

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018360**Date Inspected:** 19-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Zhao Chen Sun**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 & OBG Components**Summary of Items Observed:**

On this date Caltrans Office of Structural Materials Quality Assurance Inspector, Sandeep Kumar (QA) was present during the times noted above for observations relative to the work being performed.

TOWER JETTY

This QA Inspector observed the following work in progress

MEASUREMENTS OF GAP BETWEEN THE ENDS OF THE GRILLAGE PLATE STIFFENERS

This QA Inspector carried out the measurements on Lift-5 South, North, East and West grillage shafts between the ends of the longitudinal and transverse stiffeners. Measurements were recorded on the data sheet and submitted to the assigned task leader. The members are identified as Tower Components.

This QA Inspector observed the following work not in compliance:

Description of Incident:

During the Caltrans Quality Assurance (QA) in-process verification on Lift-5 Tower grillage shafts, this QA Inspector discovered the following issue:

-On date: 11/15/10 observed misalignment between north and east shaft grillage transverse stiffeners measured to be approximately 25 to 30 mm due to the distortion caused by welding.

-ZPMC personnel performed heat straightening on north and east tower grillage shaft transverse stiffeners without prior engineer's approval.

-After heat straightening the misalignment measured to be approximately 3 to 5 mm.

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- The stiffener length is measured to be 1500mm.
- The material is A709 Grade 485 Non-Seismic Performance Critical Member (SPCM).
- These components are located at Tower Heavy Dock.

Note* Since time of initial observation, ZPMC personnel have performed additional heat straightening of tower grillage stiffeners. All transverse and longitudinal stiffeners have received heat straightening.

Applicable reference:

AWS D1.5 2002 Section 3.7.3: "Members distorted by welding shall be straightened by mechanical means or by carefully supervised application of a limited amount of localized heat as approved by the Engineer."

For further information see attached pictures:

BAY#11

ORTHOTROPIC BOX GIRDER (OBG) AT BAY#11

This QA Inspector observed the following work in progress

Fluxcored Arc Welding (FCAW):

Weld joint # 27 located on Bike Path BK004ASD1 – 020. Welder is identified as 040723. ZPMC Quality Control (QC) Inspector is identified as Yu Dong Ping. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2231 – Tc – U4c – F.

Weld joint # 22 located on Bike Path BK004ASD1 – 020. Welder is identified as 053316. ZPMC Quality Control (QC) Inspector is identified as Yu Dong Ping. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2231 – Tc – U4c – F.

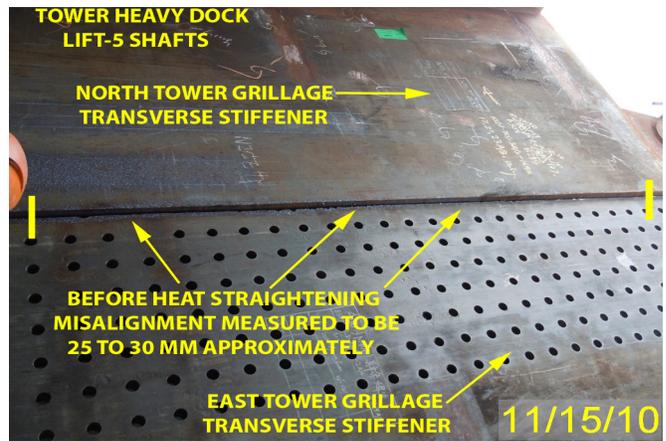
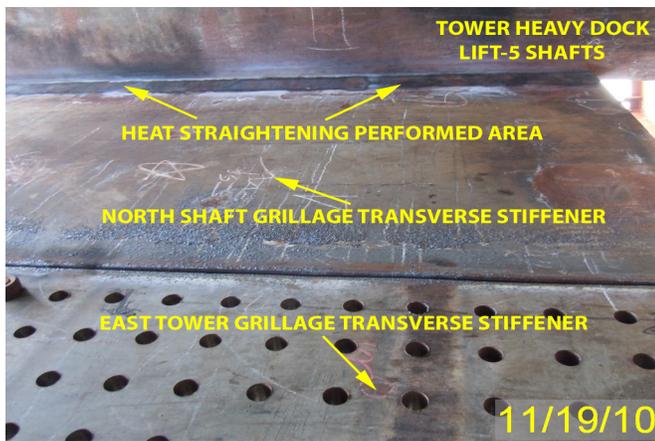
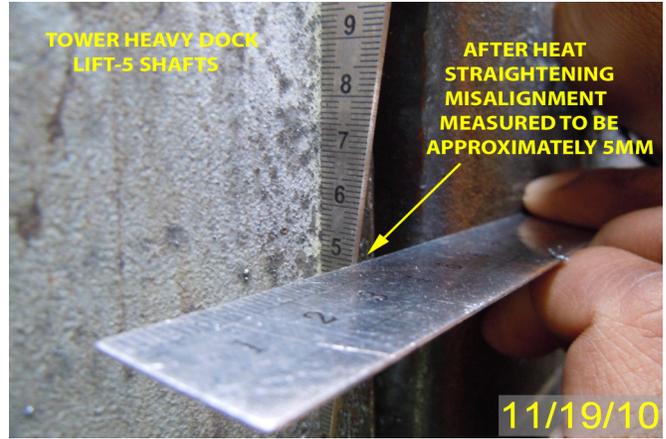
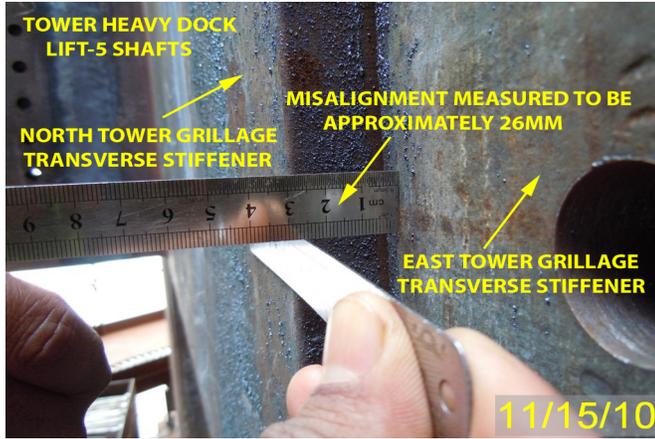
Surface Welding by Shielded Metal Arc Welding (SMAW):

Surface welding / buttering being performed as per the weld repair report B-WR14886 located on bike path stringer plate, BK005B – 004 – 10A. Welder is identified as 044541. ZPMC Quality Control (QC) Inspector is identified as Yu Dong Ping. The welding variables recorded by QC appeared to comply with the WPS – 345 – SMAW – 3G (3F) – Repair.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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Summary of Conversations:

No Relevant Conversations.

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 Thomas Ho- 15002048250, who represents the Office of Structural Materials for your project.

Inspected By: Kumar,Sandeep

Quality Assurance Inspector

Reviewed By: Clifford,William

QA Reviewer