

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-002156**Date Inspected:** 21-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2200**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sai Fa Wang**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.

Bay 7

The QA Inspector performed random observations in bay 7 and observed ZPMC QC personnel performing ultrasonic testing (UT) for several areas on the floor beam panels that were previously rejected by UT and repaired (see digital photo below). The UT that was witnessed during this observation was being performed on floor beam designation FB022-01-125, FB022-01-126 and FB022-01-127. The QA Inspector observed ZPMC UT personnel reject several repaired areas on along weld joint 126 and 127. No relevant indications were documented by ZPMC upon completing UT inspection on weld 125. The QA Inspector also noted weld joint 125 as a seismic performance critical member (SPMC). The ZPMC personnel performing UT on this assembly were identified as Li Liming and Ma Jilong. The QA Inspector observed the personnel measure out the Y coordinates for each rejectable indication and write down the information pertaining to each one.

The QA Inspector also observed ZPMC UT personnel Li Liming and Ma Jilong perform UT on the same weld joint designations for floor beam assembly FB017-001. The QA Inspector also noted the UT performed on FB017 was performed along areas that were previously repaired for rejectable UT indications. ZPMC UT personnel accepted weld joint 125 SPCM and found several rejectable areas along weld joint 126 and 127.

It was also noted that throughout the shift ZPMC personnel continued performing UT for repairs on floor beam designations FB025-01, FB026-01, FB018-01, FB009-01 and FB015-01. The weld joints designations on these

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

assemblies are the same as above. The QA Inspector was informed by ZPMC QC personnel Sai Fa Wang that ZPMC will spend the rest of the shift completing the UT in bay 7.

During another observation in bay 7 the QA Inspector observed ZPMC welding personnel Wang Changfa utilizing the Shielded Metal Arc Welding (SMAW) process in the horizontal (2F) position with TL-508, E7018 4mm diameter electrode to tack weld several 14mm stiffener plates into position for floor beam diaphragm plate FB003-036-0064 (see digital photo below). The QA Inspector performed a random measurement of the welding current and documented approximately 155 amperes. The QA Inspector was informed by ZPMC QC personnel Sai Fa Wang that the tack welding was being performed to the requirements of welding procedure specification (WPS)-B-P-2112. The QA Inspector referenced a copy of this procedure and observed the welding was in general compliance with the WPS.

Bay 8

The QA Inspector observed in-process submerged arc welding (SAW) for a 70mm tower diaphragm plate designated as ESD1-SA371A/B-6B and ESD1-SA371A/B-6A. The QA Inspector identified the wire electrode as LA-85 4.8mm diameter wire. The welding personnel performing the work for this location were identified as Xu Pei Pei. The QA Inspector was informed by ZPMC QC personnel Huang Wen Pang that WPS-B-T-3221-U3C-S-1 is currently in use for this welding. The QA Inspector reviewed the Daily QC welding inspection report and noted the welding parameters as 600-610 amperes, 30.5-31.6 volts with a travel speed of 481 mm per minute. The QA Inspector referenced a copy of the welding procedure mentioned above and noted the recorded welding parameters appeared to comply with this procedure.



Summary of Conversations:

As noted above in contents of 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

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Reviewed By: Cuellar,Robert

QA Reviewer