

## NCSX Monthly Progress Assessment

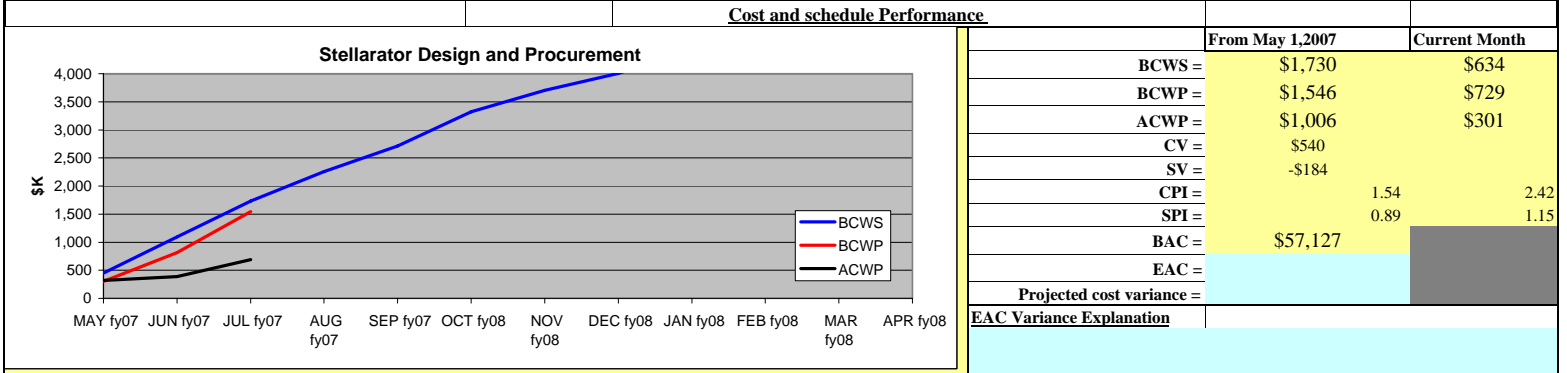
<b>Description:</b>			<b>RLM:</b>	<b>Initials</b>	<b>Period:</b>
<b>Stellarator CoreDesign and Procurement</b>			<b>Phil Heitzenroeder</b>		<b>July-2007</b>
<b>Scope (jobs):</b>	<b>Job Manager</b>	<b>Initials</b>	<b>Scope (jobs):</b>	<b>Job Manager</b>	<b>Initials</b>
Conventional Coils WBS 13	Mike Kalish		Modular Coils Jobs 1416/1421/1429/1431	Dave Williamson	
Coil Services WBS 16	Paul Goranson		Coil Structures & Base Support Structure WBS 15	Fred Dahlgren	
Cryostat Job 1701/1751	Geoff Gettelfinger		Assembly Specs & Dwgs Job 1806	Mike Cole	
Assy tooling & constructability Job 1803	Tom Brown		Systems Analysis Job 8204	Art Brooks	
Dimensional Control Job 8205	Bob Ellis		Systems Engineering & Support Job 8202	Wayne Reiersen	

**Highlights and Progress:**  
 A Peer Rev. was held for the TF-2 coil wedge repair. TF 1 was over-wrapped to address cracks developed in overcast epoxy during cryo tests; passed accept. tests & delivered to PPPL on 8/10/07. PDRs were held for: Coil support structures; MC interfaces AA/AB/BC; MC interface CC. FDRs were held for the MCAssemblies, and Bolted Joints. A full-scale weld mock-up demo. for the Type A to B flange welding was completed, and the A6/B6 casting weld demonstration is underway. Subcontract for EWI weld analysis is in place.

**Issues (not currently impacting technical, cost, or schedule but being watched):**  
 1) A concern was identified concerning the possibility of gaps opening up between the welded shims & castings due to weld shrinkage stress which could result in fatigue loads on the welds during operation. A solution was developed (see below). 2) An estimate indicated that if it is necessary to wind the PF coils in-house due to lack of qualified bidders, the cost impact might be ~+\$145-770K and +5mos. but still within crit. path if mitigated by re-sequencing PF/base structure assembly.

**Problems and work around plans :**  
 On Issue 1, an undercut shim has been developed which addresses the weld / gap issue noted above. Informally reviewed by joint PPPL/ORNL engineers and will be formally presented as part of the FDR. On issue 2, the PF coil windings, the release date for the procurement package is being pulled back 3 months to permit early feedback on potential manufacturers. 3 mos. has also been identified on the "tail end" -need date for PF 4,5,6 L is now Feb.09. This will give the extra time necessary if in-house mfg. is undertaken due to lack of qualified bidders.

Schedule						
Milestones (6 month look ahead)	Job	Job Mgr	Baseline plan	Current Forecast	DOE Commitment	Level
Dimensional control plans for station 2	8205	BE	31-Aug-07	31-Aug-07		3
Station 2 Assembly Drawings	1806	MC	11-Sep-07	11-Sep-07		3
FDR prep outboard shims	1421	DW	18-Jul-07	29JUN07A		3
Station 2 Assembly Specification	1806	MC	11-Sep-07	11-Sep-07		3
Check and promote top-level models/drawings	1416	DW	21-Nov-07	21-Nov-07		3
PDR	1501	FD	20-Jul-07	20JUL07A		3
FDR AB/BC/AA inboard interface	1421	DW	4-Sep-07	4-Sep-07	Nov-07	2
Dimensional control plans for station 3	8205	BE	15-Oct-07	15-Oct-07		3
** DELIVER TF COILS FOR FPA #1 ASSY **	1361	MK	28-Sep-07	28-Sep-07	Dec-07	2
Prepare EM and structural analysis of leads	1416	DW	6-Nov-07	6-Nov-07		3
PF Coil PDR	1302	MK	11-Dec-07	5-Oct-07	Mar-08	2
Dimensional control plans for station 5	8205	BE	15-Feb-08	15-Feb-08		3
Fab, Test & Deliver Coil #6	1361	MK	23-Nov-07	23-Nov-07		3
PF FDR	1302	MK	24-Mar-08	4-Dec-07		3
Prepare Type-ABC closeout FDR	1416	DW	14-Jan-08	14-Jan-08		3
FDR C-C Joint	1421	DW	7-Jan-08	7-Jan-08		3



Analysis				
<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><b>Cost Variance (Cause, Impact, and Corrective Action) (&gt;5% and &gt;\$50k)</b></td> <td style="width: 50%;"><b>Schedule Variance (Cause, Impact, and Corrective Action) (&gt;5% and &gt;\$50k)</b></td> </tr> <tr> <td>Job 1421: MC Interface +\$338.7K ; Job 1501 Coil Structures -59.8K; Job 8202 Sys. Engrg. +\$125K; Job 8200 Des. Int. +\$85.2K</td> <td>1421: Work is proceeding better than anticipated, but need to complete conformatory welds &amp; tests and FDR yet.; 1521: work proceeding ahead of anticipated schedule due to changes in start dates of other jobs; 8202: Undercharges due to vacations &amp; time sheet mischarge; 8203: Limited by personnel resources(?)</td> </tr> </table>	<b>Cost Variance (Cause, Impact, and Corrective Action) (&gt;5% and &gt;\$50k)</b>	<b>Schedule Variance (Cause, Impact, and Corrective Action) (&gt;5% and &gt;\$50k)</b>	Job 1421: MC Interface +\$338.7K ; Job 1501 Coil Structures -59.8K; Job 8202 Sys. Engrg. +\$125K; Job 8200 Des. Int. +\$85.2K	1421: Work is proceeding better than anticipated, but need to complete conformatory welds & tests and FDR yet.; 1521: work proceeding ahead of anticipated schedule due to changes in start dates of other jobs; 8202: Undercharges due to vacations & time sheet mischarge; 8203: Limited by personnel resources(?)
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Changes/Additions to the risk registry		
Description	Likelihood of Occurrence	Cost and schedule impact
RR #29 concerning PF coil mfg. updated to correct mis-interpretation of PPPL costs.	U	Potential cost impact of \$+145-770K if manufacture at PPPL is necessary.
RR# 32 added concerning gaps opening up along welded shims for MC interfaces AA, AB, BC	U	We believe the proposed solution will have a minimal cost and schedule impact; this assumption will be verified at the FDR.