WBS Number: 142
WBS Title: Windings and Assembly
Job Number: 1421
Job Title: Design of Modular Coil Interfaces
Job Manager: David Williamson

Description:
Title I, II and III Engineering for design of the modular coil interfaces.

NOTE: Title III for these components is included in Job 1802

FY07$K

Task ID		41MS	48MS	37STK	35TRVL	31OT	ORNL EM	EMEM	EMSM	EMSB	EMTB	EAEM	EASB	EEEM	EESM	Basis of Estimate
																see Table V - Basis of Estimate
Outboard Interface Design																see Table V - Basis of Estimate
IH4-020	Prepare outboard shim dwgs and release						60									see Table V - Basis of Estimate
INTRF-045	FDR outboard shims						40									see Table V - Basis of Estimate
	Resolve CHITs and issue shim drawings						60									
																see Table V - Basis of Estimate
Bolted Joint Tests																see Table V - Basis of Estimate
	Tension Tests of Bolted Joint															see Table V - Basis of Estimate
1421-3067	Procure 2 studs f/joint test.Use existing part						8									see Table V - Basis of Estimate
1421-3075	Setup test fixture &perform JHA & pre-job brief						8									
1421-3077	Meas joint deflect vs preload & loss of preload						24									see Table V - Basis of Estimate
1421-3079	Measure joint deflec & preload v. temp @80K						24									see Table V - Basis of Estimate
1421-3084	Measure joint deflection&preload v. cooldown cyc						24									see Table V - Basis of Estimate
1421-3087	Perform pullout tests for tapped holes						24									
1421-3081	Meas joint deflect & preload v. time (days) at R						160									see Table V - Basis of Estimate
1421-3090	Document&conduct review of test results						40									see Table V - Basis of Estimate
																see Table V - Basis of Estimate
	Bolt Shear Test at 77k															see Table V - Basis of Estimate
1421-3112B	Procure/fab parts for test&initial assembly						40									see Table V - Basis of Estimate
1421-3115B	Assemble & test						320									see Table V - Basis of Estimate
1421-3119B	Document test results						80									see Table V - Basis of Estimate
																see Table V - Basis of Estimate
Inboard Interface Design																see Table V - Basis of Estimate
IH1-001	Coil to coil analysis						520									see Table V - Basis of Estimate
1421-3125	Determine geometry&location of high COF shims&pl						80									
1421-3127	Structural analyses to performance rqmts for bol						240									see Table V - Basis of Estimate
1421-3132	PDR to review requirements, design,&development						40									
																see Table V - Basis of Estimate
AB/BC/AA welded joints																see Table V - Basis of Estimate
	Prepare winding form mods for weld clamping bolts						300									see Table V - Basis of Estimate
INTRF-050	Complete Shim fabrication drawings (ORNL)						240									see Table V - Basis of Estimate
	Release information for procurement of shim material						24									
INTRF-055	FDR AB/BC/AA inboard shims						40									see Table V - Basis of Estimate
																see Table V - Basis of Estimate
CC bolted joint																see Table V - Basis of Estimate
IH1-000	ESTABLISH CONCEPT						680									see Table V - Basis of Estimate
IH1-0000	PEER REVIEW OF JOINT CONCEPT						80									see Table V - Basis of Estimate
	Add bolt holes to C winding form for CC interface						140									see Table V - Basis of Estimate
	Bolt Reach and Access study (mockup)						200									see Table V - Basis of Estimate
	Prepare CC shim drawiings and release						360									see Table V - Basis of Estimate
	FDR CC inboard shims						40									see Table V - Basis of Estimate

WBS Number: 142

WBS Title: Windings and Assembly

Job Number: 1421

Job Title: Design of Modular Coil Interfaces

Job Manager: David Williamson

Welded Joint Tests					
	Procedure				
INTRF-035	PPPL Determine shim material		40		see Table V - Basis of Estimate
INTRF-001	PPPL buy SS plate for weld trials		8		see Table V - Basis of Estimate
INTRF-005	Weld distortion trials at PPPL on SS plate		40		see Table V - Basis of Estimate
INTRF-025	ORNL build pywood mockup of flange	140			see Table V - Basis of Estimate
INTRF-030	ORNL verify weld access, develop alternate welding methods	40			see Table V - Basis of Estimate
INTRF-010	Develop Weld Geometry Procedure	40			see Table V - Basis of Estimate
	Test				
INTRF-015	Weld trials on two MCWF's at PPPL		80		see Table V - Basis of Estimate
INTRF-020	Document results and update weld procedure		120		see Table V - Basis of Estimate
Overall interface					
INTRF-040	Analysis of tensil loads (ORNL)	320			see Table V - Basis of Estimate
1421-3134	Develop specs & dwgs for station 2 &3 assy	300			see Table V - Basis of Estimate
1421-3136	Conduct MC interface FDR incl job 1416	40			see Table V - Basis of Estimate
1421-3138	Resolve issues, release assembly drawings	240			see Table V - Basis of Estimate. **Specs in Job 1806**
FY07 Rebaseline exercise					
ECP53RBX05	FY07 Rebaseline Exercise	256			
Travel					
	trips for ORNL personnel to PPPL		$9k		6 trips at $1500 avg
	trips for PPPL personnel to UT MDL		$3k		2 trips at $1500 avg
	SUBTOTAL		$12k	4960	600
unlisted, known labor hours					
	scheduled and unscheduled meetings/reporting/presentations (@ 25%)	1210	150		see Table V - Basis of Estimate
	TOTAL	$12k	6170	750	