

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-006104**Date Inspected:** 21-Mar-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**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 Fabrication**Summary of Items Observed:**

CWI Inspector: Mr. Liu Yang, Mr. Wu Ming Kai

On this date CALTRANS OSM Quality Assurance (QA) Inspector Mr. Paul Dawson arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Tower Bay 10

This QA Inspector performed random ultrasonic inspections of approximately 10 percent length of Lift 3 South tower skin plate D complete joint penetration butt welds SSD1-FDSA3-1BC-8-(2)r1, SSD1-FDSA3-1BC-11r1 and SSD1-FDSA3-1BC-17r1.

These welds had previously been ultrasonically inspected and accepted by ZPMC inspection personnel on March 20, 2009. ZPMC issued an "Inspection Notification Sheet" for the initial ultrasonic inspections of these welds stating the ultrasonic inspections are to be performed at 0900 AM March 16 and it appears that ZPMC has not issued an "Inspection Notification Sheet" for these repair welds. The QA Inspector observed the welds that were ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

The QA Inspector observed ZPMC welder Mr. Gao Qiang, stencil 057258 is using welding procedure WPS-B-T-2213 to make a shielded metal arc fillet weld on shear link weld WDI-A467-33M-4-67. The QA

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Inspector observed ZPMC CWI Mr. Wu Ming Kai had measured Mr. Qiang to have a welding current of 180 amps.

The QA Inspector observed ZPMC has used torches to preheat the base material adjacent to where the weld was being deposited. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Lu Houjin, stencil 040333 is using welding procedure WPS-B-T-2213 to make a shielded metal arc fillet weld on shear link weld WDI-A467-33M-4-68. The QA Inspector observed ZPMC CWI Mr. Wu Ming Kai had measured Mr. Houjin to have a welding current of 190 amps. The QA Inspector observed ZPMC has used torches to preheat the base material adjacent to where the weld was being deposited. Items observed by the QA Inspector appear to comply with project specifications.

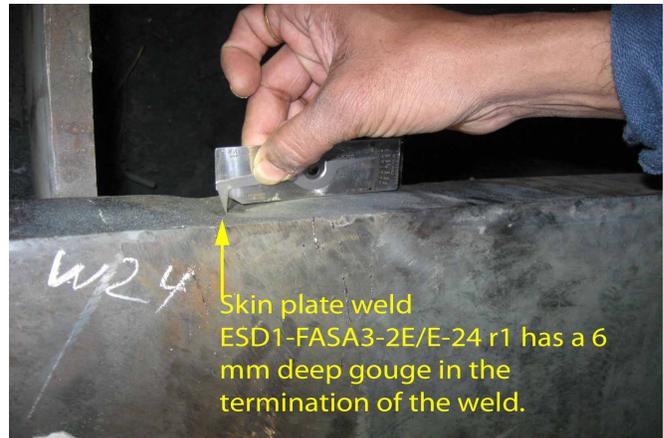
Tower Bay 11

The QA Inspector observed ZPMC personnel using the shielded welding process to weld a temporary lifting attachment plate to skin plate SSD1-F4SA3-1EE. This skin plate is approximately 100 mm thick and the welding is taking place on the bottom of the skin plate. The QA Inspector used a 110 degree Celsius temperature indicating crayon to ascertain the base material is not 110 degrees Celsius on the front and top side of the plate near where the welding is taking place. ZPMC CWI Mr. Liu Yang observed the QA Inspector measuring the base material temperature and Mr. Liu Yang informed the QA Inspector that no additional welding will take place until the entire base material on both sides of the skin plate near where the welding is being made has been heated to a minimum of 110 degrees Celsius.

This QA Inspector performed random ultrasonic inspections of approximately 10 percent length of Lift 3 East tower skin plate A complete joint penetration stiffener butt welds ESD1-FASA3-2E/E-7, ESD1-FASA3-2E/E-12, ESD1-FASA3-2E/E-28, ESD1-FASA3-2E/E-38, ESD1-FASA3-2E/E-39, ESD1-FASA3-2E/E-43, ESD1-FASA3-2E/E-54, ESD1-FASA3-2E/E-55 and ESD1-FASA3-2E/E-59. These welds had previously been ultrasonically inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the welds that were ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report. The QA Inspector observed welds ESD1-FASA3-2E/E-23 and ESD1-FASA3-2E/E-24 have been marked as being ultrasonically rejected by ZPMC QC personnel and weld ESD1-FASA3-2E/E-24 has a 6 mm deep grinding gouge in one of the ends of the complete joint penetration weld. The QA Inspector informed ZPMC CWI Ms. Yu Dongping of the gouge and Ms. Yu Dongping informed the QA Inspector that night shift workers had performed welding repairs of weld ESD1-FASA3-2E/E-24 last night and this grinding gouge had been made after she had completed the initial visual inspections of this weld. Mr. Yu Dongping said ZPMC will weld repair the gouged area. See the photographs below for additional information.

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Summary of Conversations:

See 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 Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
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Reviewed By:	Clifford,William	QA Reviewer
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