**Major Tool & Machine, Inc.**
**1458 East 19th Street**
**Indianapolis, IN 46218-4289**

**MTM N/C: 19990**


**Date: 06/08/06**
**User ID: MCCORKLE**

**Customer: PRINCETON PLASMA PHYSICS LAB**
Contact: Mike Viola — Telephone: 609-243-3655
E-Mail: mviola@pppl.gov — Fax: 609-243-2021

**Part: SE120-002 / PPPL NCSX VVSA** — Customer P.O.: S005243-F/Ln:3
Drawing ID: SE120-004 Revision: 2 — Qty: 1

Reported By: DOUG MCCORKLE — Telephone: 317-636-6433
E-Mail: dMcCorkle@MajorTool.com — Fax: 317-634-9420

Problem: Vessel wall on half B is mismatched to the inside of the flange approx. 21 inches long.The worst spot is .320. Vessel wall on half A is mismatched to the inside of the flange approx. 23 inches long.The worst spot is .250. Flanges are located within profile tolerance.

**Proposed Disposition:**

Recommend the same remedial disposition as provided for unit # 1. MTM will weld the outside surfaces once the vacuum test plugs are installed, PPPL will weld the insided surfaces once the spacer is permanently installed.

Number of additional pages: 0

**Customer Disposition: [ ] Use As Is [ ] Rework [ ] Repair [ ] Scrap [ ] Replace**

**Technical Contact Approval:**_____ **Title:**_____ **Date:**_____

**Buyer Approval:**_____ **Title:**_____ **Date:**_____

**Major Tool Implemented By:**_____ **Title:**_____ **Date:**_____

Nonconformance Report: Major Tool NC19990

This is for: **SE120-004 end flange mismatches on VVSA #3**

Problem:

Vessel wall on half B is mismatched to the inside of the flange approx. 21 inches long. The worst spot is .320. Vessel wall on half A is mismatched to the inside of the flange approx. 23 inches long. The worst spot is .250. Flanges are located within profile tolerance.

**Major Tool recommended Disposition:**

Recommend the same remedial disposition as provided for unit # 1. MTM will weld the outside surfaces once the vacuum test plugs are installed, PPPL will weld the inside surfaces once the spacer is permanently installed.

**Project Disposition:**

Presently the vessel is right at the plasma facing component limit and there is concern that weld shrinkage will further encroach on the plasma facing components. Due to the encroachment of the shell ID on the plasma facing components, we require that the shell be corrected back to nominal position as described in teleconference 3 PM 6/16/06 at the mismatched (~21") region indicated above. D. McCorkle advised that their likely approach will be to insert several (6 to 9) slits longitudinally into the shell end which will allow it to be adjusted outward. The slits shall be long enough to correct as much of the deviated area as possible.

The flange in this region is also out of tolerance to the outside which is causing a large step in the mating of the flange to the shell. Major tool believes that the developed circumference of the flange is correct and the mismatch is due to local distortion. Major Tool also discussed the use of a spider to better control this distortion. Major Tool may also either adjust the best fit of the flange such that the "overstep buttering" will not exceed 3/16" or slit the flange in this region to reduce the local circumference and reduce the outward out of tolerance condition.

**Approvals:**

Mike Viola

Digitally signed by Mike Viola
DN: cn=Mike Viola, c=US
Reason: I am approving this document
Date: 2006.06.16 15:29:11 -04'00'

Procurement Technical Representative

Responsible Line Manager: