

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002977**Date Inspected:** 22-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1430**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Wang Lu**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG/Tower**Summary of Items Observed:**

On this date, Caltrans Office of Structural Materials (OSM) Quality Assurance (QA) Inspector Edward Leach was present to randomly observe and document the welding and Quality Control (QC) functions performed by ZPMC personnel relative to the fabrication of SAS Superstructure project. While on site, the QA Inspector noted the following work.

OBG-Bay 1

The QA Inspector performed MT for approximately 10% of the tack welded areas on deck panel DP592-001. The QA Inspector performed MT on the nine (9ea) tack welds on weld joint 001 and verified no apparent relevant indications. Also in this bay, the QA Inspector observed the following deck panels located on gantry 1; DP571-001 (idle), DP567-001 (in-process) & DP592-001 (fit/tack). The QA Inspector observed DP169-001 (idle) located on gantry 2.

Other general observations by QA were as follows:

QA observed ZPMC has approximately 56 workers performing various functions relative to the fabrication of the OBG Deck Panels. These functions include; closed rib press forming, hole drilling at ends of U-Ribs using a drill template, PJP bevel preparation, closed rib splice FCAW welding, closed rib diaphragm fit-up and FCAW welding, closed rib to deck plate fit-up and tack welding.

OBG-Bay 3

The QA Inspector observed ZPMC personnel performing various tasks relative to the fabrication of several side, edge and bottom panels. These tasks included preparing material for welding by removing paint by grinding, laying out material for fit up and fitting and tack welding T and/or open rib stiffeners on side, bottom and/or edge

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panels, thermal heat straightening of various panels with ZPMC QC personnel present to monitor. The QA Inspector also observed the forward gantry to be operating with in-process FCAW welding of WT's to side panel designation SP175-001. In the same general area the QA Inspector observed ZPMC performing back-gouging operations for a CJP weld splice on side panel designated as SP192-001 (PL1533A). The work in progress randomly observed in this bay appeared to be in general compliance with the contract specifications.

New Tower Shop Bay 1: The QA Inspector observed ZPMC personnel at multiple locations performing tasks relative to the fabrication of the tower skin plates throughout the bay. These tasks include on-going heat straightening procedures on several tower skin plates, fit-up/tack welding and SAW welding for tower skin plate CJP weld splices. The QA Inspector observed one location where SAW was in-process for a CJP weld splice on tower skin plate SSD1-SA16A/G-48A. The welding was being performed by ZPMC qualified welding personnel identified as Yun Chuan Jin, welder ID #0503060. The QA Inspector noted ZPMC using welding procedure specification (WPS)-B-T-2221-B-U3c-S-1 for this application. ZPMC CWI personnel Liu Huajie was observed monitoring the welding at this location. The welder was also observed using proper interpass cleaning procedures with a wire brush and slag hammer. The QA Inspector verified the recorded electrical welding parameters and interpass temperature measurements on the daily QC welding report and noted the readings appeared to comply with the above mentioned WPS. The welding and workmanship randomly observed at this location appeared to meet the general requirements of the contract specifications.

New Tower Bay 2: The QA Inspector did not observe SAW welding for tower skin plates on this date. ZPMC personnel were observed performing various tasks which include heat-straightening procedures on several tower skin plates, flame cutting, bevel preparations, fit-up and tack welding operations. The QA Inspector observed in-process fit-up for tower skin plate ESD1-SA296A/E-83, ESD1-SA296A/E-6A, ESD1-SA296C/E-86A, ESD1-SA296E-81, ESD1-SA296B/E-49, ESD1-SA296C/E-87 (All welds on same joint alternating CJP/PJP).

New Tower Shop Bay 3: The QA Inspector randomly observed ZPMC welding and QC personnel performing inspection, grinding, and Flux Core Arc Welding (FCAW) repairs of Orthotropic Box Girder (OBG) deck panel Partial Joint Penetration (PJP) welds. During initial observations it was noted that thirty-five (35ea) deck panels are inside the shop. The QA Inspector noted one deck panel (DP080-001) where in-process FCAW repair work was taking place. The QA Inspector was informed by first shift Caltrans QA personnel Timothy McClendon that final visual testing (VT) by ABF, ZPMC and Caltrans QA personnel after repair work was completed for DP026-002 and final MT by ZPMC is pending. After later observations the QA Inspector observed that final MT was still pending as of the end of second shift.

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Summary of Conversations:

As noted above in report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Leach,Ed

Quality Assurance Inspector

Reviewed By: Cuellar,Robert

QA Reviewer