

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-001127**Date Inspected:** 05-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Xian Ping**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:** 114 meter mock up assembly**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) inspector, Scott Croff, was present at Zhenhua Port Machinery Company, Ltd (ZPMC) to observe the scheduled mock up construction and production construction of the SAS Superstructure.

Bay 2: The QA inspector observed ZPMC straightening the 114 meter skin plate assembly MUC-A65. The QA inspectors Bruce Berger and Scott Croff noted that large bolts are being used to pull the stiffener plates together while a torch is applying heat above the stiffener plate welds. The QA inspector observed that approved heat straightening report (HSR) CT-20 is available to the ZPMC workers, however, the method approved by the HSR does not detail the use of bolts as part of the straightening procedure.

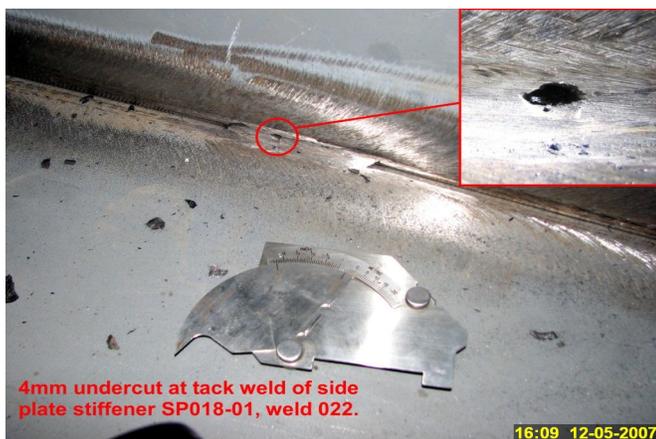
Bay 3: The QA inspector observed ZPMC personnel preparing to weld stiffener plates onto side plate (SP)018-01. The QA inspector made random observations of the tack welds on the stiffener plate as it was being prepared for welding. The QA inspector observed 2 tack welds that appeared to have a non-conforming condition. The QA inspector measured 2mm of undercut on a tack weld of the 013 stiffener joint and 4mm of what appeared to be undercut or lack of fusion on a tack weld of the 022 stiffener joint. The QA inspector noted that several ZPMC "Quality Control" (QC) personnel were watching the QA inspector make these observations and measurements. The QA inspector identified an approved CWI among the group of ZPMC "QC" persons. The CWI Xu Xian Ping was shown these observed non-conforming tack welds. There were no ZPMC Liaison/translator personnel present and the QA inspector was unable to directly speak with the CWI. The QA inspector then made other observations of work in the vicinity and after a period of 30 minutes, the QA inspector noted that no ZPMC workers have made any attempt to correct these tack welds and they were still making preparations to weld the main stiffener welds.

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The QA inspector returned to the work area approximately 1 hour later and observed that these stiffeners were fully welded. The QA inspector noted that no ZPMC personnel were nearby and the QA inspector could not determine if repairs of the tack welds were made before welding.

Bay 7: The QA inspector observed ZPMC workers conducting straightening of partially assembled floor beam diaphragms. The QA inspector noted that there appears to be significant welding induced warpage of the 12mm thick plates. The QA inspector observed that 4 separate assemblies appear to be straightened during this shift so far. The QA inspector inquired with a ZPMC worker and was shown the shop records for the straightening that was in progress. The QA inspector was shown HSR-1(B)-043,-044,-045 and -046. The QA inspector measured some of the visible warpage on floor beam (FB)001-04 at weld 026. The QA inspector measured 35mm of warpage (bowing) across 1 meter from the weld near the end of the plates. The QA inspector noted that the contract requirements specify that heat straightening of 12mm thick plates with more than 6mm warpage require an approved HSR. At this time, the QA inspector is unable to locate an approved HSR for this observed work. See the attached photos of some of the above mentioned observations.



Summary of Conversations:

As noted above, the QA inspector Scott Croff informed the CWI Xu Xian Ping of the tack welds on SP018-01 that appear to be non-conforming to the contract requirements.

The QA inspector Scott Croff had conversations with the QA inspector Bruce Berger regarding the observed straightening of the plates and stiffeners in Bay 2 and Bay 7. The QA inspectors discussed the approved HSR for

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MUC-A65 and agreed that ZPMC appears to be conducting the straightening with an unapproved method. The QA inspector Scott Croff also informed the QA inspector Bruce Berger of the observed straightening that ZPMC was conducting in Bay 7. The QA inspector Scott Croff informed the QA inspector Bruce Berger of the above mentioned observations and conversations. The QA inspector then generated a summary report to be included in the daily shift notes. There were no other notable conversations during this shift.

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:	Croff,Scott	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
