

NCSX Work Approval Form (WAF)

WBS Number: 825
WBS Title: Dimensional Control Coordination
Job Number: 8205
Job Title: Dimensional Control Coordination
Job Manager: Bob Ellis

Description:

Support design and construction activities in the realization of dimensional accuracy requirements by developing strategies and procedures for dimensional control and supporting their implementation.

Schedule: See Attachment

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: 825
WBS Title: Dimensional Control Coordination
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Job	WBS	Function	Resource Requirements	Basis of Estimate
	8205 - Dimensional Control (Ellis)			
	825 - Dimensional Control Coordination			
		Develop dimensional control plan for Station 2. Support field activities.	<p>480 hours for Ellis leading to development of dimensional control plan for Station 2.</p> <p>240 hours for Ellis, 240 hours for EA/EM engineer during operations on Station 2 to support field activities.</p>	Based on consideration of detailed steps to accomplish tasks. Station 2 is expected to be the most demanding for the dimensional control effort.
		Develop dimensional control plan for Station 3. Support field activities.	<p>160 hours for Ellis to develop dimensional control plan for Station 3.</p> <p>240 hours for Ellis, 240 hours for EA/EM engineer during operations on Station 3 to support field activities.</p>	Station 3 is expected to be less demanding because fundamentals and common issues will have been worked out on Station 2.
		Develop dimensional control plan for Station 5. Support field activities.	<p>320 hours for Ellis to develop dimensional control plan for Station 5.</p> <p>160 hours for Ellis, 160 hours for EA/EM engineer during operations on Station 5 to support field activities.</p>	Station 5 dimensional control elements include alignment of ports and initial fitup of TF coils.
		Develop dimensional control plan for final assembly. Support field activities.	<p>480 hours for Ellis to develop dimensional control plan for final assembly.</p> <p>240 hours for Ellis, 240 hours for EA/EM engineer during final assembly to support field activities.</p>	Final assembly includes fitup of three field period and final placement of TF coils, PF coils and CS assembly.

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TABLE III - Fabrication and Assembly

WBS Number: 825							
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Fabrication and Assembly		None					

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TABLE IV - Uncertainty of Estimate and Residual Risk Assessment

WBS Number: 825
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Uncertainty of the Estimate

	<u>High</u>	<u>Medium</u>	<u>Low</u>	<u>Uncertainty Range (%)</u>	<u>Comments/Other Considerations</u>
Design Maturity			X		Dimensional control is critical to the assembly processes - techniques still being developed.
Design Complexity	X			-30%/+60%	Tight tolerances are especially challenging

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

Residual Impacts

Job	Risk Description	Likelihood of Occurring	Mitigation Plan	Basis of estimate	Cost Impact		Schedule Impact	
					Low	High	Low	High
8205	Loss or prolonged unavailability of certain key personnel (Ellis) from the project could substantially impact the schedule.	VU	An EA/EM engineer has been budgeted to provide support to Ellis in Dimensional Control Coordination during peak demands and pick up the slack for Ellis should he become 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%)