NCSX Work Approval Form (WAF)

WBS Number: 823
WBS Title: Design Integration
Job Number: 8203
Job Title: Design Integration
Job Manager: Tom Brown

Description:

Responsibilities include:
• Configuration development and integration support for all design and construction activities. Participating in design reviews.
• Administering the CAD database of project models and drawings. Reviewing and promoting CAD models and drawings. Establishing Intralink procedures and privileges.
• Providing support to the metrology and dimensional control efforts by analyzing metrology data in conjunction with CAD models of the parts and assemblies

Schedule: See Attachment

Approvals: Tom Brown Digitally signed by Tom Brown
DN: cn=Tom Brown, c=US, o=PPPL
Reason: I have reviewed this document
Date: 2007.07.11 08:48:01 -04'00'

_____	_____
Job Manager	Date
_____	_____
Responsible Line Manager	Date
_____	_____
Project Manager	Date
_____	_____
Engineering Department Head	Date

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TABLE I - Design Labor

WBS Number: 823
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Job	WBS	Function	Resource Requirements	Basis of Estimate
8203 - Design Integration (Brown)				
	823 - Design Integration			
		Configuration development and integration support	1020 hours for Brown 2700 hours for a designer 340 hours for Ellis through 1st Plasma	This effort is consistant with the necessary configuration development and integration support for all design and construction activities. The design support covers design activities to update drawings per shop generated mark-ups.
		CAD administration	20% LOE for Brown 10% LOE for Ellis through 1st Plasma	This LOE is consistent with project experiences associated with the drawing review/Intralink administration process and appropriate through 1st Plasma.
		Metrology and dimensional control support	1700 hours for Brown 340 hours for Ellis through final assembly	This LOE is consistent with project experiences associated with the review of MC, VV, and diagnostic loop geometry for position definition and fit-up conditions.

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TABLE II - Materials and Subcontracts

Description:	None					

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TABLE III - Fabrication and Assembly

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Fabrication and Assembly		None								

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TABLE IV - Uncertainty of Estimate and Residual Risk Assessment

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Uncertainty of the Estimate

	High	Medium	Low	Uncertainty Range (%)	Comments/Other Considerations
Design Maturity		X		-15%/+25%	
Design Complexity		X			

Note: High/Medium/Low uncertainty assessment from Job Manager. Uncertainty range based on AACEI recommended practice 18R-97 as amended for NCSX.

Residual Impacts

Job	Risk Description	Likelihood of Occurring	Mitigation Plan	Basis of estimate	Cost Impact Low	Cost Impact High	Schedule Impact Low	Schedule Impact High
8203	Loss or prolonged unavailability of certain key personnel (Brown) from the project could substantially impact the schedule.	VU	Bob Ellis has been budgeted along with a designer to provide support to Tom Brown in Design Integration during peak demands and pick up the slack for Brown if he became unavailable.	Estimated impact is <0.5 months on the critical path. No impact on FPA cost because impacted personnel would be assigned to other activities.	+ $0	+ $0	+ 0.00	+ 0.50

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 loaded costs
Cost impacts should NOT include standing army costs which are separately calculated from the schedule impact
[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=Unlikley (40%>P>10%), VU=Very Unlikely (P<10%), NC=Non-credible (P<1%)