

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-000049**Date Inspected:** 13-Dec-2006**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Liu Liu**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:****Summary of Items Observed:**

Office of Structural Materials Quality Assurance Inspector (QA), David McClary observed quality control functions related to procedure qualification (PQR) testing at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

The QA Inspector observed welding of a Procedure Qualification (PQR) test plate identified as HP-2006107-7. The test was conducted using Flux Core Arc Welding (FCAW), Hyundai Supercored 71H, electrode in the 1G (flat) position to AWS D1.5, Section 5.12.1 (Maximum Heat Input). ZPMC has lowered the Amperage and Voltage from those conducted on the previous 4 test which failed RT for lack of fusion. The QA Inspector observed ZPMC Quality Control (QC) recording the essential variable (amps, volts, travel speed) for each pass and randomly verified the parameters using a Fluke® amperage / voltage meter and a stopwatch. The welding appeared to comply with the contract documents. See TL-6032 from QA Inspector Mark Wright for additional details.

The QA Inspector observed welding of a Procedure Qualification (PQR) test plate identified as HP-2006130. The test was conducted using Submerged Arc Welding (SAW), Lincoln LA-85 electrode with MIL-800 HPNi flux in the 1G (flat) position to AWS D1.5, Section 5.13 (Production Procedure) on 75mm thick HPS 485W material. Welding was not completed by the end of the shift and will continue tomorrow.

Summary of Conversations:

The Caltrans Quality Assurance (QA) Inspector observed improper recycling of flux, which could cause contamination of the weld metal on the HPS 485W Test plate. The QA Inspector spoke with ZPMC Quality Control Managers Lu Jian Hua and Hu Gang and showed them the flux handling requirements in AWS D1.5, sections 4.8.3 and 4, and 12.6. ZPMC elected to continue welding using their current flux handling practices.

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ZPMC Quality Control Manager Lu Jian Hua informed the Caltrans Quality Assurance (QA) Inspector that they would maintain a ceramic heater on the HPS 485W test plate to prevent cracking overnight due to cooling.

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:	McClary,David	Quality Assurance Inspector
Reviewed By:	Lowry,Patrick	QA Reviewer
