

## NCSX Project Meeting May 21, 2008

**Background:** This is a report of the Project Meeting held Wednesday, May 21<sup>st</sup>. The meeting was moved to Wednesday to permit all Job Managers to attend.

The focus of this meeting is to primarily look at the next three weeks and the actions needed to ensure that the scheduled items will be met. The RLMs conduct this meeting using the three month look-ahead schedule that is sent out prior to the meeting. These minutes include:

- Summary of actions identified during the meeting;
- Safety minute briefing;
- Three week look ahead schedule; and
- Action items from previous and the current meeting

### **Meeting Minutes:**

**Safety Briefing** – Brent Stratton presented a Safety Minute on the need to extra attention to safety processes when performing non-routine work (tasks done seldom or only once in a given area). Must apply our safety tools to these tasks. Lessons learned from recent RCA violation:

- RCA established over a longer period than really needed.
- Should do a JHA in all cases.

*Status of NCSX: On May 22<sup>nd</sup>, DOE released a message that specified their intention to cancel NCSX (attached). Key sentence in the message was: “A modest engineering will document the R&D achievements to date, and continue to retire remaining risks of the Compact Stellarator design to allow revisiting this particular design if future developments in the fusion program warrant it.” It unknown at this time, exactly what this means for NCSX.*

### **Heitzenroeder (RLM)**

- Art Brooks (Job 8204) – will defer magnetic materials study pending receipt of a facility model – expect results by end of June. It was noted that Art’s group has been performing unplanned and likely unbudgeted work. Art was given an action to add these tasks (i.e., scenario development, fault modes, magnetic materials studies, time constant if inconel hoses are used & insulating breaks eliminated, eddy currents, estimates to the ETC. **(Brooks)**
- Tom Brown (Jobs 8203/8205 Design Integration) – Tom reviewed his work load and was requested to add more granularity of his WAF on the work being performed. However, to do this, more input is needed on the Cryostat and Cryosystems near term needs. **(Raftopoulos and Heitzenroeder)**
- Jim Chrzanowski – Mike Kalish reporting - Jobs 1302/1352 – FDR CHIT resolution in progress and expect to complete next week. PF coil procurement ready to be awarded –will NOT be awarded considering decision to cancel NCSX..

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- Mike Cole (Jobs 1353/1416/1421/1601/1806/1260).
  - Job 1260 (NB Transition Ducts) – new engineer will be assigned in next few weeks – in the interim, Mike Cole will have the lead. Peer review forecast for June 23<sup>rd</sup> to address personnel access and interface issues. Need interim milestones to assess whether June 23<sup>rd</sup> date is realistic (**Cole**) Additionally need to get Site Protection (Jim McGuire involved – **Hutch** will contact Jim.
  - Jobs 1416/1421/1806/1901
    - thermal and structural analysis of MC & LN2 cooling is proceeding – expect to get EM an structural analysis to H.M Fan by end this week and cooling analysis next week.
    - Electrical lead cooling analysis schedule for May 27<sup>th</sup> is at risk due to loss of designer at ORNL – however new designer onboard this week.
    - Related question – how do VV Title III jobs and unscheduled work get added and charged? => add to WAF, albeit with no budget and will accept variances. Action: work out plan to collect charges for unplanned work that comes up and propose mechanism for collecting charges for such work to Project (**Harris/Strykowski**)
    - Station. 3: Forecast models & drawings approved by May 23<sup>rd</sup> (primarily due to additional comments received from reviews). However, recent issues with Model and need to better define method to move VV in Station 3 may delay the issuance of CSPEC and drawings into next week.
    - Increase granularity of schedules in Jobs 1355. Increased granularity provided for other ORNL jobs. (**Cole**)
    - Good progress on retiring risk mitigation tasks (3 of 7 completed!). Related question – are there more risk mitigation tasks we should add? (**Cole/Heitzenroeder**)
  - Job 1601-161 (LN<sub>2</sub> Manifolds – PDR still on track for June 2<sup>nd</sup> or 3<sup>rd</sup>. Working to establish a baseline for the PDR – SRD issued for review before Paul went on vacation. Phil in process of organizing PDR team for LN<sub>2</sub> manifolds (**Heitzenroeder**)
- Fred Dahlgren (Jobs 1353/1501/1702)
  - FDR for Coil Support Structure delayed to update drawings and some analyses – now project May 27<sup>th</sup>. (**Dahlgren**). Heitzenroeder finalizing reviewer list.
  - SRD for Base Support Structure out for sign-off
  - SRD for Coil Support Structure out for sign-off
  - FDR for Coil Support Structures due at end of June. Working on TF support brackets and integrated stress analysis. However, if active cooling becomes a requirement, then this date will be in jeopardy.
- Bob Ellis (Job 8205) - Station. 3 Dimensional Control Plan draft issued two weeks ago. Comments were due back in May 19th. Station 2 performance okay. Plan on meeting on May 28<sup>th</sup> to discuss metrology tolerances.

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- Mike Kalish (Jobs 1361 & 1354):
  - Trim coils. FDR CHITs resolved and FDR report posted. However, in light of NCSX decision to cancel, will likely not award any trim coil contracts.
  
- Steve Raftopoulos (Jobs 1702 & 6201)
  - Contract with Bagley Associates in process placed for cryosystems support.
  - Pursuing a contract with a Cryostat expert. Requisition 406426 submitted => assuming that this work will proceed.
  - Question on whether or not we will route all leads out cyrostat – can we series them internally? **(Heitzenroeder set up meeting to resolve this)**
  - Provide greater granularity on proposed cyrosystems work (FMEA, SRD, R&D, etc.) **(Raftopoulos/Heitzenroeder)**. Increased granularity for Cryostat already provided.

**Larry Dudek (RLM)**

- Tom Brown (Job 1803)
  - Station 3 clearance studies in progress – report expected at end of next week.
  
- Mike Viola (Jobs 1810/1815) .
  - NCR 3758 issued to resolve reliability issue on leaking hoses. Vendor has determined that the hoses do leak and nothing that PPPL did contributed to this. Assessing their inspection records, but will replace at no cost.
  - DOE review of lift procedures – DOE is currently reviewing lift procedures.
  
- Brent Stratton (Job 3101) – installation of Rogowski loops still on track to be completed by end of May. Work plan developed and being implemented to complete checking of thermocouple leads and heater leads by end of May to support assembly operations.
  
- Goranson (Job 12XX) – need to work with Benson to define path forward for enclosing pyrogel in nomex bats. This work will start after completion of LN<sub>2</sub> manifolds. Assign new job to this work **(Strykowsky)**

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**Attachments**

**NCSX Project Meeting  
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**Notice of NCSX Cancellation**

**Statement by Dr. Raymond L. Orbach  
Under Secretary for Science and Director, Office of Science  
U.S. Department of Energy  
May 22, 2008**

**Future of the Princeton Plasma Physics Laboratory (PPPL)**

In late 2006, it became clear that National Compact Stellarator Experiment (NCSX) construction project would not be able to meet its approved baseline total project cost of \$102M or its completion date of July 2009. Since then, DOE, Princeton University, and PPPL have worked extensively together to understand the issues and plot a course of action that maximizes the benefits for the scientific community and the taxpayers, and ensures an exciting path for PPPL research well into the future. Following several internal and external reviews over the past 18 months, it has been concluded that the budget increases, schedule delays and continuing uncertainties of the NCSX construction project necessitate its closure, and that PPPL's future as a world-leading center of fusion energy and plasma sciences is more assured by a renewed focus on the successful Spherical Torus confinement concept.

The Office of Science always weighs the scientific benefits to be obtained from facilities against the cost to the taxpayer – in this case the escalating costs and remaining uncertainties make continuation of the construction project untenable. The latest cost estimate is \$170M with an August 2013 scheduled completion. An Office of Science review (April 2008) concluded that the project has not yet met the requirements needed to approve a new baseline cost and schedule. This puts the future of research at PPPL in unnecessary peril, and increases the burden on the DOE fusion energy sciences program. It would require the premature closure of the Spherical Torus experiment (NSTX), a proven, productive, world-leading scientific facility, while creating an uncertain gap in research capabilities at PPPL. This would result in a loss of opportunities for a large number of collaborators in the research community and constrain the ability to start new initiatives during the ITER era.

The highest priority of the U.S. fusion program is participation in the international ITER burning plasma experiment, which is based on the tokamak concept. The Spherical Torus is closely related to the tokamak, and experiments planned for the next several years in the NSTX facility promise many exciting discoveries that should directly impact our ability to understand the new plasma regimes expected in ITER. The Spherical Torus may also prove to be a prototype for the next step for the U.S. domestic fusion program. Proposed upgrades for the Spherical Torus experiment at PPPL can keep this facility at the forefront of fusion science research in the world well into the future. As such, a concentration on the Spherical Torus better positions PPPL to remain a center of excellence for fusion energy and plasma sciences, and thereby compete for new areas of leadership in the future fusion program.

Closure of the Compact Stellarator construction effort will be managed to capture many benefits of the project. PPPL will complete the special modular and toroidal field coils in FY 2008. A modest engineering effort will document the R&D achievements to date, and continue to retire remaining risks of the Compact Stellarator design to allow revisiting this particular design if future developments in the fusion program warrant it. In addition, the U.S. fusion program will increase its investments in theory and smaller focused experiments on stellarator concepts to maintain its interest in future development of these exciting plasma confinement concepts.

We believe this decision is in the best interests of the American fusion program PPPL and Princeton University. Our decision reflects our strong commitment to the future of PPPL as a center of scientific excellence, including the prospect that it will compete successfully for opportunities to extend its work in plasma and fusion science in a number of important and promising new directions.

Activity ID	Activity Description	Duration (work days)	Forecast Start	Forecast Finish	Baseline Finish	Schedule slip to baseline (work days)	Remaining Float	FY08		
								MAY	JUN	JUL
<b>Phil Heitzenroeder</b>										
<b>Brooks</b>										
<b>Job: 8204 - Systems Analysis-BROOKS</b>										
8204-FY08X	Systems Analysis, studies & tech assurance FY08	250*	01OCT07A	30SEP08	30SEP08	0	1,521			
1000	magnetic Material Study	0		14MAY08*		0	1,617			
<b>Brown</b>										
<b>Job: 8203 - Design Integration-BROWN</b>										
8203FY08-2	Facility models update&integration	377*	01APR08A	30SEP09	30SEP09	0	1,272			
8203FY08-3	Cryostat design rvw & integration update	41	05JUN08*	01AUG08	01AUG08	0	1,562			
8203FY08-4	General integration activities	170*	01FEB08A	30SEP08	30SEP08	0	1,521			
<b>Chrzanowski</b>										
<b>Job: 1302 - PF Design -CHRZANOWSKI</b>										
1302-275	Resolve FDR Chits	70*	22FEB08A	30MAY08	02MAY08	-19	1,236*			
<b>Job: 1352 - PF Coil Procurement-CHRZANOWSKI</b>										
<b>PF Coil Fabrication</b>										
1352-100	Materials Delivery PF 4,5,6	69*	01APR08A	08JUL08	07JUL08	-1	1,580			
141-035E	DOE Approval	0		16MAY08*	09MAY08*	-5	303			
141-038.1	PF Conductor Delivery	105*	21FEB08A	18JUL08	18JUL08	0	356			
141-036	PF Coils Awarded	0		30MAY08*	30MAY08*	0	303			
1352-121	Design/Fab Tooling	85	02JUN08*	30SEP08	30SEP08	0	303			
141-031	Title III engr WBS 132	370	02JUN08*	19NOV09	23OCT09	-19	1,236			
<b>Cole</b>										
<b>Job: 1260 NB Transition Ducts- COLE</b>										
1260-191	Peer Review to Establish Requirements	20	27MAY08*	23JUN08	23JUN08	0	328			
1260-192	Review and Update Assbly Dwgs	20	24JUN08	22JUL08	22JUL08	0	328			
<b>Job: 1416 - Mod Coil Type AB Fnl Dsn-COLE</b>										
<b>Analysis and closeout documentation</b>										
1416-601	Prepare EM and structural analysis of leads	77*	31JAN08A	16MAY08	30APR08	-12	1,615			
1416-606	Resolve documentation comments	15	01MAY08	21MAY08	20MAY08	-1	1,612			
1416-650	Prepare cooling analysis of lead area	18	01MAY08*	27MAY08	27MAY08	0	1,609			
1416-651	Prepare cooling analysis coefficient for cryosta	18	01MAY08*	27MAY08	27MAY08	0	1,609			
<b>ECN Modifications</b>										
1416-801	ECN Mods-Resize vertical port boot	40	01MAY08*	26JUN08	27MAY08	-22	1,587			
1416-802	ECN Mods-Revise Type B cooling lines	40	01MAY08*	26JUN08	27MAY08	-22	1,587			
1416-803	ECN Mods-Issue DXF shim files for fab	40	01MAY08*	26JUN08	27MAY08	-22	1,587			
1416-805	ECN Mods-Add TC's at bottom of 101,102,103 dwgs	40	01MAY08*	26JUN08	27MAY08	-22	1,587			
1416-806	ECN Mods-Revise dwg 123-151	40	01MAY08*	26JUN08	27MAY08	-22	1,587			
<b>Job: 1421 - Mod Coil Interface Design-COLE</b>										
<b>Inboard Interface-CC</b>										
1421-3155	Resolve C-C shim FDR comments	20	01MAY08*	29MAY08	28APR08	-22	1,607			

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								MAY			JUN			JUL							
								8	5	12	19	26	2	9	16	23	30	7	14	21	28
INTRF-100	Misc travel, meetings, reporting, job 1416&1421	271*	01MAY07A	30MAY08	30MAY08	0	1,606														
<b>Job: 1901 - Stellarator Core Mngtt&amp;Integr-COLE</b>																					
<b>191 - Stellarator Core Management &amp; Oversight</b>																					
1901-08	WBS 191 FY08	249*	01OCT07A	29SEP08	29SEP08	0	1,522														
<b>192 - Stellarator Core Integr &amp; Global Analysis</b>																					
1902-08	WBS 192 FY08	249*	01OCT07A	29SEP08	29SEP08	0	1,522														
<b>193 - Risk Mitigation Tasks</b>																					
RISK-43	Bolt preload could relax with time.	61	03MAR08A	28JUL08	28JUL08	0	-43														
RISK-752	Pucks held by Nomex felt-demonstrate feasibility	44	05MAY08*	07JUL08	07JUL08	0	460														
RISK-755	Relax fit-up tolerances on remotely handled bush	50	25FEB08A	11JUL08	11JUL08	0	456														
RISK-696	consider a bringing all 3 120 degree field perio	227	03MAR08A	31MAR09	31MAR09	0	168														
<b>Job: 1806 - FP Assembly specs and drawings-COLE</b>																					
<b>Station 3-Modular Coil to VVSA Assembly</b>																					
1803-301	Station 3 Assembly Specification	224*	02JUL07A	23MAY08	30APR08	-17	161														
1803-305	Station 3 Assembly Drawings	224*	02JUL07A	23MAY08	30APR08	-17	161														
<b>Station 5-Final Field Period Assembly</b>																					
1803-501	Station 5 Assembly Specification	9*	27MAY08*	06JUN08	06JUN08	0	236														
1803-509	Field period Assy Dwgs	132*	01FEB08A	06AUG08	06AUG08	0	194														
<b>6.00-Final Machine Assembly</b>																					
1803-601	Station 6 Assembly Specification	120	01MAY08*	20OCT08	02OCT08	-12	360														
1803-605	Station 6 Assembly Drawings	120	01MAY08*	20OCT08	02OCT08	-12	360														
1803-613	Detail dwgs-man access port (deleted)	0	01MAY08	30APR08	30JAN08	-65	480														
1803-010	meetings, reporting, presentations assy models	194*	31JAN08A	31OCT08	31OCT08	0	1,498														
<b>Dahlgren</b>																					
<b>Job: 1702 - Base Support Struct Design-DAHLGREN</b>																					
1702-520	Final design. Assy dwgs, fab dwgs, BOMs, specs/SO	81*	01FEB08A	23MAY08	30APR08	-17	221														
1702-522	FDR Prep	5	19MAY08	23MAY08	30APR08	-17	221														
1702-525M	Base Support Structure FDR	0		23MAY08	30APR08	-17	221														
1702-530	Resolve chits, issue dwgs for fab, issue requisit	10	27MAY08	09JUN08	14MAY08	-17	221														
<b>Job: 1501 - Coil Structures Design-DAHLGREN</b>																					
1501-533	Detail CAD Drawings, BOM	270*	01JUN07A	30JUN08	16JUN08	-10	211														
1501-533F	Integrated Stress Analysis	186*	01OCT07A	30JUN08	16JUN08	-10	211														
1501-536	Issue dwgs for review	0		30JUN08*	01APR08*	-63	211														
1501-535	Develop Interfaces with cryostat	0		30MAY08*	01MAY08*	-20	232														
1501-549	Update C.S.Support Attacgment Design	6	19MAY08	27MAY08	27MAY08	0	211														
1501-550	Peer review C.S.Design	5	28MAY08	03JUN08	03JUN08	0	211														
1501-554	Resolve CS peer review Chits	5	04JUN08	10JUN08	10JUN08	0	211														
1501-562	Prepare Specs for Coil Structure & CSS h/w	14	11JUN08	30JUN08	30JUN08	0	211														
1501-537	FDR Prep	10	17JUN08	30JUN08	30JUN08	0	211														
1501-541	Coil Support Structures - FDR	0		30JUN08	30JUN08	0	211														

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								MAY	JUN	JUL																	
<b>Dudek</b>													8	5	12	19	26	2	9	16	23	30	7	14	21	2	
<b>Job: 1429 - MC Interface R&amp;D-DUDEK</b>																											
<b>Outboard Interface-Friction</b>																											
1429-3030	G-10 Test	12	01MAY08*	16MAY08	09MAY08	-5	1,615																				
<b>Ellis</b>																											
<b>Job: 8205 - Dimensional Control Coordin-ELLIS</b>																											
<b>Station 3-Modular Coil to VVSA Assembly</b>																											
METDCP-3	Dimensional control plans for station 3	74*	01FEB08A	14MAY08	30APR08	-10	168																				
STAT3 PREP	Station 3 preparations	30	01MAY08	12JUN08	09JUN08	-3	166																				
METFY08R	Support FPA Station 2	442*	01FEB08A	02NOV09	02NOV09	0	1,249																				
<b>Goranson</b>																											
<b>Job: 1601 - Coil Services Design-GORANSON</b>																											
<b>161 - LN2 Distribution</b>																											
191-001	Title I design WBS 161 LN2 manifolds&piping	86*	01FEB08A	02JUN08	02JUN08	0	230																				
162-201	Layout distribution system header geometry&locat	0		09MAY08*	09MAY08*	0	245																				
162-209	Perform thermohydraulic analyses	0		16MAY08*	16MAY08*	0	240																				
162-211	Design hose electric break fittings	0		23MAY08*	23MAY08*	0	235																				
162-213	Route MC, TF, PF hoses	0		30MAY08*	30MAY08*	0	231																				
162-215	Develop SRD	0		23MAY08*	23MAY08*	0	235																				
191-002	Coil Serv-LN2 manifolds&piping-PDR (incl SRD)	1	03JUN08	03JUN08	03JUN08	0	230																				
162-011A	R&D pressure drop simulation	15	04JUN08	24JUN08	24JUN08	0	280																				
162-217	PDR	0		03JUN08	03JUN08	0	230																				
161-003	Resolve PDR comments	5	04JUN08	10JUN08	10JUN08	0	230																				
161-004	Update cost estimate for Coil Services	0		30JUN08*	30JUN08*	0	260																				
191-011	Title II design WBS 161 LN2 manifolds&piping	60	11JUN08	04SEP08	04SEP08	0	230																				
161-110	Fabrication specifications	65	05JUN08	05SEP08	05SEP08	0	230																				
161-100	meetings/reporting/presentations	267	01FEB08A	24FEB09	24FEB09	0	1,425																				
<b>162 - Electrical Leads</b>																											
1416-503C	Complete drawings of MC power cable connections	95*	01FEB08A	13JUN08	31MAR08	-53	288																				
161-209	Route MC leads	0		13JUN08*	13JUN08*	0	288																				
132-001	Title I design WBS 162 Coil leads	143*	01FEB08A	21AUG08	21AUG08	0	240																				
161-203	Layout MC stubs, terminations	0		09MAY08*	09MAY08*	0	312																				
161-205	Determine lead gauges	0		16MAY08*	16MAY08*	0	307																				
161-207	Locate Thermal Transition Boxes (TTB)	0		09JUN08*	09JUN08*	0	292																				
162-100	meetings/reporting/presentations	201*	01FEB08A	12NOV08	12NOV08	0	1,490																				
<b>Heitzenroder</b>																											
<b>Job: 8202 - Engr Mgmt &amp; Sys Eng Sprt-HEITZENROED</b>																											
8205DC	document control & admin support	967*	01FEB08A	13DEC11	13DEC11	0	724																				
8205FY08.2	Engr mgt & systems engr FY08	170*	01FEB08A	30SEP08	30SEP08	0	1,521																				
<b>Kalish</b>																											
<b>Job: 1361 - TF Fabrication-KALISH</b>																											
<b>TF Title III and Fabrication Oversight</b>																											
131-033C	Title III engr,inspection, support	214*	02JAN08A	30OCT08	30OCT08	0	1,499																				

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								MAY	JUN	JUL	
<b>TF Fabrication Contract</b>								8 5	12 19 26 2	9 16 23 30 7	14 21 2
1361C-113	Fab, Test & Deliver Coil #13	1	16MAY08*	16MAY08	16MAY08	0	531				
1361C-114	Fab, Test & Deliver Coil #14	1	10JUN08*	10JUN08	10JUN08	0	531				
<b>Job: 1354 - Trim Coil Design &amp;Procurement-KALISH</b>											
<b>Trim Coil **Updated estimate**</b>											
TRIM-120	Modifications to allow for mid-plane coils	100*	25MAR08A	13AUG08	13AUG08	0	331				
TRIM-160	Approve Trim Coil Procurement Spec	7*	01MAY08	09MAY08	25APR08	-10	233				
TRIM-200	Structure Assy drawings & parts list	39*	01APR08A	23MAY08	14MAY08	-7	223				
TRIM-240	Trim Coil Procurement time	29	16MAY08A	07JUL08	19JUN08	-11	223				
<b>Perry</b>											
<b>Job: 1752 - Base Support Proc-PERRY</b>											
<b>172 - Base Support Structure</b>											
161-038	Title III	306	10JUN08*	28AUG09	05AUG09	-17	1,294				
<b>Job: 8215 Plant Design</b>											
<b>FY07 Rebaseline Exercise</b>											
8210-08	Plant Design	746*	01FEB08A	31JAN11	31JAN11	0	945				
<b>Raftopolous</b>											
<b>Job: 1701 - Cryostat Design</b>											
1701-090	Cryostat Configuration Peer Review	0		21MAY08*	21MAY08*	0	247				
1701-230	Cryostat Consultant/Expert Award Contract	0		23MAY08*		0	0				
1701-120	Design PPPL prototype	5	19MAY08*	23MAY08		0	0				
1701-130	Design ORNL prototype	5	19MAY08*	23MAY08		0	0				
1701-140	Procure materials for PPPL prototype	7	14MAY08A	22MAY08		0	223				
1701-150	Procure material for ORNL prototype	7	14MAY08A	22MAY08		0	223				
1701-160	Fabricate prototype PPPL	10	27MAY08	09JUN08		0	222				
1701-170	fabricate prototype ORNL	10	27MAY08	09JUN08		0	222				
1701-180	Develop test criteria	5	27MAY08	02JUN08		0	227				
1701-190	Test PPPL prototype warm	3	10JUN08	12JUN08		0	222				
1701-200	Test ORNL prototype warm	3	10JUN08	12JUN08		0	222				
1701-210	Test PPPL prototype cold	10	13JUN08	26JUN08		0	222				
1701-220	Test ORNL prototype cold	10	13JUN08	26JUN08		0	222				
1701-240	SRD Draft	2	01JUL08	02JUL08		0	218				
1701-280	Requirement document approved	0		02JUL08		0	218				
62122-306	Review of current baseline cryo system dsn	0		10JUN08*	10JUN08*	0	234				
62122-307	Review of alternate cryo system design	0		30JUN08*	30JUN08*	0	220				
1701-095	Decide on Cryostat Concept	0		02JUL08*	02JUL08*	0	218				
1701-091	Update cost estimate for Cryostat & cryo systems	0		02JUL08	02JUL08	0	258				
1701-250	FMECA Draft	11	09MAY08A	15MAY08		0	291				
1701-260	Interface Document Draft	6	22MAY08*	30MAY08		0	0				
1701-100	Cryostat- Conceptual Design	40	03JUL08	28AUG08	11AUG08	-13	218				
1701-100M	INTEGRATED CRYO SYSTEMS CDR (wbs 16,17,62)	0		28AUG08	11AUG08	-13	218				
1701-101	Cryostat- Preliminary design	91	29AUG08	16JAN09	19DEC08	-13	218				
1701-121	INTEGRATED CRYO SYSTEMS- PDR (incl SRD)	0		16JAN09	19DEC08	-13	218				
1701-131	Cryostat- Final Design	107	19JAN09	17JUN09	29MAY09	-13	218				
1701-141	INTEGRATED CRYO SYSTEMS- FDR	0		17JUN09	29MAY09	-13	218				
1751-169	Cryogenic consultant/Expert start	247	27MAY08*	21MAY09	28APR09	-17	1,363				

Activity ID	Activity Description	Duration (work days)	Forecast Start	Forecast Finish	Baseline Finish	Schedule slip to baseline (work days)	Remaining Float	FY08													
								MAY			JUN			JUL							
								8	5	12	19	26	2	9	16	23	30	7	14	21	28
1751-170	Cryostat & Cryogenic systems oversight&reporting	418*	01FEB08A	29SEP09	29SEP09	0	1,273														
<b>Job: 6201 - Cryogenic Syst</b>																					
<b>621 - LN2 Supply &amp; LN2 coil cooling supply</b>																					
62122-300	Conceptual Design	71	01MAY08*	11AUG08	11AUG08	0	325														
62122-308	Update cost estimate for Cryogenic systems	0		30JUN08*	30JUN08*	0	354														
6201-169	Cryogenic consultant (Vic Garzotto)	493	01MAY08*	26APR10	26APR10	0	1,134														
<b>623 - GN2 Cryostat Cooling System</b>																					
623-099	GN2 Cryostat Cooling Sys Conceptual design	71	01MAY08*	11AUG08	11AUG08	0	231														

Activity ID	Activity Description	Duration (work days)	Forecast Start	Forecast Finish	Baseline Finish	Schedule slip to baseline (work days)	Remaining Float	FY08													
								MAY	JUN	JUL											
<b>Larry Dudek</b>								8	5	12	19	26	2	9	16	23	30	7	14	21	2
<b>Brown</b>																					
<b>Job: 1803/1805- FPA Tooling/Constr-BROWN</b>																					
<b>Station 3-Modular Coil to VVSA Assembly</b>																					
1803S3-4	Generate laser screen trace drawings (3 periods)	15	28MAY08	17JUN08	12JUN08	-3	166														
1803S3-6	Station 3 simulation detail model	21*	01MAY08A	30MAY08	30MAY08	0	178														
1803S3-7	VV/MC clearance study (for VVSA1)	29*	01APR08A	09MAY08	09MAY08	0	180														
1803S3-7B	VV/MC clearance study (for VVSA 2 and 3)	11	15MAY08*	30MAY08	30MAY08	0	1,606														
1803S3-8	Station 3 deflection FEA study	12	12MAY08	28MAY08	28MAY08	0	180														
1803S3-10	Complete station 3 design & analysis	0		30MAY08	30MAY08	0	178														
1803S3-9	Oversite, cost and schedules, reviews	171*	31JAN08A	30SEP08	30SEP08	0	1,521														
1805S3-2	Left side base grout plates	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-3	MCHP lift fixture frame weldment	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-4	Lift fixture mounting bracket weldments	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-5	Reworked laser frame structure	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-6	Right inboard laser frame structure	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-7	Left inboard laser frame structure	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-8	Laser screen lexan sheet (1/8 x 48" x 96")	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-9	Estimate for Station 2 type alignment system	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-100	Hardware & Misc items	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-110	Misc assembly Cost	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-201	MC base support system (left / rt side)	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-202	Hilman roller - 8-0T plus R & U guides	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-203	AirLoc Wedgmount Precision Levelers	49*	24MAR08A	30MAY08	04AUG08	45	173														
1805S3-204	Lift fixture mounting bracket weldments	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-205	Estimate for Station 2 type alignment system	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-206	Hardware & Misc items	49*	24MAR08A	30MAY08	30APR08	-21	173														
1805S3-207	Misc assembly Cost	171*	31JAN08A	30SEP08	30APR08	-106	1,521														
<b>Station 5-Final Field Period Assembly</b>																					
1803S5-14	Oversite, cost and schedules, reviews	170	01MAY08*	09JAN09	29SEP08	-65	1,457														
<b>6.00-Final Machine Assembly</b>																					
1803S6-1	Stage 6 FP support and roller system	187*	01APR08A	02JAN09	25SEP08	-62	341														
<b>Chrzanowski</b>																					
<b>Job: 1408 - MC Winding Supplies-CHRZANOWSKI</b>																					
1408-3	Misc and safety supplies (\$7k/mo.)	276*	23MAY07A	30JUN08	30JUN08	0	1,585														
1408-6	VPI clean manifold contract	276*	23MAY07A	30JUN08	30JUN08	0	1,585														
1408-8	Cutting hardware for flange bolts	276*	23MAY07A	30JUN08	30JUN08	0	1,585														
1408-7	Misc tech shop support	276*	23MAY07A	30JUN08	30JUN08	0	1,585														
<b>Job: 1451 - Mod Coil Winding-CHRZANOWSKI</b>																					
<b>Station 3-Casting Prep &amp; Winding</b>																					
P1-161	Wind coil A6	35*	28MAR08A	15MAY08	27MAY08	7	122														
P1-170	Instl Chill Plates,Tubing,Bag A6	32*	16MAY08	01JUL08	29JUL08	19	122														
<b>Station 1 Post VPI</b>																					
P3-171C	Final Clamps & Warm Test (Station1) B5	38*	19MAR08A	09MAY08	13MAY08	2	199														
P2-171C	Final Clamps & Warm Test (Station1) B6	16	01MAY08	22MAY08	23JUN08	21	181														

Activity ID	Activity Description	Duration (work days)	Forecast Start	Forecast Finish	Baseline Finish	Schedule slip to baseline (work days)	Remaining Float	FY08													
								MAY	JUN	JUL											
<b>LOE Oversight &amp; Supervision</b>								8	5	12	19	26	2	9	16	23	30	7	14	21	28
145XSPRV-2	Winding Engineering oversight and supervision	314*	01MAY07A	31JUL08	31JUL08	0	1,563	[Gantt bar]													
145XSPRV-3	Winding Engineering oversight and supervision	356*	01MAY07A	30SEP08	30SEP08	0	1,521	[Gantt bar]													
145XSPRV-A	Winding Engineering oversight and supervision	185*	01NOV07A	31JUL08	31JUL08	0	1,563	[Gantt bar]													
<b>Job: 1459 - Mod Coil Fabr.Punch List-CHRZANOWSKI</b>																					
<b>Punchlist Tech shop/RESA</b>																					
PLTS-C5	Grinding & Drill Holes -C5	22*	01MAY08	02JUN08	18APR08	-30	271	[Gantt bar]													
PLTS-A5	Grinding -A5	23*	01MAY08	03JUN08	31JAN08A	-87	183	[Gantt bar]													
PLTS-B5	Grinding -B5	5	04JUN08	10JUN08	20MAY08	-14	183	[Gantt bar]													
PLTS-A6	Grinding -A6	5	01OCT07A	22AUG08	19SEP08	19	122	[Gantt bar]													
PLTS-B6	Grinding -B6	5	23MAY08	30MAY08	30JUN08	21	181	[Gantt bar]													
PLTS-C6	Grinding & Drill Holes -C6	20	01MAY08	29MAY08	27FEB08	-65	182	[Gantt bar]													
PLTS-GRIND	Coil to coil fitup modifications (grinding/cp)	165*	01DEC07A	31JUL08	31JUL08	0	1,563	[Gantt bar]													
<b>Punchlist- Coil Technicians</b>																					
PLCT-A1	Insul,measure,TC, other punch list-A1	228*	01AUG07A	30JUN08	30NOV07A	-143	1,585	[Gantt bar]													
PLCT-A2	Insul,measure,TC, other punch list-A2	228*	01AUG07A	30JUN08	30NOV07A	-143	1,585	[Gantt bar]													
PLCT-B1	Insul,measure,TC, other punch list-B1	228*	01AUG07A	30JUN08	30NOV07A	-143	1,585	[Gantt bar]													
PLCT-C1	Insul,measure,TC, other punch list-C1	228*	01AUG07A	30JUN08	30NOV07A	-143	1,585	[Gantt bar]													
PLCT-B2	Insul,measure,TC other punch list-B2	205*	04SEP07A	30JUN08	08JAN08A	-123	1,585	[Gantt bar]													
PLCT-C2	Insul,measure,TC, other punch list-C2	248*	03JUL07A	30JUN08	21DEC07A	-128	98	[Gantt bar]													
PLCT-A3	Insul,measure,TC, other punch list-A3	247*	05JUL07A	30JUN08	14FEB08	-96	132	[Gantt bar]													
PLCT-A4	Insul,measure,TC, other punch list-A4	246*	06JUL07A	30JUN08	05MAR08	-82	132	[Gantt bar]													
PLCT-B3	Insul,measure,TC, other punch list-B3	186*	01OCT07A	30JUN08	20MAR08	-71	40	[Gantt bar]													
PLCT-C3	Insul,measure,TC, other punch list-C3	186*	01OCT07A	30JUN08	07APR08	-59	105	[Gantt bar]													
PLCT-B4	Insul,measure,TC, other punch list-B4	186*	01OCT07A	30JUN08	21APR08	-49	124	[Gantt bar]													
PLCT-C4	Insul,measure,TC, other punch list-C4	233*	25JUL07A	30JUN08	02MAY08	-40	210	[Gantt bar]													
PLCT-A5	Insul,measure,TC, other punch list-A5	14	30JUL07A	11JUN08	12MAY08	-21	183	[Gantt bar]													
PLCT-A6	Insul,measure,TC,SG other punch list-A6	14	01OCT07A	12SEP08	09OCT08	19	122	[Gantt bar]													
PLCT-B5	Insul,measure,TC, other punch list-B5	14	01OCT07A	30JUN08	29OCT08	85	183	[Gantt bar]													
PLCT-C5	Insul,measure,TC, other punch list-C5	18	01OCT07A	08MAY08	06NOV08	127	219	[Gantt bar]													
PLCT-B6	Insul,measure,TC,SG other punch list-B6	14	01OCT07A	19JUN08	21JUL08	21	181	[Gantt bar]													
PLCT-C6	Insul,measure,TC,SG other punch list-C6	14	01OCT07A	18JUN08	18MAR08	-65	182	[Gantt bar]													
PLCT-CRANE	Crane support	207*	01DEC07A	30SEP08	30SEP08	0	1,521	[Gantt bar]													
<b>Dudek</b>																					
<b>Job: 1431 - Mod. Coil Interface Hardware-DUDEK</b>																					
<b>Pucks</b>																					
1429-3110	PPPL cut and grind to thickness	290*	04FEB08A	31MAR09	31MAR09	0	16	[Gantt bar]													
<b>Shims-Outboard</b>																					
1429-3066	Outboard Shims	135	03MAR08A	03SEP08	03SEP08	0	79	[Gantt bar]													
<b>Shims-Inboard</b>																					
1429-3062X	Inboard Shims	208*	03MAR08A	02JAN09	02JAN09	0	73	[Gantt bar]													
<b>Studs,Washers,Nuts</b>																					
1421-3070	Order studs & washers for c-c joint	264	12MAY08*	02JUN09	02JUN08	-249	285	[Gantt bar]													
1421-3073	Deliver supernuts for c-c joint	40	03JUN08*	29JUL08	29JUL08	0	547	[Gantt bar]													
<b>Misc Tech Shop Support</b>																					
1421-4000	Misc Tech Shop support through sta 2 (1/2 mm/mo.	499*	01OCT07A	30SEP09	30SEP09	0	1,272	[Gantt bar]													

Activity ID	Activity Description	Duration (work days)	Forecast Start	Forecast Finish	Baseline Finish	Schedule slip to baseline (work days)	Remaining Float	FY08		
								MAY	JUN	JUL
<b>Perry</b>										
<b>Job: 7401 - TC Prep &amp; Mach Assy Planning-PERRY</b>										
<b>GPP Projects Required for NCSX (non-MIE cost)</b>										
GPP-01	CS Crane	0		30MAY08*	30MAY08*	0	470			
714.020	LOE Prior to assy starting	583*	01OCT07A	25JAN10	25JAN10	0	1,221			
<b>Stratton</b>										
<b>Job: 3101 - Magnetic Diagnostics-STRATTON</b>										
<b>Modular Coil C-wound Loops</b>										
3101-230	Check elect characteristics of T/C	20	13JUN08*	11JUL08	27OCT08	75	1,577			
<b>Rogowski Coils</b>										
3101-352	Assy & detail dgws	78*	01FEB08A	20MAY08	03APR08	-33	397			
3101-353	Prep installation procedure	31	21MAY08	03JUL08	16MAY08	-33	397			
3101-370	Check elect characteristics of cables	30	09MAY08*	20JUN08	23APR10	456	1,591			
3101-357	Fab coil clamps & ends	12*	15MAY08A	02JUN08	02JUN08	0	420			
3101-359	Install Rogowski coils support (in job 1815)	63*	02APR08A	30JUN08	30APR08	-42	499			
3101-360	Title III support	165*	09MAY08*	12JAN09	19MAR10	296	1,456			
<b>TF and PF Co-wound Loops</b>										
3101-425	Design Protective boxes for PF	227*	01NOV07A	30SEP08	01APR08	-127	1,431			
3101-426	Purchase SS Sheet	220*	12NOV07A	30SEP08	18JUN08	-72	252			
3101-452	Form Protective boxes	223*	12NOV07A	03OCT08	23JUN08	-72	252			
3101-454	Weld end plates of PF protective boxes	224*	09NOV07A		30JUN08	-67				
3101-427	Purchase Heat Shrink tubing	220*	12NOV07A	30SEP08	19MAY08	-93	1,431			
3101-428	Purchase add'l CoAxial cable	46	01MAY08*	07JUL08	07JUL08	0	315			
3101-458	Fab PF & solenoid co-wound loops	186	02JUL07A	10NOV08	15AUG08	-60	1,431			
<b>T/C and Heater Tape Leads</b>										
1204-141	Drawings Signed T/C and Heater Tape Leads	20*	02MAY08A	30MAY08	01MAY08*	-20	258			
1204-144	Check elect characteristics T/C & heater port 12	11*	02JUN08	16JUN08	04AUG08	34	324			
1204-147	Field/Fab support (title III) T/C&Heater Tape	65	02JUN08	02SEP08	04AUG08	-20	1,541			
<b>Voltage Loops &amp; Protective Boxes</b>										
3101-806	Check elect characteristics of coax	20	16MAY08*	13JUN08	13JUN08	0	1,596			
3101-807	Check elect characteristics ex-vessel flux loops	32*	01MAY08	16JUN08	30OCT08	96	1,595			
<b>Job: 3901 - Diagnostics sys Integration-STRATTON</b>										
390-04	LOE Support FY08	249*	01OCT07A	29SEP08	29SEP08	0	1,522			
<b>Viola</b>										
<b>Job: 1802 - FP Assy Oversight&amp;Support-VIOLA</b>										
<b>Oversight and Supervision</b>										
1802ORNLO2	ORNL Title III field period assy station 2	441*	04FEB08A	02NOV09	02NOV09	0	0			
R1802-003	Metrology Engr Super FY08	250*	01OCT07A	30SEP08	30SEP08	0	1,521			
R1802-007	FPA Management FY08	250*	01OCT07A	30SEP08	30SEP08	0	1,521			
R1802-009	PU Title III support	630*	04FEB08A	10AUG10	10AUG10	0	0			
R1802-010	Drexel co-op student support	630*	04FEB08A	10AUG10	10AUG10	0	0			
R1802-015	HP Coverage in the TFTR TC LOE FY08	250*	01OCT07A	30SEP08	30SEP08	0	1,521			
1802MISC	Misc materials,tools, GSA vehicle,rigging	615*	01FEB08A	19JUL10	19JUL10	0	1,076			

Activity ID	Activity Description	Duration (work days)	Forecast Start	Forecast Finish	Baseline Finish	Schedule slip to baseline (work days)	Remaining Float	FY08													
								MAY	JUN	JUL											
								8	5	12	19	26	2	9	16	23	30	7	14	21	28
8203FY08.2	Title III Design support FY08 PPPL	170*	01FEB08A	30SEP08	30SEP08	0	1,521														
<b>Station 3 procedures,JHA,ACC,Training,Prep</b>																					
R1802-307	Procedures written & approved	23*	14APR08A	14MAY08	14MAY08	0	168														
R1802-309	JHA completed	6	15MAY08	22MAY08	22MAY08	0	168														
R1802-311	Training needs identified & released	6	23MAY08	02JUN08	02JUN08	0	168														
R1802-313	ACC review completed	6	03JUN08	10JUN08	10JUN08	0	168														
R1802-315	Pre-job brief completed	6	11JUN08	18JUN08	18JUN08	0	168														
<b>Job: 1810 - Field Period AssyStation 1,2,3 VIOLA</b>																					
<b>General Assy Support</b>																					
R1810-003	LOE Crane support, fixture setupfor FY08	250*	01OCT07A	30SEP08	30SEP08	0	1,521														
R1810-025	Crane & Rigging inspections	625*	01FEB08A	02AUG10	02AUG10	0	1,066														
R1810-035	Welding qualifications	625*	31JAN08A	30JUL10	30JUL10	0	1,067														
R1810-007	LOE Field Supervision for FY08	250*	01OCT07A	30SEP08	30SEP08	0	1,521														
R1810-2001	Misc Hardware and hardware rework (1/2 fte loe)	615*	01FEB08A	19JUL10	19JUL10	0	1,076														
S21-4.02	Perform routine metrology set-up and checks (loe)	526*	01FEB08A	12MAR10	12MAR10	0	1,165														
<b>Station 1-VV Prep (hard surface components) FP#1</b>																					
R1810-1110	Install Final Internal&Ext monuments & meas	4	02MAY08A	05JUN08	07MAY08	-20	258														
R1810-1114	Install heater tape on all removable ports	25	01MAY08	05JUN08	07MAY08	-20	258														
R1810-1100	Design & Build heater& thermo termination box	41	01MAY08*	27JUN08	01MAY08	-40	1,586														
R1810-1111	Final Scan	4	06JUN08	11JUN08	03JUN08	-6	258														
R1810-1113	Prepare &transfer completed VV to holding area	5	12JUN08	18JUN08	10JUN08	-6	258														
<b>Station 1- VV Prep (hrd surf cmpntsFP#2</b>																					
R1810-1208	Perform final acceptance testing (H/C flow test)	32	01MAY08	16JUN08	30MAY08	-11	329														
R1810-1216	Install Final Internal&Ext monuments & meas	20	17JUN08	15JUL08	27JUN08	-11	329														
R1810-1214	Install heater tape on all removable ports	25	17JUN08	22JUL08	09SEP08	34	324														
<b>Station 1- VV Prep (hrd surf cmpntsFP#3</b>																					
R1810-1308	Perform final acceptance testing (H/C flow test)	22	17JUN08*	17JUL08	01JUL08	-11	368														
R1810-1310	Heater and thermo termination & verification	19*	30APR08A	27MAY08	29OCT08	109	404														
<b>Setup</b>																					
R1810-2034	Misc Tool and Hardware	375*	01MAY08	28OCT09	28OCT09	0	1,252														
R1810-2036	Fuji Paper	454*	01MAY08	02MAR10	02MAR10	0	1,173														
R1810-2081	Removable photogrammetry targets	355*	01MAY08*	30SEP09	30SEP09	0	1,272														
R1810-2082	Fixed photogrammetry targets	355*	01MAY08*	30SEP09	30SEP09	0	1,272														
R1810-2083	Replacement photogrammetry targets	355*	01MAY08*	30SEP09	30SEP09	0	1,272														
R1810-2084	Design and purchase 3 additional wedge supports	44*	01APR08A	02JUN08	02JUN08	0	1,605														
R1810-2024	Rework wedges f/combined assemblies& coil handli	106*	01MAY08	30SEP08	16JUN08	-74	1,521														
R1810-2026	Setup up satellite shop in Mock-up area	43*	01APR08A	30MAY08	22MAY08	-5	1,606														
R1810-2087	Coordinate measuring machine	21	01MAY08*	30MAY08	30MAY08	0	1,606														
R1810-2088	HEPA machine tool exhaust system	21	01MAY08*	30MAY08	30MAY08	0	1,606														
R1810-2089	Tools, cabinets & storage shelving	579*	01MAY08*	26AUG10	26AUG10	0	1,048														
R1810-2002	Purchase grinding machine	21	01MAY08	30MAY08	30MAY08	0	1,606														
R1810-2090	Consulting services nose welding (England)	644	01MAY08*	30NOV10	26AUG10	-65	983														
S20-4.02	Perform metrology set-up;purchase 6 pillars	21	01MAY08*	30MAY08	30MAY08	0	1,606														
<b>Pre-Measuring and fitup checks</b>																					
<b>Pre measurement of MCHP A2,B2,C2 flanges</b>																					
S22-3.02	Compress shims sort by thickness	50	01MAY08	11JUL08	10JUL08	-1	90														

Activity ID	Activity Description	Duration (work days)	Forecast Start	Forecast Finish	Baseline Finish	Schedule slip to baseline (work days)	Remaining Float	FY08													
								MAY	JUN	JUL											
<b>Pre measurement of MCHP A3,B3,C3 flanges</b>								8	5	12	19	26	2	9	16	23	30	7	14	21	2
2-3-2.99	Drill Stycast fill holes	3	27JUN08	01JUL08	01JUL08	0	39														
S23-3.02	Compress shims sort by thickness	6	27JUN08	07JUL08	07JUL08	0	39														
S23-4.01	Install MCHP fixtures & metrology equipt	6	24JUN08*	01JUL08	01JUL08	0	39														
<b>Pre measurement of MCHP A5,B5,C5 flanges</b>																					
S25-1.01	Verify mating MC's of MCHP will come together	4	06JUN08	11JUN08	10OCT08	85	183														
S25-2.01	Set the B5 coil on fixture, & measure	1	12JUN08	12JUN08	13OCT08	85	183														
S25-2.02	Align to the conical seats locking into min of 8	2	13JUN08	16JUN08	15OCT08	85	183														
S25-2.03	Measure monuments on fixture and walls.	7	17JUN08	25JUN08	24OCT08	85	183														
S25-2.04	Measure tooling ball monuments	1	26JUN08	26JUN08	27OCT08	85	183														
S25-2.05	Scan the B flange of B5	1	27JUN08	27JUN08	28OCT08	85	183														
S25-2.07	Remove B5 move to holding area.	1	30JUN08	30JUN08	29OCT08	85	183														
<b>Station 2 MC subassy A1B1C1</b>																					
<b>AB-C MC Assembly</b>																					
2-1-7.12	Torque50% of final value.	1	15MAY08*	15MAY08	19MAY08	2	57														
2-1-7.13	Measure position of all monuments	2	14MAY08	15MAY08	19MAY08	2	57														
2-1-7.14	Measure shim puck height	1	15MAY08	15MAY08	19MAY08	2	57														
2-1-7.15	remove puck locating rings & install all nose s	3	16MAY08	20MAY08	22MAY08	2	57														
2-1-7.16	"Lightly" tack weld nose flex shims	1	21MAY08	21MAY08	23MAY08	2	57														
2-1-7.17	remove "C" coil & place it on a separate fixtur	1	22MAY08	22MAY08	27MAY08	2	57														
2-1-7.18	Recheck part alignment & weld all Type-B flex s	3	23MAY08	28MAY08	30MAY08	2	57														
2-1-7.19	After welding "B" coil nose shims recheck align	1	29MAY08	29MAY08	02JUN08	2	57														
2-1-7.20	Back office assessment of part after weld	2	30MAY08	02JUN08	04JUN08	2	57														
2-1-7.21	Measure "C" fiducials	1	30MAY08	30MAY08	03JUN08	2	58														
2-1-7.22	Weld all Type-C (A-flange) flex shims plasma sid	2	03JUN08	04JUN08	06JUN08	2	57														
2-1-7.23	After welding determine metrology acceptance	1	05JUN08	05JUN08	09JUN08	2	57														
2-1-7.24	Back office assessment	2	06JUN08	09JUN08	11JUN08	2	57														
2-1-7.25	Remove shims for alignment mating coil	0	06JUN08	05JUN08	09JUN08	2	59														
2-1-7.07	Place unfilled shim bags in wing areas	1	06JUN08	06JUN08	10JUN08	2	59														
2-1-7.26	Lower mating "C" coil into position.	1	10JUN08	10JUN08	12JUN08	2	57														
2-1-7.261	alignment "C" coil tooling balls	1	11JUN08	11JUN08	13JUN08	2	57														
2-1-7.27	position coil accurately in x, y, & z directio	1	12JUN08	12JUN08	16JUN08	2	57														
2-1-7.28	Install shims;studs, & "wiggle"	1	13JUN08	13JUN08	17JUN08	2	57														
2-1-7.29	Torque50% of final value.	1	16JUN08	16JUN08	18JUN08	2	57														
2-1-7.30	Measure position of all monuments	1	17JUN08	17JUN08	19JUN08	2	57														
2-1-7.301	Fuji paper, & examine load sharing. back office	2	18JUN08	19JUN08	23JUN08	2	57														
2-1-7.302	Install new shims & Fuji paper. Lower & reposit	3	20JUN08	24JUN08	26JUN08	2	57														
2-1-7.303	Install shims without Fuji paper, studs & torqu	2	25JUN08	26JUN08	30JUN08	2	57														
2-1-7.31	Adjust shims locally. Re-torque all studs50%.	2	27JUN08	30JUN08	02JUL08	2	57														
<b>Station 2 MC subassy A2B2C2</b>																					
<b>A-B MC Assembly</b>																					
2-2-6.15	Recheck part alignment of "A" coil	2	15MAY08	16MAY08	07MAY08	-7	84														
2-2-6.151	Weld all Type-A flex shims plasma side	2	19MAY08*	20MAY08	09MAY08	-7	84														
2-2-6.16	recheck alignment	1	21MAY08	21MAY08	12MAY08	-7	84														
2-2-6.17	Back office assessment of part after weld	2	22MAY08	23MAY08	14MAY08	-7	84														
2-2-6.18	Measure "B" fiducials estab coord sys	1	22MAY08	22MAY08	13MAY08	-7	85														
2-2-6.19	Weld all Type-B (A-flange) flex shims plasma sid	2	27MAY08	28MAY08	16MAY08	-7	84														
2-2-6.20	Recheck part metrology acceptance criterion.	1	29MAY08	29MAY08	19MAY08	-7	84														
2-2-6.21	Back office assessment of part after weld	2	30MAY08	02JUN08	21MAY08	-7	84														
2-2-6.22	Remove shims as necessary	0	30MAY08	29MAY08	19MAY08	-7	85														
2-2-6.04	Place unfilled shim bags in wing areas	1	30MAY08	30MAY08	20MAY08	-7	85														

Activity ID	Activity Description	Duration (work days)	Forecast Start	Forecast Finish	Baseline Finish	Schedule slip to baseline (work days)	Remaining Float	FY08															
								MAY			JUN			JUL									
								8	5	12	19	26	2	9	16	23	30	7	14	21	28		
2-2-6.23	Lower mating "B" coil into position.	1	03JUN08	03JUN08	22MAY08	-7	84																
2-2-6.231	Perform alignment "B" coil tooling balls	1	04JUN08	04JUN08	23MAY08	-7	84																
2-2-6.24	"B" coil, position coil accurately in x, y, &	1	05JUN08	05JUN08	27MAY08	-7	84																
2-2-6.25	Install shims; studs, supernuts, wiggle t	1	06JUN08	06JUN08	28MAY08	-7	84																
2-2-6.26	Torque 50% of final value.	1	09JUN08	09JUN08	29MAY08	-7	84																
2-2-6.27	Measure position of all monuments	2	10JUN08	11JUN08	02JUN08	-7	84																
2-2-6.28	Adjust shims locally. Re-torque all studs 50%.	3	12JUN08	16JUN08	05JUN08	-7	84																
2-2-6.29	Install bushing. Replace nut & tighten back 50%	3	17JUN08	19JUN08	10JUN08	-7	84																
2-2-6.30	After super bolt tightening, measure position	1	20JUN08	20JUN08	11JUN08	-7	84																
2-2-6.31	Tighten all bolts sir final torque.	1	23JUN08	23JUN08	12JUN08	-7	84																
2-2-6.32	After tightening hardware, measure position	2	24JUN08	25JUN08	16JUN08	-7	84																
2-2-6.33	Weld A / B nose region solenoid side	3	26JUN08	30JUN08	19JUN08	-7	84																
<b>Station 2 MC subassy A3B3C3</b>																							
<b>A-B MC Assembly</b>																							
2-3-6.01	Lower Type-A modular coil onto jacks	3	02JUL08*	07JUL08	07JUL08	0	39																
2-3-6.02	Mark nose shim locations & puck locations.	0	08JUL08	07JUL08	07JUL08	0	39																
2-3-6.03	Place initial set of shims (4-8) on Type	1	08JUL08	08JUL08	08JUL08	0	39																
<b>Station 3 Setup/Preparations/General</b>																							
<b>Misc Prep activities</b>																							
R1810-3112	Load Test 3 legged actuator lift fixtur	8	03JUN08*	12JUN08	12JUN08	0	169																
R1810-3113	Procure wire rope slings & 6 17ton shackles	8	03JUN08*	12JUN08	12JUN08	0	169																
R1810-3109	Remove winding stations & enclosures	20	12MAY08*	09JUN08	09JUN08	0	169																
R1810-3107	Test out station 3 equipment and procedures	30	01MAY08*	12JUN08	02JUN08	-8	169																
<b>Station 3-Assemble Mod Coils and VVSA-FP#1</b>																							
<b>Set-up and Prep</b>																							
3-1-1.01	transfer CAD models	7	19MAY08*	28MAY08	28MAY08	0	180																
3-1-1.02	Install Station 3 site monuments	3	13JUN08	17JUN08	12JUN08	-3	166																
3-1-1.03	Install floor mounted tracks and the VV base sup	5	02JUN08	06JUN08	07MAY08	-21	173																
<b>Install Laser Screen</b>																							
3-1-6.02	Place all laser screens	2	18JUN08	19JUN08	16JUN08	-3	166																
3-1-6.03	Turn each lasers on & measure each laser source	1	20JUN08	20JUN08	17JUN08	-3	166																
3-1-6.04	Print path on milar paper	0	23JUN08	20JUN08	17JUN08	-3	166																
<b>Install Vacuum Vessel</b>																							
3-1-7.02	Install VV NBI port support stand.	2	23JUN08	24JUN08	20JUN08	-2	166																
3-1-7.03	Install VVSA to base support and make connection	1	25JUN08	25JUN08	23JUN08	-2	166																
3-1-7.04	take tooling ball readings and secure VVSA	2	26JUN08	27JUN08	25JUN08	-2	166																
3-1-7.05	Scan VV surface and compare data	3	30JUN08	02JUL08	30JUN08	-2	166																

Activity ID	Activity Description	Duration (work days)	Forecast Start	Forecast Finish	Baseline Finish	Schedule slip to baseline (work days)	Remaining Float	FY08																	
								MAY	JUN	JUL															
<b>Al vonHalle</b>								8	5	12	19	26	2	9	16	23	30	7	14	21	2				
<b>Gentile</b>																									
<b>Job: 8501 - Integrated Systems Testing-GENTILE</b>																									
<b>Startup Documentation</b>																									
<b>Y</b>																									
8501-000	Health/Safety Directive HSD 5008 Classification	0		30JUN08	30JUN08	0	537																		
<b>Ramakrishnan</b>																									
<b>Job: 4301 - DC Systems-RAMAKRISHNAN</b>																									
<b>431 - C-Site DC Systems</b>																									
431-240	Simulate each of 6 pwr loops in PSCAD	467*	01APR08A	17FEB10	17FEB10	0	234																		
431-250	c-site dc sys DGS dsn documentation	466*	01APR08A	16FEB10	16FEB10	0	235																		
431-261	Redo power loop design	355	01MAY08*	30SEP09	30SEP09	0	324																		
431-275A	Power cabling & Installation FY08	85*	02JUN08*	30SEP08	30SEP08	0	486																		
431-276	Maint of C-site rectifiers	997*	01OCT07A	30SEP11	30SEP11	0	774																		
<b>Job: 4401 - Control &amp; Protection-RAMAKRISHNAN</b>																									
<b>441 - Electrical Interlocks</b>																									
441-100	PLC Specification	160	01MAY08*	17DEC08	17DEC08	0	314																		
<b>445 - Coil Protection Systems</b>																									
445-2-110	Overload Protect-Design	351*	01APR08A	24AUG09	24AUG09	0	337																		
<b>Sichta</b>																									
<b>Job: 5801 - Central I&amp;C Integr&amp; Oversight-SICHTA</b>																									
R58-20	WBS58 -FY08 Management & Integration LOE	250*	01OCT07A	30SEP08	30SEP08	0	1,521																		

## Weekly Meeting Actions Tracking Log Open Action Items

Meeting Date	Job	Action	Responsibility	Date of Status	Status
<b>5/21/2008</b>					
	1701 6201	Provide list of near term needs from Design Integration to Tom Brown to enable him to plan his work load and priorities	Raftopoulos Heitzenroeder	5/21/2008	
	12XX	Assign new Job number for Nomex Batt job	Strykowski	5/21/2008	
<b>5/14/2008</b>					
	8204	Add items being work on, but not currently budgeted to WAF - adjust ETC	Brooks	5/21/2008	Working on this - will provide greater granularity & adjusted ETC to Strykowski by May 23rd
	8203	Job Managers provide near term support needed from Design Integration for Cryostat/Cryosystems work	Raftopoulos/Heitzenroeder	5/21/2008	Brown to add to WAF when info provided
	1260	Provide interim milestone leading to June 23rd peer review  Contact Site Protection to involve them in this job	Cole  Neilson	5/21/2008	New Engineer coming onboard (Kevin Shaw) - expect to provide this info by May 30th Site Protection contacted. <b>CLOSE</b>
	1601-161	Ensure that SRD issued for review prior to Paul going on vacation  Set up PDR date and review team	Goranson  Heitzenroeder	5/21/2008	Initial version of SRD issued. Comments due back by May 23rd.  Notice to go out by May 23rd
	1901	Identify additional Risk Mitigation tasks needed	Cole/Heitzenroeder	5/21/2008	ORNL working on this - forecast is to close loop with Phil by May 23rd
	1701 6201	Provide greater ganularity of work that is being performed	Raftopoulos	5/21/2008	Info provided for 1701 on 5/16. Still need info on Job 6201.
<b>5/7/2008</b>					
	1702	Determine how leads will be routed out of Cryostat	Brown/Cole/Goranson	5/21/2008	Working options thru Tom B. & ORNL => expect to have better picture next week.
<b>4/18/2008</b>					
	1260	Define path forward for enclosing pyrogel in nomex bats	Goranson	5/21/2008	Benson working with Cole to develop a plan - will eventually be documented in WAF. However, priority of work (and limited resources) is an issue .
<b>4/11/2008</b>					
	1806	Station 3 drawings and CSPEC	Harris/Cole	5/21/2008	Drawings forecast still May 23rd - fixing some issues with models => still forecast for May 23rd CSPEC - what is reqm't for tolerance for positioning the VV when move for Station 3 - still forecast for May 23rd
<b>4/4/2008</b>					
	1501/1551 1702/1752	SRDs for both Coil Support Structure and Base Support Structure	Dahlgren	5/21/2008	Both Base Support Structure and Coil Support Structures SRDs have been updated and are in signature cycle again.
<b>3/19/2008</b>					
	1355	Need progress milestones	Cole	5/21/2008	Work at ORNL has just begun => will Identify progress milestones within a month (by mid-June)