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

MTM N/C: 15377

Date: 04/20/04
User ID: MCCORKLE

Customer: PRINCETON PLASMA PHYSICS LAB
Contact: LARRY SUTTON — Telephone: 609-243-2441
E-Mail: S-04286-F — Fax: 609-243-2021

Part: / — Customer P.O.: S-04344-F/Ln:1
Drawing ID: SE121-003P — Revision: 0 — Serial No./Qty:

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

Problem: THE MATERIAL THICKNESS ON PANEL #5 AND PANEL #4 IS OUT OF TOLERANCE. THE TOLERANCE IS 0.375 +0.040 / -0.060. PANEL #5 RANGES FROM 0.404-0.430. PANEL #4 RANGES FROM 0.388-0.418. REFER TO I.D.C'S FOR 64880/1 SUB: 39 OP: 40.

Proposed Disposition:
SUBMIT TO PPPL FOR EVALUATION / REMEDIAL DISPOSITION

Number of additional pages:_____

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

A major goal of the prototype effort is to obtain feedback on the dimensional accuracy achievable by the proposed manufacturing methods, and therefore these tolerances are not cause for rejection and the prototype will be accepted "as is." Keeping in mind that for the "production" vessel the material thickness can be measured and controlled before and after the forming process, the required thickness tolerance can be easily achieved for production.

Technical Contact Approval: Mike Viola (Digitally signed by Mike Viola, DN: CN = Mike Viola, C = US, Reason: I am approving this document, Date: 2004.04.20 12:48:01 -04'00') — **Title:** PVVS Technical Rep. — **Date:** 4/20/04

Buyer Approval: Phil Heitzenroeder 2004.04.20 12:57:39 -04'00' — **Title:** NCSX Deputy Engineering Manager — **Date:** 4/20/02

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

Root Cause 1: 819-PROCESS DEVELOPMENT
Resource: SILVER TEAM, ENGINEERING — Equipment:
Description: THE MATERIAL THICKNESS WAS DISCOVERED TO BE OVER TOLERANCE EARLIER IN THE MANUFACTURING CYCLE. KNOWING THERE WAS SUBSTANTIAL WELDING / BLENDING / POLISHING TO BE DONE THE DECISION WAS MADE TO CONTINUE WITH THE PROCESS. THE OVER THICKNESS AMOUNT DID NOT EXCEED WHAT IS CONSIDERED "NORMAL THINNING" AND WAS ESTIMATED THAT IT WOULD BE WITHIN TOLERANCE AFTER ALL MANUFACTURING SEQUENCES WERE COMPLETED. SOME AREAS REMAINED SLIGHTLY OUT OF SPECIFICATION.

Corr Actn: 1: — Action: 04/16/04 By: 775-D.MCCORKLE
Description: BASED ON KNOWLEDGE AND EXPERIENCE GAINED DURING THE PRODUCTION OF THE PVVS, THE PLATE MATERIAL WILL BE PROCURRED SURFACE GROUND TO A SPECIFIED THICKNESS WITH LESS OVERTOLERANCE THAN PREVIOUSLY SPECIFIED.
Verify Notes: CONFIRMED