

**NCSX June 2007 ETC**  
**TABLE II - Materials and Subcontracts**

<b>WBS Number: 142</b>				
<b>WBS Title: Windings and Assembly</b>				
<b>Job Number: 1421</b>				
<b>Job Title: Design of Modular Coil Interfaces</b>				
<b>Job Manager: David Williamson</b>				
<b>Materials and Supplies</b>				
			<b>M&amp;S-k\$</b>	
1421-3067	Procure 2 studs f/joint test. Use existing part		\$1k	Based on stud quotation
1421-3112	Test fixture for fatigue testing		\$10k	Based on fabrication estimate for hardware, see detail below
IH1-001	Coil to coil analysis		\$36k	Based engineering judgement for subcontract, see details below
INTRF-001	PPPL buy SS plate for weld trials		\$31k	Based on \$15/lb SS plate, see detail below
INTRF-005	Weld distortion trials at PPPL on SS plate		\$1k	engr judgement for consumables
INTRF-025	ORNL build plywood mockup of flange		\$30k	Based on est costs for subcontract, see detail below
INTRF-030	ORNL verify weld access, develop alternate welding methods		\$20k	Based engineering judgement for subcontract, see details below
	ORNL verify CC bolt reach access		\$19k	Based engineering judgement for subcontract, see details below
INTRF-015	Weld trials on two MCWF's at PPPL		\$1k	engr judgement for consumables
	TOTAL		\$149k	

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<b>Details</b>					
<b>Test fixture for fatigue testing</b>					
SST plate, G11 bushings and insulators material				\$6k	
LN2 can, bellows, support struts, G10 rods				\$4k	see detail bill of matls below
				\$10k	
<b>Analysis subcontract</b>					
12 weeks x 50% time		240	hours	\$36k	
<b>stainless steel plate</b>					
1.5"x 4' x 8' plate @ \$15/lb		2070	lbs	\$31k	
<b>plywood mockup</b>					
plywood, paint, etc.		1	lot	\$3k	
labor, technicians		240	hours	\$18k	2 techs for 3 weeks
labor, supervision		60	hours	\$9k	half time for 3 weeks
total est. for contract				\$30k	
<b>ORNL verify weld access</b>					
weld consumables		1	lot	\$2k	weld wire, gas, etc.
labor, technicians		160	hours	\$12k	2 techs for 2 weeks
labor, supervision		40	hours	\$6k	half time for 2 weeks
total est. for contract				\$20k	
<b>ORNL verify CC bolt access</b>					
wood, glue, etc		1	lot	\$1k	
labor, technicians		160	hours	\$12k	2 techs for 2 weeks
labor, supervision		40	hours	\$6k	half time for 2 weeks
total est. for contract				\$19k	

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Item	Description	Part number	Supplier	quantity	cost/item	Total Price	phone number
Parts List For NSCX Shear testing:							
1	Del Seal CF Flanges - 4-1/2 Inch OD	110018 (Ref# 450000)	MDC	1	\$48.00	\$48.00	800-443-8817
2	4.5 OD half nipple with clearance holes	401004 (Ref# 150-1)	MDC	1	\$110.00	\$110.00	800-443-8818
3	Bellows (2" ID, 4.5" OD)	400005 (Ref# 250-x)	MDC	1	\$330.00	\$330.00	800-443-8819
4	Copper Gasket (4.5" flange)	191009 (Ref# GK-250)	MDC	12	\$24.00	\$288.00	800-443-8820
5	18" X 12" X 18.125" Stainless stell batch can	3763K221	McMaster	1	\$524.53	\$524.53	404 629-6500
6	Semi-Ridgid PVC insulation (low density 3/8")	9318k74	McMaster	4	\$27.42	\$109.68	405 629-6500
7	Vibration Damping Clamps	3015T133	McMaster	6	\$20.56	\$123.36	406 629-6500
8	18-8 Hex Head Cap Screws (4.25" long)	92240A559	McMaster	2	\$21.42	\$42.84	407 629-6500
9*	3" X 1.5" T-slotted Extrusion (cut to 19" long)	unknown	BertleKamp	4	unk	unk	865 588-7691 Wendel Copper
10*	3" X 1.5" T-slotted Extrusion (cut to 20" long)	unknown	BertleKamp	2	unk	unk	866 588-7691 Wendel Copper
9-10 alternative	This part can be orederd from mcmaster as "Aluminum Fractional T-Slotted Framing Sylems" <b>We cut it to size ourselves</b>	47065T138	McMaster	2	\$76.60	\$153.20	407 629-6500
11	G-10/FR4 Rod (3/16" diameter) sold by the foot	8669K23	McMaster	6	\$3.03	\$18.18	408 629-6500
10	1.5" diameter (17-4 PH) stainless precision ground rod (6' long) <b>see if you can get 4 feet long</b>	9095K25	McMaster	1	\$290.81	\$290.81	409 629-6500
11	2.0" diameter 4140 steel rod (12" long)	8935K151	McMaster	1	\$38.81	\$38.81	410 629-6500
12	2.5" diameter 4140 steel rod (12" long)	8935K191	McMaster	1	\$56.15	\$56.15	411 629-6500
13	4-48 NF Tap (Plug) <b>ask Joe/Jim if this is ok for them.</b>	2522A775	McMaster	3	\$4.29	\$12.87	412 629-6500
14	4-48 Socket Cap screws (3/8" long)	91251A836	McMaster	1	\$8.40	\$8.40	413 629-6500
15	Schaevitz LVDT's (GCA-121-125)	2350500	Schaevitz	4	\$365.00	\$1,460.00	800 745-8008
					Total Cost	\$3,614.83	