NCSX Work Approval Form (WAF)

WBS Number: 53
WBS Title: Data Acquistion & Facility Computing Systems
Job Number: 5301
Job Title: Data Acquistion & Facility Computing Systems
Job Manager: Paul Sichta

Description:

The Diagnostic Data Acquisition System will provide a data management software structure to catalog and manage experimental results for subsequent retrieval and analysis. The design will use the existing MIT developed MDSplus software for data acquisition, data archiving and display. Individual diagnostic local control and data acquisition hardware will be designed with standard PC architecture or in Compact PCI chassis.

Schedule:

See Attached

Approvals:

_____   _____
Job Manager   Date

_____   _____
Responsible Line Manager   Date

_____   _____
Project Manager   Date

_____   _____
Engineering Department Head   Date

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Description:
Title I and
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Activity ID	Activity Description	41MS	43MS/CC	48MS	37STK	35TRVL	FY07$K ECEM	ECTB	EMTB	EASB	EEEM	EETB	Basis of Estimate
													Originally manhours estimate based on NSTX experience. However, this estimate has been updated to reflect experience of experieince on other similar networking installation projects.
53-10	Preliminary Design						40						
53-20	Final Design						80						
53-30	Procurement	$17.0K	$3.0K		$2.0K		20						
53-40	Installation							40					
53-50	MDSplus Installation						80						
53-60	MDSplus Programming - Tree Design						80						
53-70	MDSplus Programming - Shot Sync						80						
53-80	MDSplus Programming - Dispatcher						160						
53-90	MDSplus Programming - Acquisition						80						
53-110	Programming - Misc.						160						
53-120	Test						40	40					
	Subtotal Job 5301	*$17K*	*$3K*	*$0K*	*$2K*	*$0K*	*820*	*80*	*0*	*0*	*0*	*0*	
	M&S Details:	**K$**				**Basis of M&S Estimate**							
	Linux MDSplus Server	$3.0K	**Based on recent purchased of parts for NSTX and other lab infrastructure projects**										
	SAN - disk space (500 GB)	$6.0K	**Based on recent purchased of parts for NSTX and other lab infrastructure projects**										
	misc.	$3.0K	**Based on recent purchased of parts for NSTX and other lab infrastructure projects**										
	PC appl. TBD	$10.0K	**Based on recent purchased of parts for NSTX and other lab infrastructure projects**										
	Total M&S	**$22.0K**											

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Materials and Subcontracts (M&S)						**Basis of Estimate**	
Description:							
See Table I							

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In-house Fabrication and Assembly and Installation

See Table I

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Uncertainty of the Estimate

	High	Medium	Low	Uncertainty Range (%)	Comments/Other Considerations
Design Maturity		X			Although PDR, some more design needed to finalize.
				-10%/+15%	
Design Complexity			X		Duplication of NSTX architecture

Note: High/Medium/Low uncertainty assessment from Job Manager. Uncertainty range based on AACEI 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 reponsible 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=Unlikley (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	% cmplt	Proposed Budgeted	FY07	FY08	FY09	FY10	FY11	FY12

53 - Data Acquisition & Facility Computing

Job: 5301 - Data Acquisition-SICHTA

Activity ID	MILE-stones	Activity Description	Duration	Baseline Start	Baseline Finish	Shifts	Total Float	% cmplt	Proposed Budgeted
R53-10		Preliminary Design	30	01MAY09*	12JUN09		55		6,203.60
R53-11		PDR	0		12JUN09		55		0.00
R53-20		Final Design	30	15JUN09	27JUL09		55		12,407.20
R53-21		FDR	0		27JUL09		55		0.00
R53-30		Procurement	30	28JUL09	08SEP09		55		30,352.80
R53-40		Installation	30	09SEP09	20OCT09		55		3,063.79
R53-50		MDSplus Installation	20	21OCT09	17NOV09		55		12,828.80
R53-60		MDSplus Programming - Tree Design	20	18NOV09	17DEC09		55		12,828.80
R53-70		MDSplus Programming - Shot Sync	20	18DEC09	26JAN10		55		12,828.80
R53-110		Programming - Misc.	60	27JAN10	20APR10		55		25,657.60
R53-80		MDSplus Programming - Dispatcher	30	21APR10	02JUN10		55		25,657.60
R53-90		MDSplus Programming - Acquisition	20	03JUN10	30JUN10		55		12,828.80
R53-120		Test	14	01JUL10	21JUL10		55		9,532.80
Subtotal			304	01MAY09	21JUL10		55		164,190.59

Gantt chart annotations:
- R53-10: EC//EM =40hr ;
- R53-20: EC//EM =80hr ;
- R53-30: EC//EM =20hr ; 37=02 ; 43=03 ; 41=17$k ;
- R53-40: EC//EM =00hr ; EC//TB =40 ;
- R53-50: EC//EM =80hr ;
- R53-60: EC//EM =80hr ;
- R53-70: EC//EM =80hr ;
- R53-110: EC//EM =160hr ;
- R53-80: EC//EM =160hr ;
- R53-90: EC//EM =80hr ;
- R53-120: EC//EM =40hr ; EC//TB =40 ;