

**NCSX June 2007 ETC
TABLE I - DESIGN LABOR**

WBS Number: 45									
WBS Title: Power Systems Design Integration									
Job Number: 4501									
Job Title: Power Systems Design Integration									
Job Manager: Raki Ramkrishnan									
Develop SRD	451-0-2					40			Needed before FDR on WBS4
Calculations-Dsn	451-1-2			8		40			Needed before FDR on WBS4
PDR Prep Power system -Dsn	451-2-2			128		96			Needed before power Cable installation
FDR C-Site	451-2-2.1			120		80			Needed before power Cable installation
PDR Power system -Dsn	451-2-3								Needed before power Cable installation
Dwgs,asbuilts -Elect Dsn	451-3-2			320		320			Needed before coil energization
FDR AC auxiliaries & grounding-Dsn	451-4-2			40		40			Needed before coil energization
FDR C-Site -Cabling	451-6-2			120		80			Needed before power Cable installation
WBS 452 - Electrical Systems Support									
Diagnostics AC Power Distr-Dsn	452-1-2			160		80			
Diagnostics AC Power Distr-Procure	452-1-4	\$1K		8					
Diagnostics AC Power Distr-Install	452-1-6			80		24	80	640	
Diagnostics AC Power Distr-Commission	452-1-8					24	80	160	Needed before first plasma
Diagnostics sensor cabling-Dsn	452-2-2			160		24			
Diagnostics sensor cabling-Procure	452-2-4	\$2K							
Diagnostics sensor cabling-Install	452-2-6					16	32	160	
Diagnostics sensor cabling-Commission	452-2-8					8	16	32	Needed before first plasma
WBS 453 - System Testing (PTP's)									
New Procedures	453-1-2			160		24			Needed before FDR on WBS4
Preop Testing-Procure test equipt	453-1-3	\$20K							Needed before coil energization
TF Coil Test	453-1-4	\$1K		8		32	40	54	Needed before first plasma
PF5 Coil Test	453-1-5	\$1K		8		32	40	54	Needed before first plasma
Trim Coil Test (per coil)	453-1-6	\$1K		8		32	40	54	Needed before first plasma
Testing PTPs, ISTPs	453-1-7	\$10K		160		240	320	376	Needed before first plasma
Totals		\$36K	\$0K	1488	0	1232	648	1530	
Notes on the Basis of Estimate									
(1) Design and Fabrication/Installation									
Estimate based on estensive experience of engineer performing similar tasks at PPPL and EBASCO - e.g. recent experience on NSTX. This is basically a job modifying existing PPPL systems and re-installing for NCSX. Design and engineering estimates developed based on assesments of the number of drawings needed (new or modified), the effort to reconfigure existing designs, interfaces with other systems, supervision of on-site contractors, and all necessary re-activation and pre-operational testing needed.									
(2) M&S									
M&S estimated based on similar recent procurements and needed interfaces with installation contractors - this will be Davis-Bacon covered, except tor those activities within the Test Cell.									