

NCSX Work Approval Form (WAF)

WBS Number: 134
WBS Title: Conventional Coils I&C
Job Number: 1355
Job Title: Conventional Coils I&C
Job Manager: Mike Kalish

Description:

This WBS element provides the manufacturing design and fabrication of the local I&C components required by the WBS elements under Conventional Coils (WBS 13). Local I&C requirements will be determined in the design of these WBS elements, and may include strain gages, RTDs, and voltage taps.

Schedule:

See Attached

Approvals:

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

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TABLE II - Material and Subcontracts

WBS Number: 134																																						
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Materials and Subcontracts (M&S)																																						
Description:																																						
		FY07\$K																																				
Procurement & Fabrication																																						
I&C Design and Installation																																						
Procure Thermocouples TF	\$4.320																																					\$40 per TE 6 per coil - based on Omega Catalogue
Procure Thermocouples PF4	\$0.480																																				\$40 per TE 6 per coil - based on Omega Catalogue	
Procure Thermocouples PF5	\$0.480																																				\$40 per TE 6 per coil - based on Omega Catalogue	
Procure Thermocouples PF6	\$0.480																																				\$40 per TE 6 per coil - based on Omega Catalogue	
Procure Thermocouples PF1a	\$0.240																																				\$40 per TE3 per coil - based on Omega Catalogue	
Thermocouple Wire	\$4.000																																				500ft per TE - based on Omega Catalogue	
Design and Review																																					Design-based on previous experience on similar projects	
Installation Procedures - Review and Approval																																					Installation Procedures + Review and Approval - based on previous experience (e.g., NSTX)	
Design Review																																					Design Review - based on previous experience	
I*+&C Title III Engineering																																						
Support of Installation																																					Two hours per TE - basis on previous experience (e.g., NSTX)	
Subtotal Job 1355	\$10	\$0	\$0	\$0	\$0	\$0	0	0	0	0	0	0	0	396	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

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TABLE III - Fabrication/Assembly Installation

In-house Fabrication and Assembly and Installation																																		
Description: Incl in M&S Table II																																		
Worksheets																																		

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TABLE IV - Uncertainty of Estimate and Residual Risk Assessment

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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		-10%/+15%	Requirements in early development, but relatively simple design based on previous experience.
Design Complexity			X		Simple off-the-shelf thermocouples attached to coil

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

Residual Impacts

	<u>Risk</u>	Likelihood of Occurring	<u>Mitigation Strategies</u>	<u>Consequence if Occurs</u>	
				<u>Cost</u>	<u>Schedule</u>
NONE					