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:**_____

Frank A. Malinowski

From: Michael E. Viola

Sent: Thursday, July 20, 2006 4:07 PM

To: manuel-majortool-com-offsite; 'McCorkle, Doug'

Cc: Thomas G. Brown; Arthur W. Brooks; 'Cole, Michael'; Bob Simmons; Brad Nelson; Frank A. Malinowski; Hutch Neilson; John W. Edwards; Larry L. Sutton; Lawrence E. Dudek; Marianne Tyrrell; Mike Cole; Paul Goranson; Phil Heitzenroeder; Robert A Keilbach; Ronald L. Strykowsky; Steve Raftopoulos; Wayne T. Reiersen

Subject: RE: Major Tool and VVSA #3

Mike,
We have analyzed your recent scan reflecting the rework and the photographs reflecting the newly positioned flange alignment with the VVSA shell. We understand that an in-process scan taken by Major Tool indicated that the VVSA was out further than the scan provided on which explained why the shell ID was approximately 0.3" further inboard than the ID of the flange. The flange to shell alignment has been significantly improved since the shell has been moved out approximately 0.3".which now brings the flange and shell ID into near alignment. We also understand that the expected amount of further shrinkage expected is about 0.040" which is acceptable in limited number of locations. Please exercise as much care in distortion control as possible to limit the weld distortion.

Thank you for your cooperation in analyzing this data and explaining what happened and what is expected. We greatly appreciate your efforts. Please proceed with the fabrication of VVSA #3 and advise us of the current schedule delivery impact.

Thanks,
Mike Viola, PPPL, (609) 243 3655

From: Manuel, Mike [mailto:manuel@majortool.com]
Sent: Monday, July 10, 2006 10:19 AM
To: Michael E. Viola; Phil Heitzenroeder
Cc: McCorkle, Doug
Subject: RE: Major Tool and VVSA #3

Mike & Phil,

I attached the scan of the repaired area. It's hard to see the split areas in the pictures but one follows the panel joint and the other runs down to the dome and around the dome (200070710 002). The other section is on the opposite side (200070710 023). Inside No Steps (200070710 015).

The flanges are tacked into place waiting for disposition of profile deviations to proceed.

Mike

From: Michael E. Viola [mailto:mviola@pppl.gov]
Sent: Monday, July 10, 2006 8:55 AM
To: Phil Heitzenroeder
Cc: McCorkle, Doug; Manuel, Mike; Bob Simmons; Bradley E. Nelson; Frank A. Malinowski; Larry L. Sutton; Lawrence E. Dudek; Marianne Tyrrell; Paul Goranson; Wayne T. Reiersen
Subject: Major Tool and VVSA #3

Phil,
Would you please look at the VVSA #3 slits?
Is there any explanation how the end became so far out of spec?

VVSA #3 was <1% out of tolerance before the holes were cut. What happened?
Also it appears that they only have a couple of slits; I expected at least a half dozen to get the contour right.

Thanks,
Mike Viola, PPPL, (609) 243 3655

From: Manuel, Mike [mailto:manuel@majortool.com]
Sent: Thursday, July 20, 2006 10:16 AM
To: Michael E. Viola
Cc: McCorkle, Doug
Subject: RE: MTM WSR20060719 (evaluate the amount of further shrinkage VVSA 3)

Mike,

Looking at lots one and two is some what hard because the sets of data are with different best fits. But we have welded the flange onto the end of the vessel 3 "end not in question" and the results there are some areas moved out (away from the plasma) as much as .130 but the area near port 8 similar the the worst area on the end "in question" moved as much as .037 in a spot in toward the plasma.

Mike M