NCSX Work Approval Form (WAF) WBS Number: 12 **WBS Title: Vacuum Vessel Systems** Job Number: 1204 Job Title: Vacuum Vessel System Procurements Job Manager: Larry Dudek Description: This WBS element includes all of the non-VVSA procurements. Schedule: See Attached 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: 12

WBS Title: Vacuum Vessel Systems

Job Number: 1204

Job Title: Vacuum Vessel System Procurements

Job Manager: Larry Dudek

Description:

Procure necessary parts and consubmables to support assembly and fabrication of Vacuum Vessel Segments. This job only covers M&S support - labor to procure the parts and consumables is covered under WBS 82 (where L. Dudek labor is covered). Details of requirements shown on drawings prepared under WBS 19.

No Design Work in this Job.

NCSX June 2007 ETC TABLE II - Materials and Subcontracts

WBS Title: Vacuum Vessel System Procurements Job Number: 1204 Job Title: Vacuum Vessel System Procurements Job Manager: Larry Dudek Materials and Subcontracts (MSS) Basis of Estimate Property System Procurements Use Specifies Rea Ory Sectional Totals Werk Indiagnose Total Lateral Supports Werk Complained									
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NCSX June 2007 ETC TABLE III - Fabrication/Assembly Installation

n-house Fabrication and Assembly and Installation										
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NCSX June 2007 ETC TABLE III - Fabrication/Assembly Installation

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WBS Number: 12

WBS Title: Vacuum Vessel Systems

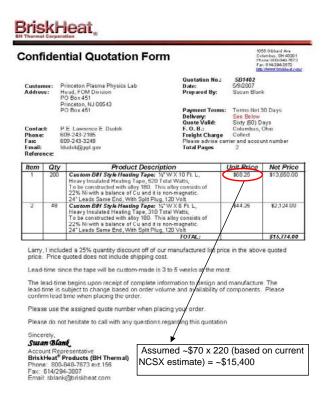
Job Number: 1204

Job Title: Vacuum Vessel System Procurements

Job Manager: Larry Dudek

M&S Backup

Heater Tape



Backup on Pourable Insulation

From: Senfinyy J. Settellinger Sent: Medhesday, May Ob, 2007 4156 PM To: Faul Goranson: Lawrence E. Dudeky Mayne T. Reiersen; Ronald L. Strykowsky; Mike Coler Exadley E. Nelson Co: Jerry D. Levine; Milliam V. Slavin Subject: MBS 12 - Insulation

Fellows

Allow me to share the origin of the cost estimate for Paul Goranson's acrogel vacuum vessel insulation.

A very rough volume calculation yielded a volume of about 2.5 m**3 to fill the annulus between the vessel and the modular colis. I assumed that we should order twice this volume as this is a custom product.

Recall that the stock aerogel from Cabot Corporation has a water dispersant coating that becomes mobile at vessel bake temperatures and was judged an ESSA concern earlier in the design process.

Me. Jod. Bates, a technical person with Cabot, SRAGed that the "calcining" (baking) of the 5 m**3 of serogel would cost about \$90%-\$90%. Allow me to re-emphasize the rough order of magnitude estimate back.

Meen polled about Whether MCSX should move ahead with this off-normal product request, the NCSX community felt the best logic was to hold off and to see if this becomes a stock product instead of a "special".

The \$80-\$90k is a soft price that needs a spec and Procurement over light to ake it more dependable.

Geoff

WBS Number: 12

WBS Title: Vacuum Vessel Systems

Job Number: 1204

Job Title: Vacuum Vessel System Procurements

Job Manager: Larry Dudek

Thermocouples

From: Omega Engineering - SCHAALE <EASYLINK@N.VM> Date: January 12, 2007 4:01:58 PM EST To: Idudek@pppl.gov Subject: Sales order # 701979458 PPPL 6092432080 Idudek@pppl.gov Reply-To: INFO@OMEGA.COM Hello Mr Dudek, Following is a copy of the quote we have been working on, Your Ref# NCSX-PRL-12-003-00. Please forward a copy of the tag format detail to me at your convenience. If you have any other questions please do not hesitate to call me. Best regards, Bob Schaale 800-359-1660 ex 7646 bschaale@omega.com 203-968-7364 fx QUOTATION ****** _OMEGA ENGINEERING, One Omega Drive, Box 4047, Stamford, CT 06907-0047 PHONE (203)359-1660 FAX (203)359-7990 omega.com E-Mail: temp@omega.com ISO 9001 CERTIFIED (Stamford, CT USA) http://www.omega.com PPPL Date 01/12/07 | Quote No. Q701979458 XXX Your No. RDS01005 FAX To ARLENE WHITE FAX No. (609)243-2080 In response to your inquiry we are pleased to submit the following: (Terms) NET 30 Pending credit approval (F.O.B.) STAMFORD ______ Item Qty Part Number Price Discount Net Unit Total No. Description Est. Ship Date A.R.O. Price Amount _____ 1) 105 EI1106107/XCIB-E-4-2-3-SHX-M 69.25 69.25EA 7,271.25

XCIB T/C ASSY/UNGROUNDED 4-5 Wks

2) 105 EI1106107/XCIB-E-4-2-10-SHX-M 83.25 83.25EA 8,741.25 XCIB T/C ASSY/UNGROUNDED 4 - 5 Wks

3) 210 OSK/TAGGING PROC/ITEM#1 & 2 5.00 5.00EA 1,050.00 PROD ID/SEE CASE FOR FORMAT 4 - 5 Wks

4) 1 SET UP CHARGE 50.00 50.00EA 50.00 FOR MFG OF CUSTOM ITEM 4 - 5 Wks

THIS QUOTATION IS VALID FOR 30 DAYS TOTAL AMT 17.112.50

Please refer to the QUOTE# Q701979458 AWHITE@PPPL:GOV when placing this on order. FAX From CS#622408 TERMS & CONDITIONS

Omega Engineering, Inc. (the Company) offers this quotation subject to its terms and conditions, as stated in the Company published Handbook and related literature. The Company does not agree to any additional or different terms imposed by individual customers, which are deemed to be material alterations, unless signed by the Company prior to shipment of this order. All quoted delivery dates are subject to product availability, for exact delivery dates, please consult our sales department at time of order.

Assumed ~\$80 unit rate based on the above x 337 (count off drawing) = \$26, 960

WBS Number: 12

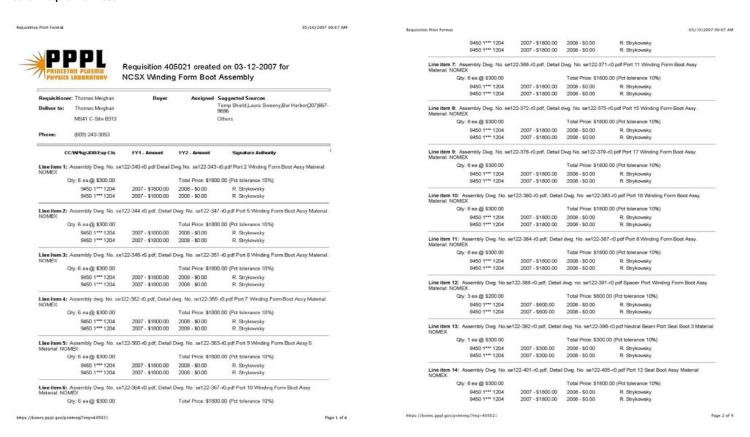
WBS Title: Vacuum Vessel Systems

Job Number: 1204

Job Title: Vacuum Vessel System Procurements

Job Manager: Larry Dudek

Boots - Requistition 405021



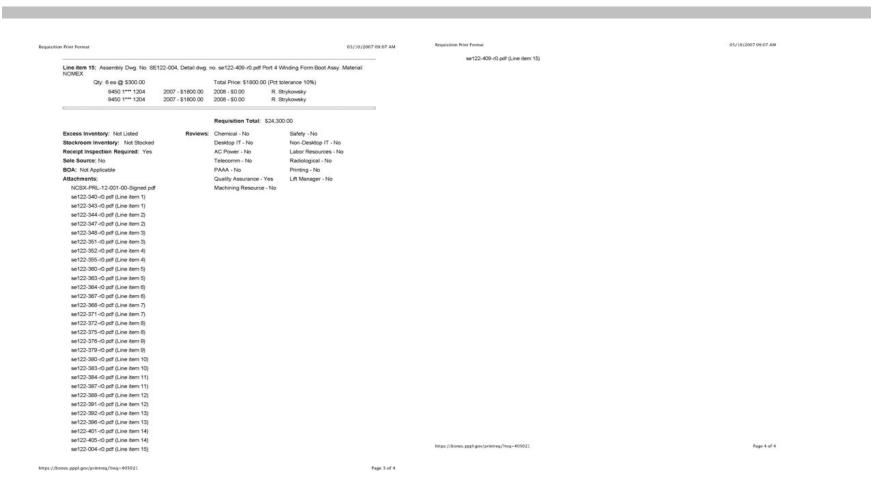
WBS Number: 12

WBS Title: Vacuum Vessel Systems

Job Number: 1204

Job Title: Vacuum Vessel System Procurements

Job Manager: Larry Dudek



WBS Number: 12

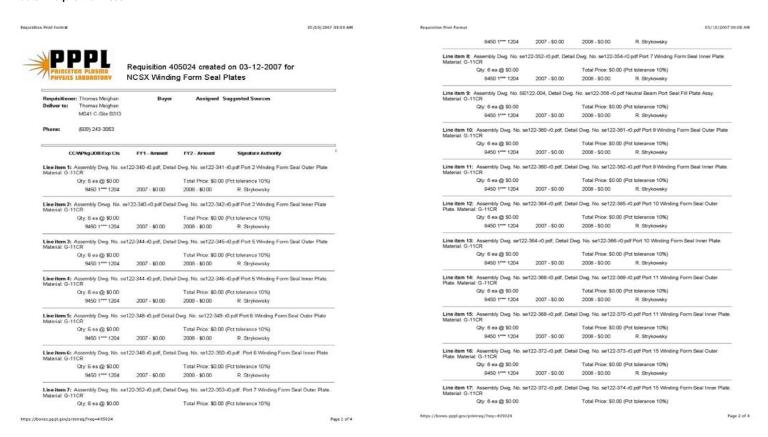
WBS Title: Vacuum Vessel Systems

Job Number: 1204

Job Title: Vacuum Vessel System Procurements

Job Manager: Larry Dudek

Boots - Requistition 405024



WBS Number: 12

WBS Title: Vacuum Vessel Systems

Job Number: 1204

Job Title: Vacuum Vessel System Procurements

Job Manager: Larry Dudek

n Print Format				05/10/2007 09:08 AM	Requisition Print Format				05/10/2007 09:08 AM
					Excess Inventory: Not Listed	Reviews:	Chemical - No	Safety - No	
9450 1*** 1204	2007 - \$0.00	2008 - \$0.00	R. Strykowsky		Stockroom Inventory: Not Stocked		Desktop IT - No	Non-Desktop IT - No	
Line item 18: Assembly Dwg. No. s		4-3 D No422 22	IT in all Day 17 Marine See 0		Receipt Inspection Required: Yes		AC Power - No	Labor Resources - No	
Plate Material: G-11CR	se122-376-ru.par, De	tali L/wg. No. se122-3/	7-ru.par, Port 17 Winding Form S	eai Outer	Sole Source: No		Telecomm - No	Radiological - No	
Qty: 6 ea @ \$0.00		Total Price: \$0.00	(Pct tolerance 10%)		BOA:		PAAA - No	Printing - No	
9450 1*** 1204	2007 - \$0.00	2008 - \$0.00	R. Strykowsky		Attachments:		Quality Assurance - Yes	Lift Manager - No	
Line item 19: Assembly Dwg. No. s Material: G-11CR	se122-376-r0.pdf Det	ail Dwg. No. se122-37	8-r0.pdf Port 17 Winding Form Se	al Inner Plate	None		Machining Resource - No		
Qty: 6 ea @ \$0.00		Total Price: \$0.00	(Pct tolerance 10%)						
9450 1*** 1204	2007 - \$0.00	2008 - \$0.00	R. Strykowsky						
Line item 20: Assembly Dwg. No. s Plate Material: G-11CR	se122-380-r0.pdf Ass	sembly Dwg. No. se122	2-381-r0.pdf Port 18 Winding Form	n Seal Outer					
Qtv: 6 ea @ \$0.00		Total Price: \$0.00	(Pct tolerance 10%)						
9450 1*** 1204	2007 - \$0,00	2008 - \$0.00	R. Strykowsky						
Line item 21: Assembly Dwg. No. s Material: G-11CR	se122-380-r0.pdf Det	ail Dwg. No. se122-38	2-r0.pdf Port 18 Winding Form Se	al Inner Plate					
Qtv: 6 ea @ \$0.00		Total Price: \$0.00	(Pct tolerance 10%)						
9450 1*** 1204	2007 - \$0.00	2008 - \$0.00	R. Strykowsky						
Line item 22: Assembly Dwg. No. : Material: G-11CR	se122-384-r0.pdf Det	ail Dwg. No. se122-38	5-r0.pdf Port 8 Winding Form Seal	Outer Plate					
Qty: 6 ea @ \$0.00		Total Price: \$0.00	(Pct tolerance 10%)						
9450 1*** 1204	2007 - \$0.00	2008 - \$0.00	R. Strykowsky						
Line item 23: Assembly Dwg. No. s Material: G-11CR	se122-384-r0.pdf Det	tail Dwg. No. se122-38	6-r0.pdf Port 8 Winding Form Seal	I Inner Plate					
Qty: 6 ea @ \$0.00		Total Price: \$0.00	(Pct tolerance 10%)						
9450 1*** 1204	2007 - \$0.00	2008 - \$0.00	R. Strykowsky						
Line item 24: Assembly Dwg. se12 3 Material: G-11CR	2-388-r0.pdf Detail D	wg. No. se122-389-r0	pdf Spacer Port Winding Form Se	al Outer Plate					
Qty: 3 ea @ \$0.00		Total Price: \$0.00	(Pct tolerance 10%)						
9450 1*** 1204	2007 - \$0.00	2008 - \$0.00	R. Strykowsky						
Line item 25: Assembly Dwg. No. 1 Plate Material: G-11CR	se122-388-r0.pdf Det	ail Dwg. No. se122-39	0-r0.pdf Spacer Port Winding Forr	n Seal Inner					
Qty: 3 ea @ \$0.00		Total Price: \$0.00	(Pct tolerance 10%)						
9450 1*** 1204	2007 - \$0.00	2008 - \$0.00	R. Strykowsky						
Line item 26: Assembly Dwg. No. 1 Fill Plate Material: G-11CR	se122-356-r0.pdf Det	ail Dwg. No. se122-39	3-r0.pdf Neutral Beam Port Windir	ng Form Seal					
Qty: 6 ea @ \$0.00		Total Price: \$0.00	(Pct tolerance 10%)						
9450 1*** 1204	2007 - \$0.00	2008 - \$0.00	R. Strykowsky						
		Requisition Total	nt: \$0.00						
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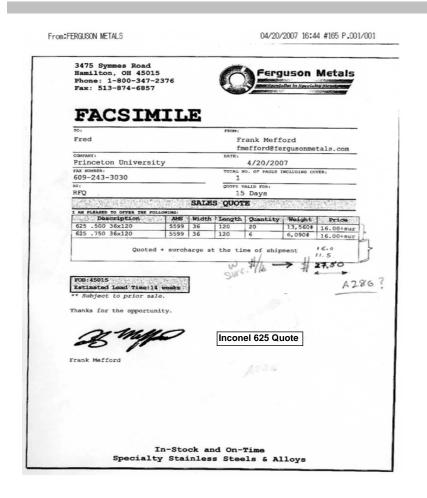
WBS Number: 12

WBS Title: Vacuum Vessel Systems

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3475 Symmes Road Hamilton, OH 45015

Surcharge Totals for February 2007 - June 2007

Grades	February	March	April	May	June
	2/1/07 - 2/28/07	3/1/07 - 3/31/07	4/1/07 - 4/30/07	5/1/07 - 5/31/07	6/1/07 - 6/30/07
15-5	0.6606	0.7188	0.8284	0.9719	1.0645
15-7	1.6736	1.7734	1.9641	2.2500	2.4095
17-4	0.5820	0.6346	0.7327	0.8630	0.9468
17-7	1.2753	1.3793	1.5773	1.8250	2.0024
185R	0.1254	0.1318	0.1555	0.2028	0.2246
201	0.8050	0.8784	1.0079	1.1733	1.2887
301 7.0%	1.2545	1.3462	1.5370	1.7785	1.9520
302/304/304L	1.4215	1.5257	1.7421	2.0128	2.2098
304-8.5%	1.4924	1.6127	1.8419	2.1263	2.3341
305	2.0182	2.1772	2.4821	2.8553	3.1332
309	2.0786	2.2427	2.5561	2.9401	3.2309
310	3.2314	3.4810	3.9604	4.5393	4.9847
316/316L	2.2533	2.3962	2.6703	3.0543	3.2930
317L	2.6845	2.8430	3.1467	3.5894	3.8544
321	1.5916	1.7166	1.9552	2.2522	2.4679
347	1.5710	1.6970	1.9374	2.2351	2.4519
409/409 Mod	0.0940	0.1079	0.1319	0.1758	0.1861
410/4105	0.0793	0.0942	0.1201	0.1651	0.1777
430	0.0941	0.1105	0.1382	0.1865	0.2074
434	0.2898	0.3082	0.3398	0.4103	0.4320
439	0.1248	0.1404	0.1660	0.2140	0.2353
440A	0.0941	0.1105	0.1382	0.1865	0.2074
Allov 286	1.1000	4.0020	4.0740	4.5000	5 2000
Alloy 625	10.9488	10.7978	11.5031	12.1638	13.6292
Alloy 718	0.4400	0.5176	0.9000	9.5060	10./534
Alloy HX	9.2413	9.1268	9.7192	10.2307	11.4262

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