

**NCSX June 2007 ETC
TABLE I - Design Labor**

WBS Number: 821/822
WBS Title: Engineering Management and Systems Engineering
Job Number: 8202
Job Title: Engineering Management and Systems Engineering Support
Job Manager: Wayne Reiersen

Job	WBS	Function	Resource Requirements	Basis of Estimate	
8202 - Engineering Management and Systems Engineering Support (Reiersen)					
		Travel	\$5K /year through 1st Plasma		
821 - Engineering Management					
		Engineering management	50% LOE for Reiersen through FY2007. Then 40% of Heitzenroeder starting in FY08 through first plasma.	This LOE is consistent with project experience and appropriate for balance of project.	Reiersen/Heitzenroeder
			50% LOE for Heitzenroeder for balance of FY07 to expedite resolution of key design issues.		
		Responsible line management	60% LOE for Dudek through final assembly. An additional 15% for Dudek from the start of FY08 through the completion of scope in WBS 2, 3, and 6 for which he has line management responsibility.		Dudek
		Responsible line management	15% LOE for Reiersen for WBS 13, 15, and 17 scope for which he has line management responsibility though FY2007. Then 10% of Heitzenroeder starting in FY08 through completion of these WBS elements.		Reiersen/Heitzenroeder
		Responsible line management	15% LOE for von Halle from the start of FY08 through the completion of WBS 4 and 5 scope for which he has line management responsibility.		vonHalle

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822 - Systems Engineering			
Requirements management	340 hours split between Reiersen and Simmons through first plasma.	This LOE effort includes the review and approval of product and assembly specifications and assembly procedures plus the effort to develop and maintain a DBMS for tracking the flowdown and verification of requirements. It is consistent with project experience and appropriate through 1st Plasma.	Reiersen/Simmons
Design verification	80 hours for Reiersen through FY07. Remaining 430 hours split between Reiersen and Simmons starting in FY08 through first plasma	Design reviews are conducted systematically in the development of subsystem, assembly, and major component designs; in the design of tooling; and at junctures where critical decisions are made. The effort includes chartering the reviews and posting the review documentation and chits. This LOE effort is consistent with project experience and appropriate through 1st Plasma.	Reiersen/Simmons
Configuration management and interface control	850 hours for Simmons through 1st Plasma	This LOE is consistent with project experience, primarily for processing changes, and appropriate through 1st Plasma.	Simmons
Document control	10% LOE for Simmons through 1st Plasma 10% LOE for Such through 1st Plasma	This LOE is consistent with project experience and appropriate through 1st Plasma.	Simmons
Training	5% LOE for Simmons through 1st Plasma	Training modules have been developed and training largely accomplished. Additional work will be on implementing changes and training new project personnel.	Such Simmons