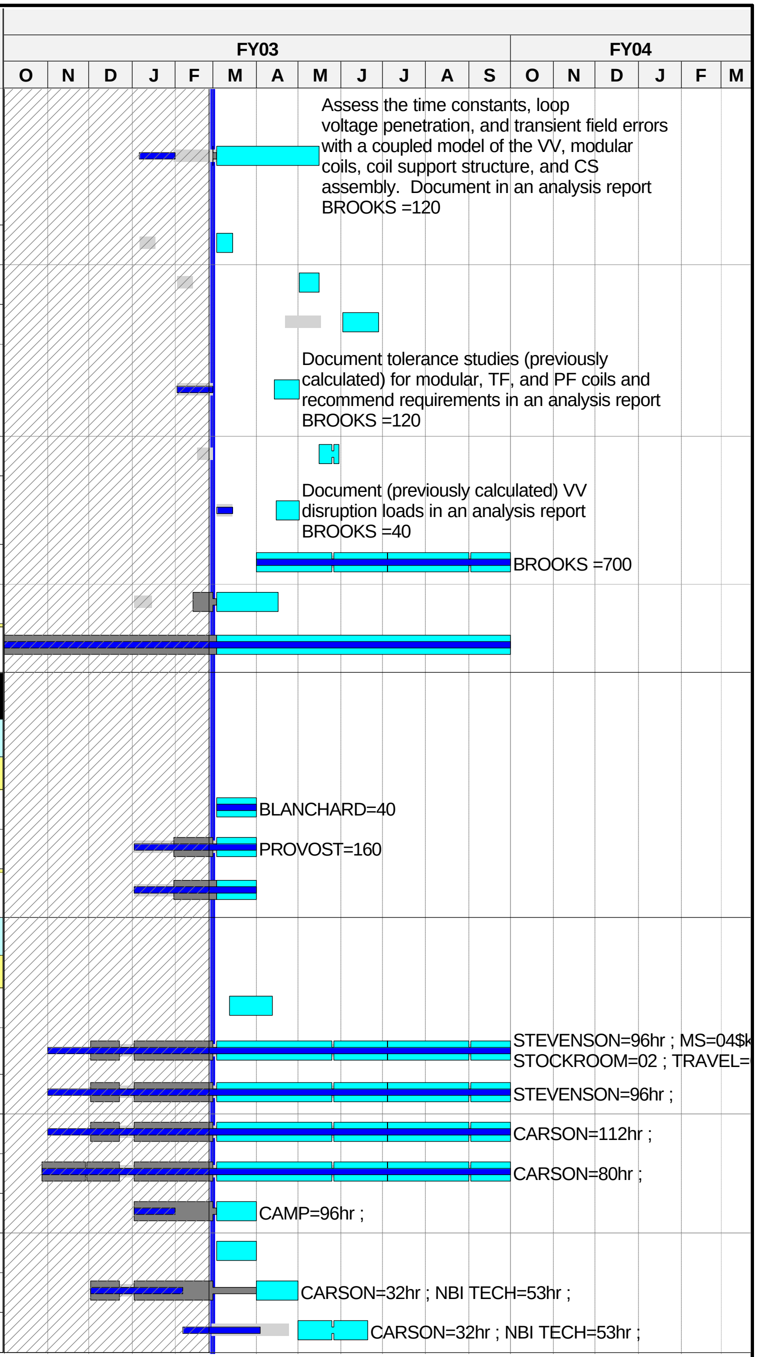
Job: 2001-VPS,Gas& Cond Sys Oversight-BLANCHARD

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
211-0001	CDR Chits and C&S updates	03MAR03*	31MAR03		0.00	6,134.40	2,476
211-0002	Equipment checkout	31JAN03A	31MAR03	LOE	7,999.20	15,998.40	2,476
Subtotal		31JAN03A	31MAR03		7,999.20	22,132.80	2,476

25 - Neutral Beam Injection System

Job: 2501 - Neutral Beam Refurbishment-STEVENSON

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
L4-188	Update cost and schedule estimates	12MAR03*	11APR03		0.00	0.00	2,442
250-0001	Design & work planning	02DEC02A	30SEP03	10	2,185.67	21,856.72	2,348
250-0003	Systems Engineering & Interfaces	02DEC02A	30SEP03	10	1,373.47	13,734.72	2,348
250-0005	Design Layout and Routing	02DEC02A	30SEP03	10	1,142.06	11,420.64	2,348
250-0006	Procedures	28OCT02A	30SEP03	10	815.76	8,157.60	2,348
250-0007	Power Supply Eval-Pole Xfmr AC Power Test	02JAN03A	31MAR03	25	3,433.68	13,734.72	2,476
250-0007.1	AC power equipt Insp, test,maint R367433	03MAR03*	31MAR03	25	0.00	0.00	2,476
250-0009	Power Supply Eval-Clean Accel Rectifier	02DEC02A	30APR03	2	141.47	7,073.74	2,383
250-0011	Power Supply Eval-Hipot Accel Rectifier	01MAY03	19JUN03		0.00	7,073.74	2,383



Run Date **19MAR03 10:23**

▬ 2/1/03 Status
▬ 3/1/03 Status (forecast)
▬ Progress Bar
🟥 Critical Activity

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FY03 Work Authorization Plan

STATUS THROUGH
2/28/03

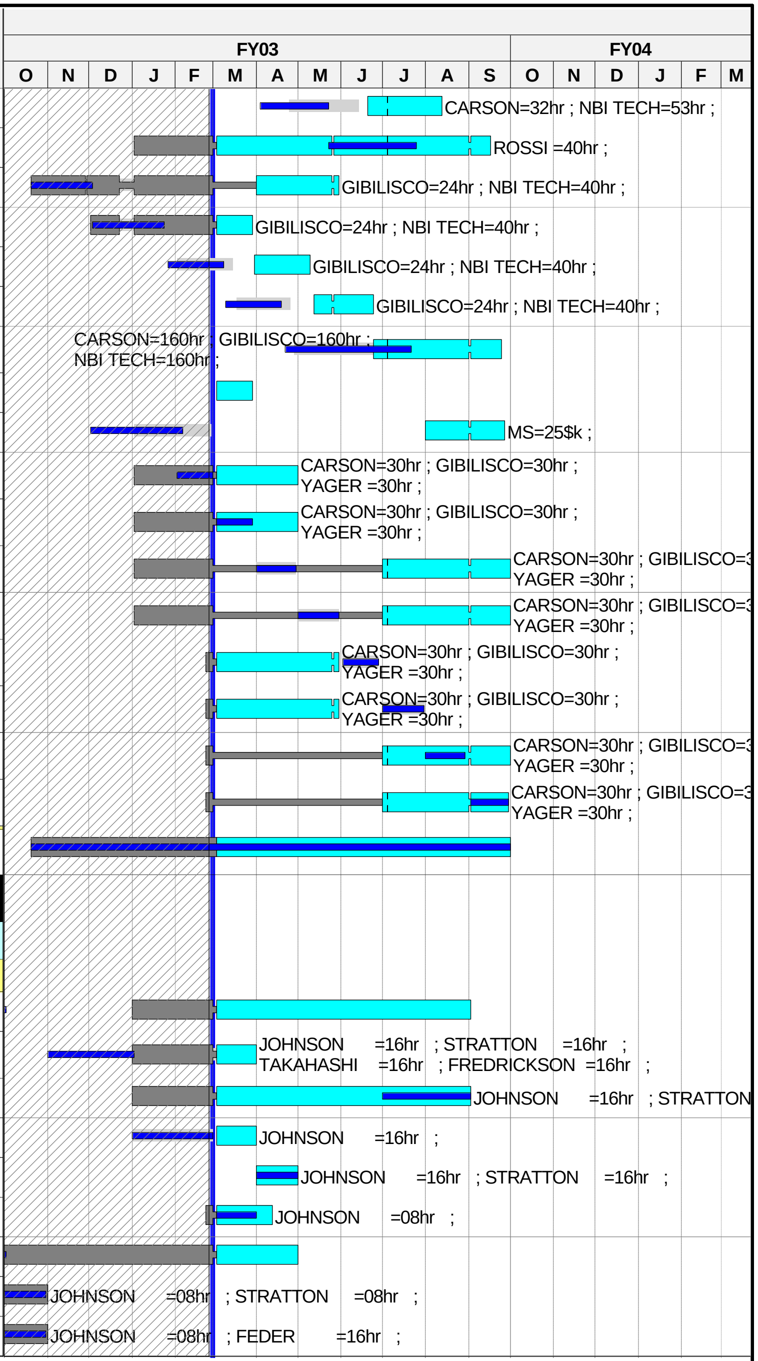
Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
250-0013	Power Supply Eval-Local Test Accel Rectifier	20JUN03	11AUG03		0.00	7,073.74	2,383
250-0015	Power Supply Eval-Evaluate Phase Controller	02JAN03A	16SEP03	10	407.88	4,078.80	2,358
250-0017	Power Supply Eval-Modulator Restoration	21OCT02A	30MAY03	10	532.33	5,323.28	2,433
250-0019	Power Supply Eval-Fault Detector Evaluation	02DEC02A	28MAR03	50	2,661.64	5,323.28	2,353
250-0021	Power Supply Eval-Crowbar Test	31MAR03	09MAY03		0.00	5,323.28	2,353
250-0023	Power Supply Eval-Relocate DL to Mod Area	12MAY03	23JUN03		0.00	5,323.28	2,353
250-0025	Power Supply Eval-Accel System Test	24JUN03	23SEP03		0.00	44,134.40	2,353
250-0025.5	Repair existing leak detector	03MAR03*	28MAR03		0.00	0.00	2,477
250-0026	Purchase Leak Detector **on hold pending CR**	01AUG03*	26SEP03		0.00	33,000.00	2,350
250-0027	Beamline #1 Evaluations-Vacuum Test	02JAN03A	30APR03	25	2,279.49	9,117.90	2,454
250-0029	Beamline #2 Evaluations-Vacuum Test	02JAN03A	30APR03	25	2,279.49	9,117.90	2,454
250-0031	Beamline #3 Evaluations-Vacuum Test	02JAN03A	30SEP03	5	455.91	9,117.90	2,348
250-0033	Beamline #4 Evaluations-Vacuum Test	02JAN03A	30SEP03	5	455.91	9,117.90	2,348
250-0035	Beamline #1 Evaluations-Cryo Pump Test	24FEB03A	30MAY03	2	182.35	9,117.90	2,433
250-0037	Beamline #2 Evaluations-Cryo Pump Test	24FEB03A	30MAY03	2	182.35	9,117.90	2,433
250-0039	Beamline #3 Evaluations-Cryo Pump Test	24FEB03A	30SEP03	2	182.35	9,117.90	2,348
250-0041	Beamline #4 Evaluations-Cryo Pump Test	24FEB03A	29SEP03	2	182.35	9,117.90	2,349
Subtotal		21OCT02A	30SEP03		18,894.16	265,575.14	2,348

3 - Diagnostics

39 - Diagnostics Integration

Job: 3901 - Diagnostics sys Integration-JOHNSON

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
390-1	DIAGNOSTIC INTEGRATION	01JAN03A	01SEP03		0.00	0.00	2,369
390-101	refine measurement requirements	01JAN03A	31MAR03	20	2,002.96	10,014.88	2,479
390-102	refine diagnostics/research plan	01JAN03A	01SEP03	20	1,102.36	5,511.84	2,369
390-103	prepare physics meetings presentations	03MAR03*	31MAR03		0.00	4,075.40	2,479
390-104	prepare VV CDR material	01APR03*	30APR03		0.00	5,511.84	2,457
390-105	review and modify WBS3 cost estimates	24FEB03A	11APR03	10	163.02	1,630.16	2,470
390-2	PORT ORIENTATION/ALLOCATION ISSUES	01OCT02A	30APR03		0.00	0.00	2,457
390-201	prioritize diagnostics for access	01OCT02A	31OCT02A	100	2,755.92	2,755.92	
390-202	prep drawings package for specialist meetings	01OCT02A	31OCT02A	100	4,083.92	4,083.92	



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▬	2/1/03 Status
🟦	3/1/03 Status (forecast)
▬	Progress Bar
🟥	Critical Activity

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FY03 Work Authorization Plan

STATUS THROUGH
2/28/03

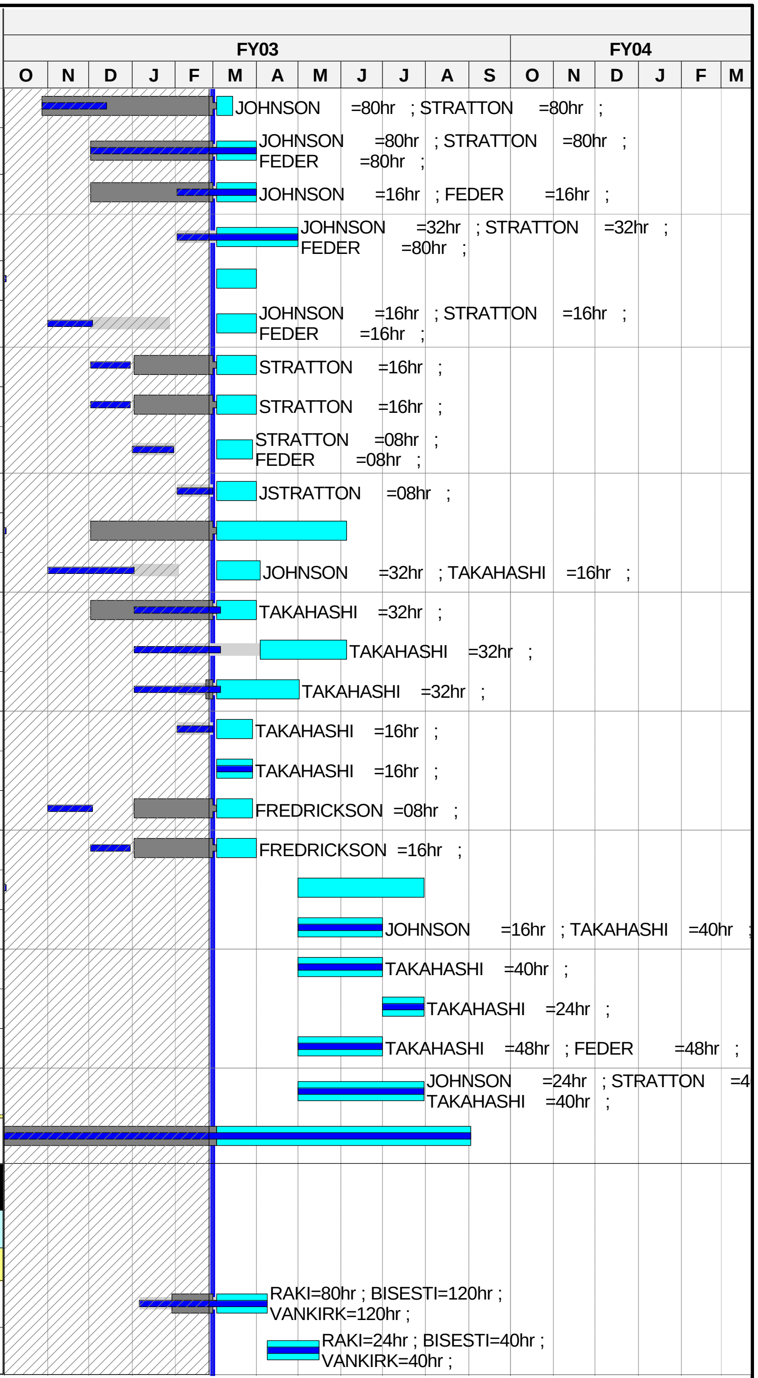
Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
390-203	layouts of diagnostic sightllines	28OCT02A	14MAR03	70	19,291.44	27,559.20	2,490
390-204	attend/follow-up wkly meetings on sightlines	02DEC02A	31MAR03	40	15,931.20	39,828.00	2,479
390-205	explore cryostat implications	02DEC02A	31MAR03	20	1,142.81	5,714.08	2,479
390-206	provide port orientation info f/VV design	03MAR03*	30APR03		0.00	23,292.48	2,457
390-3	SXR TOMOGRAPHY INTEGRATION INTO VV	03MAR03	31MAR03		0.00	0.00	2,479
390-301	investigate integration with modified VV wedge	03MAR03*	31MAR03		0.00	5,712.26	2,479
390-302	invest feasibility of AXUV diode array approach	03JAN03A	31MAR03	10	225.15	2,251.52	2,479
390-303	invest feasibility scintillator/fiber optics	03JAN03A	31MAR03	10	225.15	2,251.52	2,479
390-304	prepare and present physics meeting presentation	03MAR03*	28MAR03		0.00	2,352.64	2,480
390-305	provide input to VV CDR	03MAR03*	31MAR03		0.00	1,125.76	2,479
390-4	MAGNETIC DIAGNOSTICS	02DEC02A	04JUN03		0.00	0.00	2,432
390-401	define measurement reqts for slow magnetics	03MAR03*	03APR03		0.00	8,772.16	2,432
390-402	invest space envelopes magn sensors inside vsl	02DEC02A	31MAR03	10	652.06	6,520.64	2,479
390-403	consider altern locations electr vac feedthrus	04APR03	04JUN03		0.00	4,503.04	2,432
390-404	invest space envel for magn sensors outside vsl	24FEB03A	01MAY03	20	900.61	4,503.04	2,456
390-405	engr mtg present space envel/mounting concepts	03MAR03*	28MAR03		0.00	2,251.52	2,480
390-406	document space envelope for slow magnetics	03MAR03*	28MAR03		0.00	2,251.52	2,480
390-407	define high freq. Mirnov coil requirements	03JAN03A	28MAR03	20	225.15	1,125.76	2,480
390-408	conc dsn space envel high freq Mirnov coils	03JAN03A	31MAR03	20	450.30	2,251.52	2,479
390-5	E-BEAM CONCEPT EXPLORATION	01MAY03	30JUL03		0.00	0.00	2,392
390-501	define space and time resolution requirements	01MAY03*	30JUN03		0.00	8,889.12	2,414
390-502	define vacuum scenarios to be probed	01MAY03*	30JUN03		0.00	5,628.80	2,414
390-503	prep physics mtg presenta reqnts, scenarios	01JUL03*	30JUL03		0.00	3,377.28	2,392
390-504	continue concept exploration detecting e-beam	01MAY03*	30JUN03		0.00	14,115.84	2,414
390-601	Investig Diagn Issues w/other stellartor groups	01MAY03*	30JUL03		0.00	16,148.08	2,392
Subtotal		01OCT02A	01SEP03		49,152.05	224,009.74	2,369

4 - Electrical Power Systems

43 - DC Systems

Job: 4301 - ElectrDsn DC SystemsWBS 432&433-RAKI

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
432-0001	D to C Site DC Cabling -Design & Requisitions	30JAN03A	07APR03		5,489.40	35,416.80	2,391
432-0002	D to C Site DC Cabling -Design Review	08APR03	15MAY03		0.00	11,424.08	2,391



Run Date **19MAR03 10:23**

▬ 2/1/03 Status
▬ 3/1/03 Status (forecast)
▬ Progress Bar
▬ Critical Activity

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FY03 Work Authorization Plan

STATUS THROUGH 2/28/03

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
432-0004	D to C Site DC Cabling -Final Design	16MAY03	30JUL03		0.00	13,713.20	2,391
432-0006	D Site DC Systems -SOW, IP	03MAR03*	05MAY03		0.00	0.00	2,451
433-0001	D Site DC Systems -Design & Requisitions	03MAR03*	07APR03		0.00	21,703.60	2,391
433-0002	DSite DC Systems -Design Review Prep	08APR03	15MAY03		0.00	11,424.08	2,391
433-0003	D Site DC Systems and D-C Site DC Cabling-PDR		15MAY03		0.00	0.00	2,391
433-0004	D Site DC Systems -Final Design	16MAY03	30JUL03		0.00	13,713.20	2,391
433-0005	D Site DC Systems and D-C Site DC Cabling-FDR		30JUL03		0.00	0.00	2,391
433-0007	Disconnect & Grid Switch Design	03MAR03*	10MAR03		0.00	9,718.00	2,491
433-0008	Disconnect & Grid Switch Procurement spec	03MAR03*	28FEB03		0.00	0.00	2,497
Subtotal		30JAN03A	30JUL03		5,489.40	117,112.96	2,391

44 - Control and protection Systems

Job: 4401 - Electr Dsn Control & Protection-RAKI

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
445-0001	Coil Protection Design	03MAR03*	04AUG03		0.00	22,891.20	2,388
Subtotal		03MAR03	04AUG03		0.00	22,891.20	2,388

45 - Power System Design and Integration

Job: 4501 - Electr Sys Design & Integration-RAKI

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
451-0000	Update Cost & Schedule Baseline	11MAR03*	11APR03		0.00	0.00	2,467
451-0001	Drawings & Documentation Support FY03	03FEB03A	30SEP03		1,350.58	59,388.00	2,348
451-0002	Calculations FY03	03MAR03*	31MAR03		0.00	6,867.36	2,476
Subtotal		03FEB03A	30SEP03		1,350.58	66,255.36	2,348

46 - FCPC Building Modifications

Job: 4601 - FCPC Bldg Modifications-RAKI

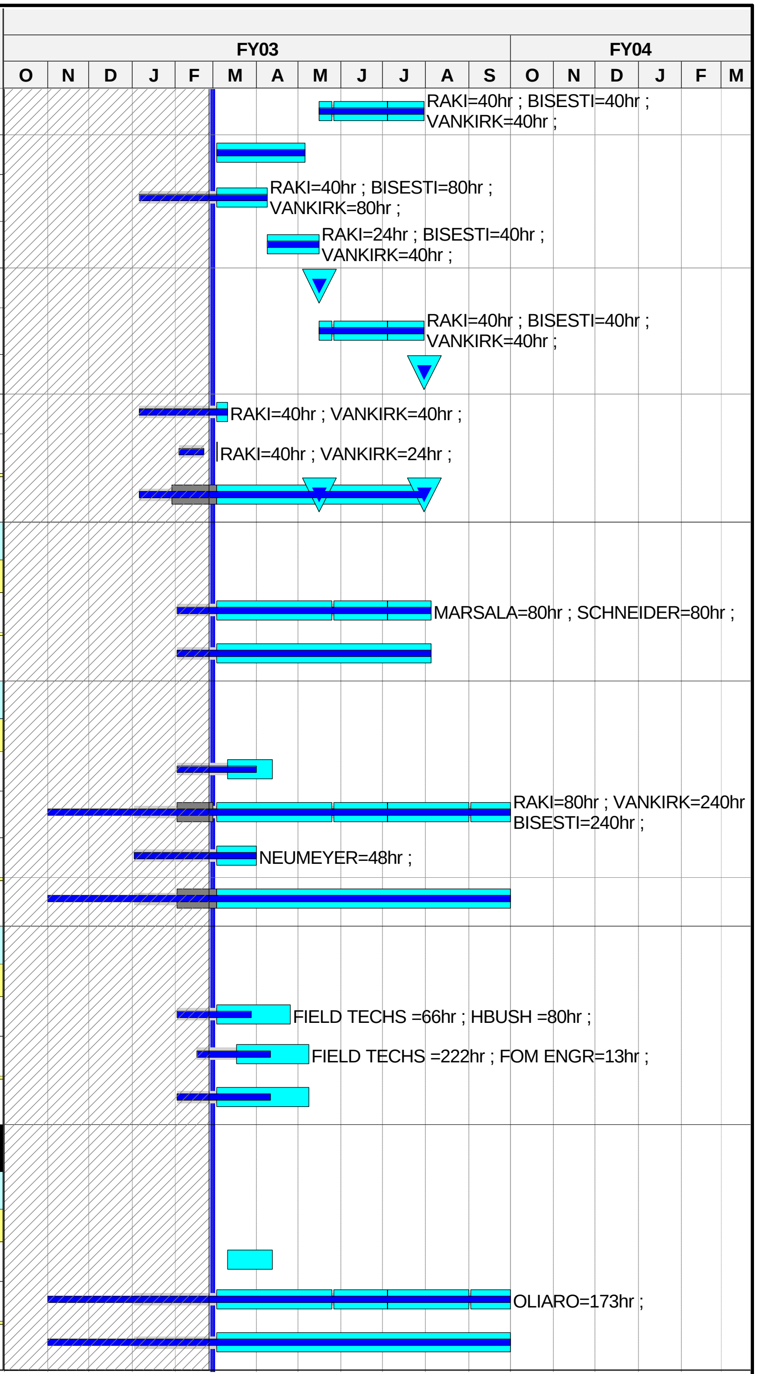
Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
460-0001	Electrical Clearing (procedures and field)	03MAR03*	24APR03		0.00	18,044.94	2,448
460-0002	Mechanical Clearing (procedures and field)	17MAR03	08MAY03		0.00	24,191.46	2,448
Subtotal		03MAR03	08MAY03		0.00	42,236.40	2,448

5 - Central I&C Systems

58 - Central I&C management and Integration

Job: 5801 -Central I&C Integr & Oversight-OLIARO

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
58-2000	Update cost and schedule estimates	11MAR03*	11APR03		0.00	0.00	2,467
58-2003	Systems Integration and oversight FY03	03MAR03*	30SEP03		0.00	23,872.27	2,348
Subtotal		03MAR03	30SEP03		0.00	23,872.27	2,348



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6 - Facility Systems

65 - Facility Systems Integration

Job: 6501 - Facility Systems Integration-DUDEK

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
611.000	Update cost and schedule estimates	11MAR03*	11APR03		0.00	0.00	2,467
611.001	Test Decel PS cooling skid	20FEB03A	29APR03	10	1,263.04	12,630.40	2,455
660.101	Integration support (dsn rvws, interfaces, C&S)	01NOV02A	30SEP03	LOE	18,043.06	53,381.84	2,348
Subtotal		01NOV02A	30SEP03		19,306.10	66,012.24	2,348

7 - Test Cell Preparation and Machine Assy

71 - Shield Wall Seismic Modifications

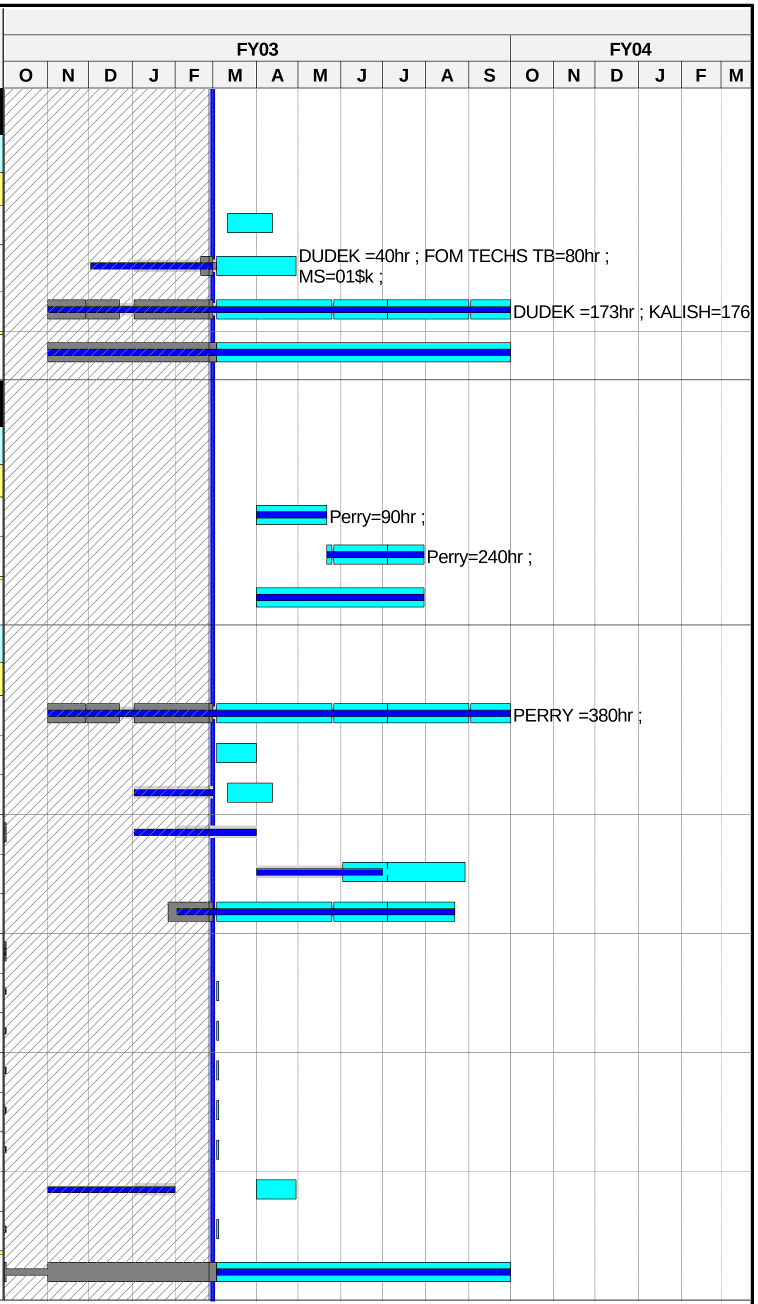
Job: 7101 - Shield Wall Modif Design-PERRY

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
613.001	Design	01APR03*	21MAY03		0.00	13,802.40	691
613.005	Final Design	22MAY03	29JUL03		0.00	36,806.40	691
Subtotal		01APR03	29JUL03		0.00	50,608.80	691

74 - Machine Assembly Planning and Oversight

Job: 7401 - TC Prep & Mach Assy Planning-PERRY

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
711A.010	LOE FY03	01NOV02A	30SEP03	LOE	19,697.56	58,276.80	2,348
711A.010.1	Prep Final Assembly Plan	03MAR03*	31MAR03		0.00	0.00	2,476
711A.011	Review and update WBS 7 cost/schedule baseline	11MAR03*	11APR03		0.00	0.00	2,467
EXFAC001	Excess Fac.-Relocate CDX pwr cables*CANCELLED*	01OCT02A	01OCT02A		0.00	0.00	
EXFAC002	Excess Fac.-Savalge vendor remove PBX device	02JUN03*	29AUG03		0.00	0.00	2,369
EXFAC003	Excess Fac.-Clear PBX control room	27JAN03A	21AUG03		0.00	0.00	2,375
GPP001	GPP-Upgarde C-Site central chilled wtr plant	01OCT02A	01OCT02A		0.00	0.00	
GPP002	GPP-CS Water sys refurbishment	03MAR03	03MAR03		0.00	0.00	2,496
GPP003	GPP-Demineralizer refurbishment	03MAR03	03MAR03		0.00	0.00	2,496
GPP004	GPP-Roofing	03MAR03	03MAR03		0.00	0.00	2,496
GPP005	GPP-Test Cell lighting	03MAR03	03MAR03		0.00	0.00	2,496
GPP006	GPP-Test Cell HVAC/dew point control	03MAR03	03MAR03		0.00	0.00	2,496
GPP007	GPP-C-Site elevators	01APR03*	28APR03		0.00	0.00	2,456
GPP008	GPP-Fire suppression	03MAR03	03MAR03		0.00	0.00	2,496
Subtotal		01OCT02A	30SEP03		19,697.56	58,276.80	2,348



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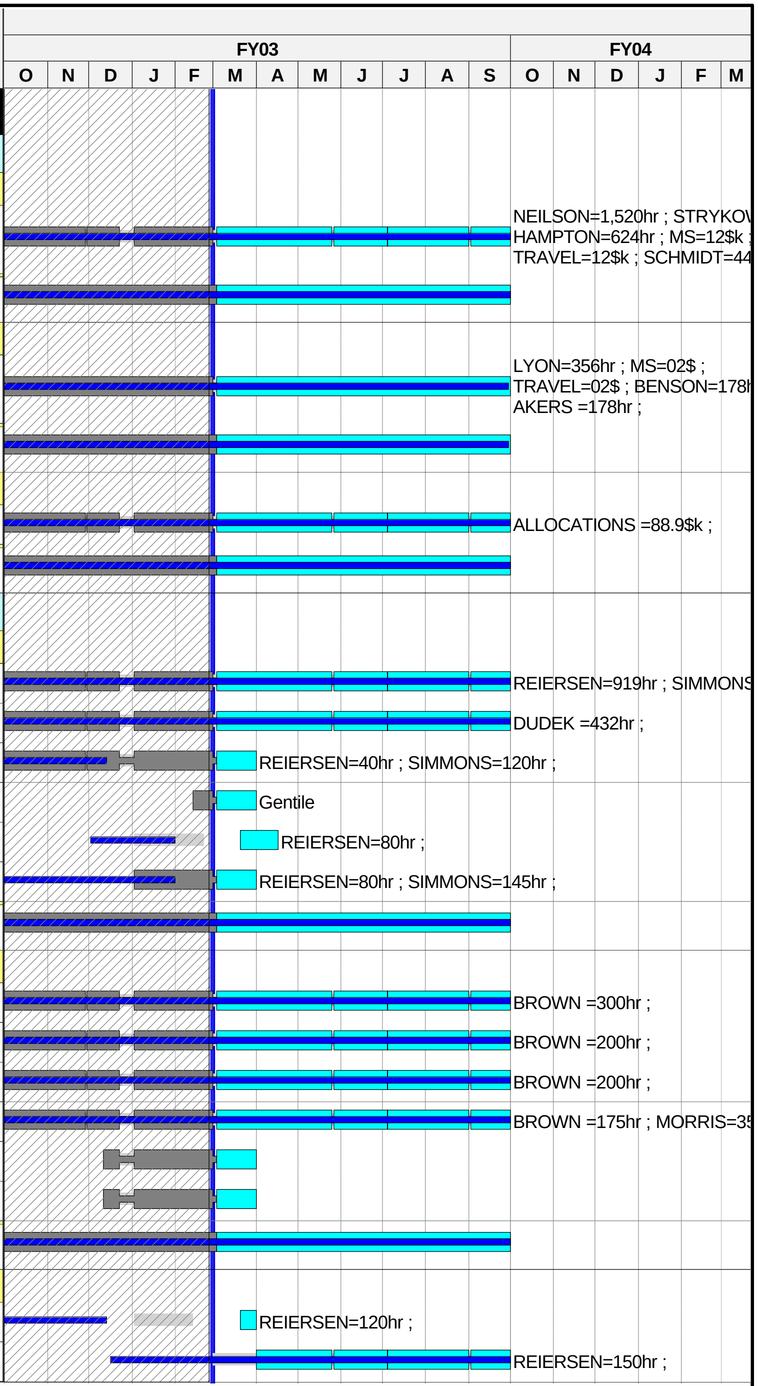
8 - Project Oversight and Support

81 - Project Management and Control

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
Job: 8101 - Project Management & Control-NEILSON							
810.001	Project Management Office PPPL FY03	01OCT02A	30SEP03	LOE	231,197.32	579,441.91	2,348
Subtotal		01OCT02A	30SEP03	LOE	231,197.32	579,441.91	2,348
Job: 8102 - NCSX MIE Management ORNL-LYON							
810.101	Project Management Office ORNL FY03	01OCT02A	30SEP03	LOE	45,617.98	109,133.92	2,348
Subtotal		01OCT02A	30SEP03	LOE	45,617.98	109,133.92	2,348
Job: 8998 - Allocations							
99.03	PPPL Alloc.FY03	01OCT02A	30SEP03	LOE	44,312.28	111,058.35	2,348
Subtotal		01OCT02A	30SEP03	LOE	44,312.28	111,058.35	2,348
82 - Project Engineering							
Job: 8202 - Engr Mgmt & Sys Eng Support-REIERSEN							
820.110	General Engr Mgmt & SE support	01OCT02A	30SEP03	LOE	121,139.69	303,608.26	2,348
820.111	Oversight of Ancillary Systems WBS 2-6	01OCT02A	30SEP03	LOE	26,434.36	66,251.52	2,348
820.112	Compl Project Plans (CMP,ICMP,DMP,DOC,SEMP,RAM	01OCT02A	31MAR03	80	21,004.16	26,255.20	2,476
820.112.1	Prep ISTP Plan	14FEB03A	31MAR03	50	0.00	0.00	2,476
820.113	Compl Project Plan (TEP)	20MAR03*	15APR03		0.00	12,204.80	2,465
820.114	Complete Dev of Implementing procedures	02JAN03A	31MAR03	52	19,009.18	36,556.10	2,476
Subtotal		01OCT02A	30SEP03		187,587.39	444,875.88	2,348
Job: 8203 - Design Integration-REIERSEN							
820.150	General Design Integration	01OCT02A	30SEP03	LOE	18,261.43	45,768.00	2,348
820.151	Development of Stellarator Core Concepts	01OCT02A	30SEP03	LOE	12,174.29	30,512.00	2,348
820.152	Support aux sys interface with WBS 1	01OCT02A	30SEP03	LOE	12,174.29	30,512.00	2,348
820.153	Develop/maintain Pro/E model pf NCSX Facility	01OCT02A	30SEP03	LOE	24,600.74	61,656.00	2,348
L4-005	Define geometry of TF/PF windings and coil struc	11DEC02A	31MAR03	60	0.00	0.00	2,476
L400-6	Resolve configuration issues re CS	11DEC02A	31MAR03	60	0.00	0.00	2,476
Subtotal		01OCT02A	30SEP03		67,210.75	168,448.00	2,348
Job: 8204 - Systems Analysis-REIERSEN							
820.170	Develop Technical Data	20MAR03*	31MAR03		0.00	0.00	2,476
820.171	Update Technical data consistent w/dsn evolution	01APR03*	30SEP03		0.00	22,884.00	2,348



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Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
820.172	Assess potential sources of field errors in TC	01OCT02A	28MAR03	66	16,110.34	24,409.60	2,477
820.173	General syst analysis support	01OCT02A	30SEP03	LOE	21,305.00	53,396.00	2,348
L4-007	Define CS coil locations and envelopes	02DEC02A	16DEC02A	100	0.00	0.00	
L4-191	Finalize the GRD	10MAR03*	31MAR03	25	0.00	0.00	2,471
L4-192	GRD spec review	01APR03	07APR03		0.00	0.00	2,471
L4-193	Provide format requirements for performance spec	03MAR03A	08MAR03A	100	0.00	0.00	
Subtotal		01OCT02A	30SEP03		37,415.34	100,689.60	2,348

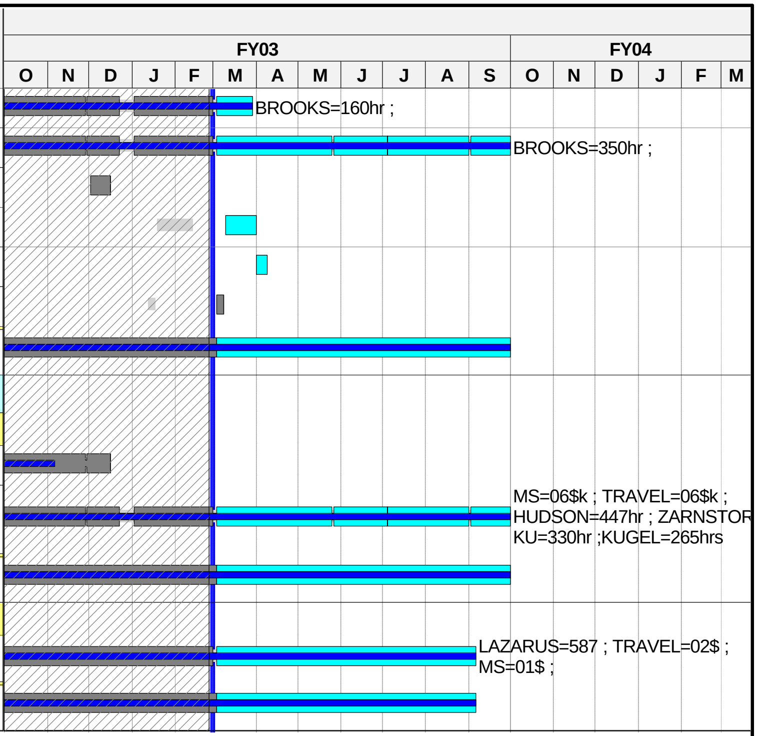
84 - Project Physics

Job: 8401 - Project Physcis-ZARNSTORFF

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
840.200	Develop Healed coil design	01OCT02A	16DEC02A		0.00	0.00	
840.201	PPPL Project Physics/Engr Analysis FY03	01OCT02A	30SEP03	LOE	100,265.74	251,292.56	2,348
Subtotal		01OCT02A	30SEP03		100,265.74	251,292.56	2,348

Job: 8402 - Project Physics MIE ORNL-LYON

Activity ID	Activity Description	Forecast Start	Forecast Finish	% Cmplt	Earned value (BCWP)	Baseline Budget	Total Float
840.301	ORNL Project Physics/Engr Analysis FY03	01OCT02A	05SEP03	LOE	44,328.10	99,168.00	2,365
Subtotal		01OCT02A	05SEP03	LOE	44,328.10	99,168.00	2,365



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