

NCSX Work Approval Form (WAF)

WBS Number: 73

WBS Title: Platform Design & Fabrication

Job Number: 7301

Job Title: Platform Design & Fabrication

Job Manager: Erik Perry

Description:

This WBS element consists of the activities associated with design and fabrication of the NCSX machine platform. This work scope encompasses the design and fabrication of a platform around the NCSX device, in support of various diagnostics and systems required for operation. It includes all platform material procurements.

Schedule:

See Attached

Approvals:

Job Manager

Date

Responsible Line Manager

Date

Project Manager

Date

Engineering Department Head

Date

NCSX June 2007 ETC
TABLE I - DESIGN LABOR

WBS Number: 73
WBS Title: Platform Design & Fabrication
Job Number: 7301
Job Title: Platform Design & Fabrication
Job Manager: Erik Perry
Description:
<i>Title I and II Engineering for PF Coils and Title III Support of Fabrication Effort.</i>

Task ID	FY07\$K					HOURS															Basis of Estimate	
	41MS	48MS	37STK	35TRVL	31OT	ORNL EIM	ORNL DSN	EMEM	EMSM	EMSB	EMTB	EAEM	EAEM Dsn	EASB	EEEM	EESM	EESB	EETB	ECEM	ECSE		ECTB

Already completed.																									

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TABLE II - Materials and Subcontracts

WBS Number: 73							
WBS Title: Platform Design & Fabrication							
Job Number: 7301							
Job Title: Platform Design & Fabrication							
Job Manager: Erik Perry							
Materials and Subcontracts (M&S)						Basis of Estimate	
Based on actual costs for NSTX platform which had the same design. See Table III.							

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TABLE III - Fabrication/Assembly Installation

WBS Number: 73											
WBS Title: Platform Design & Fabrication											
Job Number: 7301											
Job Title: Platform Design & Fabrication											
Job Manager: Erik Perry											
In-house Fabrication and Assembly and Installation											
Job 7301 - Platform Design & Fabrication										Basis of Estimate	
		K\$	Hours					Duration in Shifts	Persons per Shift	Assumptions	
Description of Task	ACT	M&S	EAEM	Metrology	EMEM	EMSM	EMTB				
Platform nut plates	711A.040	\$0.1K					36			Based on NSTX Platform - same design	
Platform Parts	712.020	\$3.0K			32	0	300			Based on NSTX Platform - same design	
Survey and layout locations for platform posts					40	40	160	10	2	Based on NSTX Platform - same design	
Misc Platform Hardware/Material	712.030	\$16.0K								Based on NSTX Platform - same design	
Machine Platform Trial Assembly and Fit-up					48	240	960	20	6	Based on NSTX Platform - same design	
Subtotal Job 7301		\$19.1K			120	280	1456				

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TABLE IV - Uncertainty of Estimate and Residual Risk Assessment

WBS Number: 73																			
WBS Title: Platform Design & Fabrication																			
Job Number: 7301																			
Job Title: Platform Design & Fabrication																			
Job Manager: Erik Perry																			
Uncertainty of the Estimate																			
						<u>Uncertainty Range (%)</u>	<u>Comments/Other Considerations</u>												
	Design Maturity		<u>High</u>	<u>Medium</u>	<u>Low</u>	X	Have extensive experience building and using special tooling for fabrication and decommissioning												
	Design Complexity					X	-15%/+25%	Nothing exotic anticipated.											
Note: High/Medium/Low uncertainty assessment from Job Manager. Uncertainty range based on ACEI recommended practice 18R-97 as amended for NCSX.																			
Residual Impacts																			
																		Cost Impact	Schedule Impact
Job	Risk Description					Likelihood of Occurring	Mitigation Plan	Basis of estimate	Low	High	Low	High							
NONE																			
Notes:																			
[1]	Low cost and schedule impacts are considered the minimum (0-percentile) impacts should the event occur.																		
	High cost and schedule impacts are considered the maximum (100-percentile) impacts should the event occur																		
[2]	Cost impacts should be entered as man-hours (by demographic) and M&S direct cost under basis of estimate.																		
	Cost impacts should NOT include standing army costs which are separately calculated from the schedule impact																		
	Project control is responsible for quantifying the low and high cost impacts based on the labor hours and M&S identified																		
[3]	The schedule impacts should be entered as the min and max impacts on the critical path.																		
	If there is no critical path impact then the schedule entries should be zero.																		
[4]	Likelihood of occurrence should be entered consistent with our risk classification methodology, i.e.																		
	VL= Very Likely (P>80%), L=Likely (80%>P>40%), U=Unlikely (40%>P>10%), VU=Very Unlikely (P<10%), NC=Non-credible (P<1%)																		

Activity ID	MILE-stones (level 2 & 3)	Activity Description	Duration (work days)	Baseline Start	Baseline Finish	Shifts	Total Float	% cmlpt	Proposed Budgeted						
										FY07	FY08	FY09	FY10	FY11	FY12
73 - Platform Design & Fabrication															
Job: 7301 - Platform Design & Fab-PERRY															
711A.040		Platform nut plates	30	02OCT08	12NOV08		16		2,976.68						
712.020		Platform Parts	30	02OCT08	12NOV08		16		34,225.00						
712.030		Miscs Hardware/Material	40	18SEP08	12NOV08		16		22,031.60						
7301-100		Survey & layout locations for platform posts	10	30OCT08	12NOV08		16		25,252.80						
7301-102		Machine platform trial assembly & fitup	30	13NOV08*	06JAN09		16		119,740.80						
Subtotal			70	18SEP08	06JAN09		16		204,226.88						

■ EM/TB =36hr ; 41=00\$K ;
 ■ EM//EM =32hr ; 41=03\$K ;
 ■ EM//TB =300hr ;
 ■ 41=16\$K ;
 ■ EM//EM =40hr ; EM//SM =40hr ;
 ■ EM//TB =160hr ;
 ■ EM//EM =48hr ; EM//SM =240hr ;
 ■ EM//TB =960hr ;