

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-002170**Date Inspected:** 16-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2230**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai China**CWI Name:** Xu Le Fong**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:** Tower**Summary of Items Observed:**

## Tower shop Bay 3

This Quality Assurance (QA) inspector arrived at ZPMC for observation of the SAS super structure fabrication.

This QA inspector observed ZPMC in the new tower shop bays 1 through 3 were ZPMC was observed performing Complete Joint Penetration (CJP) splices on skin plates at various locations throughout the tower shop. This QA inspector observed ZPMC welder Han Changhou (059464) welding on deck plate number DP111-001-153 plate splice under WPS-B-T-2221-B-L2c-1. This QA inspector observed ZPMC Quality Control performing the welding parameter checks which appeared to be within the requirements of the above noted WPS. ZPMC Certified Welding Inspector (CWI) Sun Wei was present on a periodic basis to ensure progression and welding parameters. Preheat and interpass temperatures were observed by this QA inspector to be within the tolerances of the WPS.

## Tower shop Bay 2

This QA inspector continued his observation in the tower shop that included bay 2 where ZPMC CWI Zhu Zhonghai was observed monitoring the welding of skin plate splices using the Submerged Arc Welding (SAW) process for component number ESD1-SA107 A/J – 16 A & B. During this QA inspectors observation it was noted that ZPMC was welding side 16A for this skin plate under WPS-B-T-2221-B-U3c-S with welding operator Xia Yong Lia. Welding parameters were verified as 660 amps, 32 volts and a travel speed of 600 mm/min. Preheat and interpass temperatures was being monitored and appeared to be within the tolerances of the above noted WPS.

## Tower shop Bay 1

This QA inspector observed ZPMC personnel performing a Ultrasonic Testing (UT) reject repair on component number SSD1-Sa159 D/J-4A. 3 locations were observed at this location with maximum excavations at 35mm and a total combined length of 400mm. ZPMC CWI Xu Le Fong was present during this repair and monitoring the progression and welding parameters under WPS-345-FCAW-1G (1F)-Repair. ZPMC welder Chang Chuancang

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(053870) was observed using the Flux Cored Arc Welding (FCAW) process in the flat position (1G) with the following parameters verified by this QA inspector as follows: 308 amps, 31.6 volts travel speed of 318 mm/min. Preheat and interpass temperatures were witnessed to be within the tolerances of the above WPS.

### UT verification

This QA inspector performed UT verification after ZPMC had completed their UT inspection for Complete Joint Penetration (CJP) weld splices for edge plates. It was noted that ZPMC had accepted the weld splices and documented on the plates "accepted". The edge plate weld numbers are as follows: EP002-001-001, EP001-001-001, EP005-001-001 and EP007-001-001. This QA inspector performed 10% of the total weld length for each component with no rejectable indications noted . A TL-6027 was generated for these locations.



### Summary of Conversations:

As Noted in the contenets above.

### 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.

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<b>Inspected By:</b>	Riley, Ken	Quality Assurance Inspector
<b>Reviewed By:</b>	Hager, Craig	QA Reviewer

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