

TO: P. Heitzenroeder

FROM: L. Dudek

SUBJECT: 1204 Vacuum Vessel Procurements (non-VVSA)

Date: Friday, July 18, 2008

Scope

Job 1204 Includes the procurement of the following hardware:

1. Vertical Supports (COMPLETED)
2. Insulation Boots (COMPLETED)
3. Seal Plates for the Ins Boots (COMPLETED)
4. Port Extension Blanket Insulation (COMPLETED)
5. Port Extension Thermocouples (COMPLETED)
6. Port Extension Htr Tapes (COMPLETED)
7. Port Ext NOMEX Covering (COMPLETED)
8. VV Heating Cooling Tubing (COMPLETED)
9. Miscellaneous hardware for Boots
10. Remaining Boot Sheet Metal Parts
11. VV Personal Access Port & Lateral Supports
12. Pourable Insulation

This job did not include any design or Title III followup activities, only procurements. The procurements were considered complete once items were received and inspected.

Status

Items 1 through 8 listed above have been procured and received. Items 9 through 12 were not procured. The materials will be stored with the remainder of the NCSX components. All documents relating to the procurement of items 1 through 8 above have been placed in notebook by PO number and deposited in the PPPL operations center. There are 10 notebooks in the set.

Interfaces

This work is procurement only, physical interfaces do not exist, however the cog. Engineer would have to interface with the design and assembly groups to ensure materials were ordered and received in a timely manner.

Specifications

Specifications were generated by the design WBS if required none were generated as part of this work scope.

Schematics and PIDs

Not applicable.

Models

Not applicable

Drawings

Not applicable, drawings were generated by design WBS where needed.

Analyses

Not applicable.

Testing

Not applicable.

Costs

No cost updates pending

Remaining Work

The following items still need to be ordered and received to complete this work package:

- Miscellaneous hardware for Boots
There is some small nuts and bolts that hold the G-11 seal plates, which secure the Boots, into the modular coil castings. There are also some flat metal clips.
- Remaining Boot Sheet Metal Parts
 - Line item 1:** Neutral Beam port Boot Retainer Strap at Man Port. Assembly SE122-392-r0.pdf / Detail SEL122-394-r0.pdf
 - Line item 2:** Neutral Beam port Boot Retainer Strap at Winding Form. Assembly SE122-392-r0.pdf / Detail SEL122-395-r0.pdf
 - Line item 3:** Port 12 Seal Scields. Assembly sel122-401-r0.pdf / Detail sel122-402-r0.pdf
 - Line item 4:** Port 12 Seal Cuff Left side. Assembly sel122-401-r0.pdf / Detail- sel122-403-r0.pdf.
 - Line item 5:** Port 12 Seal Cuff Right side. Assembly sel122-401-r0.pdf / Detail- sel122-404-r0.pdf.
 - Line item 6:** Port 4 Winding Form Seal Left side. Assembly sel122-406-r0.pdf / Detail- sel122-407-r0.pdf.
 - Line item 7:** Port 4 Winding Form Seal Right side. Assembly sel122-406-r0.pdf / Detail- sel122-408-r0.pdf.
 - Line item 8:** Winding Form Seal Port Clip Part 1 Assembly sel122-004 / Detail sel122-399-r0.pdf
 - Line item 9:** Winding Form Seal Port Clip Part 2 Assembly sel122-004 / Detail sel122-399-r0.pdf
 - Requisition Total:** \$10,250.00
- VV Personal Access Port & Lateral Supports
These parts need to be procured and received, no released drawings exist at this time.
- Pourable Insulation
The Aerogel pourable insulation needs to be procured and installed in the machine.

Lessons Learned:

The difficulty in obtaining some of these parts was underestimated, for example the boots which were sewn out of kevlar cloth were thought to be relatively easy to fabricate. They took several months before a suitable vender could be found to fabricate the boots. Once the vendor started

the fabrication it took several iteration before acceptable parts were received. They had to be returned to the vendor, in some cases multiple times, in order to receive good parts.

Drawings should be available sooner to ensure that parts will be available when needed for assembly.

Conclusion:

Approximately 2/3 of the procurement relating to this job have been completed.

Remaining Boot Sheet Metal Parts:

Line item 1: Neutral Beam port Boot Retainer Strap at Man Port. Assembly SE122-392-r0.pdf / Detail SEL122-394-r0.pdf

Line item 2: Neutral Beam port Boot Retainer Strap at Winding Form. Assembly SE122-392-r0.pdf / Detail SEL122-395-r0.pdf

Line item 3: Port 12 Seal Sciends. Assembly sel122-401-r0.pdf / Detail sel122-402-r0.pdf

Line item 4: Port 12 Seal Cuff Left side. Assembly sel122-401-r0.pdf / Detail- sel122-403-r0.pdf.

Line item 5: Port 12 Seal Cuff Right side. Assembly sel122-401-r0.pdf / Detail- sel122-404-r0.pdf.

Line item 6: Port 4 Winding Form Seal Left side. Assembly sel122-406-r0.pdf / Detail- sel122-407-r0.pdf.

Line item 7: Port 4 Winding Form Seal Right side. Assembly sel122-406-r0.pdf / Detail- sel122-408-r0.pdf.

Line item 8: Winding Form Seal Port Clip Part 1 Assembly se122-004 / Detail se122-399-r0.pdf

Line item 9: Winding Form Seal Port Clip Part 2 Assembly se122-004 / Detail se122-399-r0.pdf

Requisition Total: \$10,250.00

Procurement List

JOB	PO/SC Number	REQ Number	Description	REQ Amount	REQ Date	Date to Buyer	Award Date	Award Amount	Supplier	Promised Delivery
1204	BPA5975-W	405156	Con Flat Flange Mitered 90 Degree Elbows	1320	27-Apr-11	28-Apr-11	8-May-11	1700	Nor Cal	6/7/11 12:00 AM
1204	BPA5975-W	405158	NCSX Rotatable Blank ConFlat Flanges	250	28-Apr-11	1-May-11	2-May-11	244	Nor-Cal	5/10/11 12:00 AM
1204	cancelled	404559	NCSX VV Brazetyte 5/16 - 1/4 Reducer Unions 5FF-5-4	2125	5-Oct-10	7-Oct-10	cancelled	cancelled	cancelled	cancelled
1204	Cancelled	405021	NCSX Winding Form Boot Assembly	24300	13-Mar-11	3-Jul-11			Replaced by 405686	
1204	PE007501-W	405024	NCSX Winding Form Seal Plates	44400	13-Mar-11	18-May-11			Eptam	
1204	PE7178-W	404445	NCSX VV Thermocouples NCSX-PRL-12-003	16800	2-Sep-10	2-Nov-10	17-Jan-11	14710	OmegaEngrg	2/17/11 12:00 AM
1204	PE7375-W	405146	NCSX Thermocouple Feedthroughs	14000	26-Apr-11	28-Apr-11	9-May-11	13000	Insulator Seal	7/10/11 12:00 AM
1204	PE7375-W	405147	NCSX Thermocouple Connectors and Spacer	5002	26-Apr-11	28-Apr-11	9-May-11	5000	Insulator Seal	7/10/11 12:00 AM
1204	PE7705-W	405686	NCSX Winding Form Boot Assembly (Replaces 405021)	10115	10-Feb-07	10-May-07	15-10-07	9967	Forest City	12/24/07 12:00 AM
1204	PE7769-W	405735	NCSX Nomex Overwrap	3500	15-Oct-07	11-Sep-07	11-Dec-07	3500	Warwick Mills	12/10/07 12:00 AM
1204	PE7788-W	405732	NCSX Heater Tapes for Port Extensions	14606	15-Oct-07	26-Oct-07	21-Nov-07	11693	Briskheat	7/1/08 12:00 AM
1204	PE7791-W	405733	NCSX Thermocouples for Port Extensions	27120	15-Oct-07	26-Oct-07	21-Nov-07	18746	Omega Engrg	12/17/01 12:00 AM
1204	PE7793-W	405731	NCSX Aerogel Insulation for Port Extensions	32520	15-Oct-07	26-Oct-07	26-Nov-07	35760	AspenAerogel	12/10/07 12:00 AM
1204		405209	NCSX Port Seal Shields, Cuffs and Clips	10250	17-May-11	22-May-11				