Non-conformance: 19289

Occurred: 02/20/06 Identified By: 791-D.WEIDNER
Reported: 02/20/06 By: 791-D.WEIDNER

Customer: PRINCETON PLASMA PHYSICS LAB
Part: /
Serial Number:
Drawing ID: SE120-003 Rev 0
Links: 1-Type:W: 65678/2.0 Sub: 119 Op: 10
Vendor:

Problem: PORT NB HAS DEFORMATION TO HOLE PATTERN AFTER WELDING HAS BEEN COMPLETED ON PORT 4 A/B AND 12 A/B
HOLES DO NOT ALIGN TO MATING THREADED HOLE IN NB COVER. HOLES DID ALIGN AFTER NB WAS WELDED IN,BUT DO NOT NOW THAT PORT 4 AND 12 IS COMPLETED.

Where Detecte 708-RANDOM FINDING - ANY EMPLOYE **Defect: 127-LINEAR DIMENSION**

N/C Type: 1-STANDARD
Target Dim: 0.5320 Max Dev:0.0100
Reference:
Last Edited: 02/20/06 By: 791-D.WEIDNER
Document:

Disposition: 913-CUSTOMER - REPAIR

Due: 03/03/06 By: 775-D.MCCORKLE
Submitted Doc: 19289
Completed: 03/03/06 By: 775-D.MCCORKLE
Act OK Due: 03/06/06 By: 840-G.MASOOD
Approval Due: 02/21/06 By: 927-M.MANUEL
Approved: 03/03/06 By: 927-M.MANUEL / Cft Leader
Rework:
Inspected: 04/25/06 By: 840-G.MASOOD

Instructions: CUSTOMER DISPOSITION REQUIRED.
THE FLANGE IS ALSO OUT OF FLAT UP TO 1/16".
UNIT # 1 HOLES WERE OPENED UP TO 5/8" DIAMETER TO PROVIDE THE NECESSARY CLEARANCE FOR ASSEMBLY PRIOR TO VACUUM TESTING. THE EXTRA WELDING ON UNIT # 1 WAS SUSPECTED TO BE THE CAUSE OF THE EXCESS DISTORTION. THIS PROVED INCORRECT AFTER UNIT # 2 FLANGE ALSO DISTORTED. UNIT # 3 HAS NOT BEEN INSTALLED YET, BUT IS EXPECTED TO REACT THE SAME. MTM RECOMMENDS OPENING ALL NB FLANGE HOLES UP TO 5/8" AND RE-FACING THE FLANGE FLAT AFTER ALL PORTS ARE WELDED IN PLACE (A MINIMUM THICKNESS WILL BE NEEDED).

Last Edited: 04/25/06 By: 840-G.MASOOD

Root Cause / Corrective Action

Due: 02/27/06 By: 775-D.MCCORKLE
Completed: 03/03/06 By: 775-D.MCCORKLE

Root Cause 1: 819-PROCESS DEVELOPMENT

Resource: 715-SILVER TEAM, ENGINEERING
Approval Due: 03/06/06 By: 927-M.MANUEL
Equipment:
Approved: 03/03/06 By: 927-M.MANUEL
Employee: 775-D.MCCORKLE

Description: THE WELDING OF THE PORT 4s IS SUSPECTED TO BE THE PRIMARY CONTRIBUTOR TO DISTORTING THE PORT NB FLANGE FACE. THE DISTORTION IS A RESULT OF INWARD WELD SHRINKAGE FROM WELDING THE PORT 4s IN PLACE. THE NB PORT ACTS AS A BRIDGE ABSORBING THE DISTORTION. IN DOING SO, THE NB PORT FLEXES. THE ACTUAL CAUSE OF THE FIRST UNIT WAS NOT DECIDED SINCE THE PORT NB WALL WAS ALSO RE-WELDED AFTER MIS-LOCATING. THE TRUE ROOT CAUSE WAS DETERMINED AFTER SEEING THE SAME DISTORTION ON THE FLANGE FACE. AFTER MUCH DELIBERATION, IT WAS DECIDED THAT THIS IS CONSIDERED THE LESSER OF TWO EVILS AND THAT WELDING THE PORT NB IN PLACE AFTER THE PORT 4s WOULD ALLOW THE VESSEL WALL TO DISTORT INWARD MUCH FURTHER THAN ORIGINALLY THOUGHT.

Corr Actn: 1:

Correction Due 03/10/06 By: 775-D.MCCORKLE
Action: 03/03/06 By: 775-D.MCCORKLE
Completed: 03/03/06

Description: THIS CONDITION WILL EXIST ON ALL THREE VESSEL SEGMENTS. AFTER RE-MACHINING THE PORT NB FLANGE FACE. MTM WILL PROVIDE PPPL WITH THE FINAL FLANGE THICKNESS.

Verify Due: 03/10/06 By: 927-M.MANUEL
Completed: 03/03/06 By: 927-M.MANUEL

Verify Notes: COMPLETE

RC Last Edited 03/03/06 By: 927-M.MANUEL
CA Last Edited By:

Documents: 1)
Last Edited: 05/17/06 By: 775-D.MCCORKLE

Closure: Completed: 05/17/06 By: 840-G.MASOOD
Comments:
Last Edited: 05/17/06 By: 840-G.MASOOD