

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 #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, PRC**Report No:** NCR-000467**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Oct-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0440**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: South Tower
Procedural	Procedural	Description: South Tower, Lift 3	

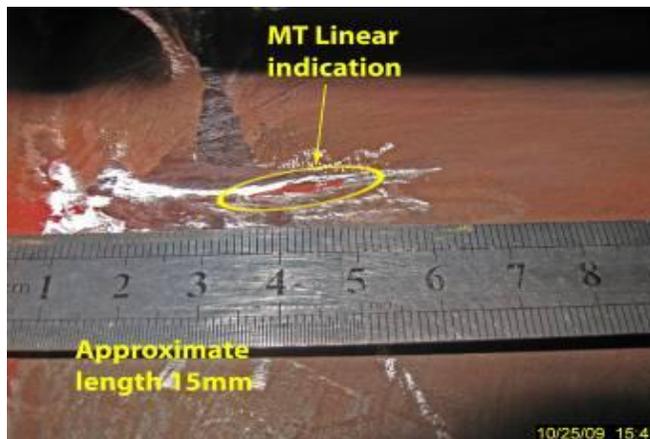
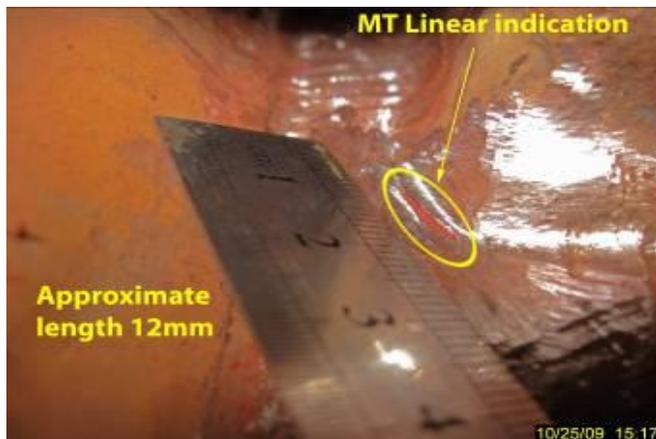
Reference Description: Missed MT indication on South Tower, Lift 3, Diaphragm to Skin welds**Description of Non-Conformance:**

During Magnetic Particle Testing (MT) of South Tower, Lift 3, 85.25m diaphragm to skin welds SSTL3-1B/K-41 and SSTL3-1B/K-47, QA discovered linear indications of approximately 12mm, 15mm and 25mm in length. These welds have been previously tested and accepted by ZPMC NDT personnel (NDT Inspection Notification sheet # 004476).



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

AWS D1.5-2002, Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.”

Who discovered the problem: Umesh Gaikwad

Name of individual from Contractor notified: Xiao Ju Peng

Time and method of notification: 10/25/2009, 17:00; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 11/2/2009, 8:00; Verbal

QC Inspector's Name: Zhu Feng

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

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, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	ASMR
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Reviewed By:	Wahbeh,Mazen	SMR
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DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
 333 Burma Road
 Oakland CA 94607
 Tel: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FLUOR, A JV
 375 BURMA ROAD
 OAKLAND CA 95607

Date: 03-Nov-2009

Contract No: 04-0120F4
 04-SF-80-13.2 / 13.9

Dear: Mr. Charles Kanapicki
Job Name: SAS Superstructure

Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Document No: 05.03.06-000426

Subject: NCR No. ZPMC-0440

Reference Description: Missed indication (MT)/ South Tower, Lift 3/ Diaphragm to Skin welds

The attached Non-Conformance Report describes an occurrence where the contractor did not comply with a requirement of the contract document as indicated below:

- Material or Workmanship not in conformance with contract documents.
- Quality Control (QC) not performed in conformance with contract documents.
- Recurring QC issue that constitutes a systematic problem in quality control.
- Non-Conformance Resolved.

Material Location: Tower **Lift:** 03

Remarks:

During Magnetic Particle Testing (MT) of South Tower, Lift 3, 85.25m diaphragm to skin welds SSSL3-1B/K-41 and SSSL3-1B/K-47, QA discovered linear indications of approximately 12mm, 15mm and 25mm in length. These welds have been previously tested and accepted by ZPMC NDT personnel (NDT Inspection Notification sheet # 004476).

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

AWS D1.5-2002, Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.”

Action Required and/or Action Taken:

Propose a resolution for this systematic non-conformance that addresses the failure of Quality Control to identify the linear indications during magnetic particle testing of the weld. Provide documentation of the steps/actions taken by the Quality Control Manager to prevent future occurrences. It is understood that MT training was provided by the Quality Control Manager on October 21, 2009. However, the repeated incidences appear to indicate that the training was not effective. Please propose further actions by ABFJV to prevent future occurrences.

In addition to the Quality Control non-conformance, address the material/workmanship for the identified non-conformance including documentation that the deficiency has been brought into compliance with the contract requirements. Additionally address the probable causes for the indication and the actions that will be taken to limit future occurrences.

Recent failures by Quality Control to identify linear indications (MT) have resulted in the issuance of NCR ZPMC-0358, ZPMC-0359, ZPMC-0371, ZPMC-0372, ZPMC-0373, ZPMC-0375, ZPMC-0376, ZPMC-0377, ZPMC-383, ZPMC-0384, ZPMC 0386, ZPMC-0387, ZPMC-0388, ZPMC-0389, ZPMC-0390, ZPMC-0401, ZPMC-0408, ZPMC-0413, ZPMC-0419, ZPMC-0422, ZPMC-437, ZPMC-438, and ZPMC-439 related to Tower

NCT

(Continued Page 2 of 2)

Transmitted by: Ken Lee Transportation Engineer

Attachments: ZPMC-0440

cc: Rick Morrow, Gary Pursell, Mark Woods, Doug Coe, Scott Kennedy

File: 05.03.06

NCR PROPOSED RESOLUTION

To: CALTRANS - SAS Superstructure
333 Burma Road
Oakland CA 94607

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000426

Subject: NCR No. ZPMC-0440

Dated: 09-Nov-2009

Contract No.: 04-0120F4
04-SF-80-13.2 / 13.9

Job Name: SAS Superstructure

Document No.: ABF-NPR-000416 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: The welds specified in this NCR were reinspected by Caltrans inspector B282 on October 26, 2009 and found to be acceptable. Based on this ZPMC requests closure of this NCR.

ABF JV QCM has implemented training with ZPMC to improve the quality of inspections. ABF JV has previously provided documentation showing attendance by ZPMC QC inspectors and the subject of training. Topics covered during the instruction were: inspection of equipment prior to use, proper conditions for inspection, proper technique for MT, and UT. In addition, ABF JV has committed to perform overchecks in both the Tower and OBG. This will serve two purposes, first to monitor if the training is effective at reducing the number of missed indications and second to ensure missed indications are prevented.

The welds specified in this NCR were reinspected by Caltrans inspector B282 on October 26, 2009 and found to be acceptable. Based on this ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000416R00

Caltrans' comments:

Status: CLO

Date: 09-Nov-2009

The proposed resolution is acceptable. The Department has verified the acceptability of the weld with its inspector. The Department concurs that Non-conformance ZPMC-0440 is closed.

Submitted by: Lee, Ken

Date: 09-Nov-2009

Attachment(s):

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** Changxing Island, Shanghai, PRC**Report No:** NCS-000321**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 10-Nov-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0440**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component:
Procedural	Procedural	Descriptor:	

Date the Non-Conformance Report was written: 25-Oct-2009**Description of Non-Conformance:**

During Magnetic Particle Testing (MT) of South Tower, Lift 3, 85.25m diaphragm to skin welds SSTL3-1B/K-41 and SSTL3-1B/K-47, QA discovered linear indications of approximately 12mm, 15mm and 25mm in length. These welds have been previously tested and accepted by ZPMC NDT personnel (NDT Inspection Notification sheet # 004476).

Contractor's proposal to correct the problem:

Repair affected weld.

Corrective action taken:

The affected weld has been repaired and verified by QA. To resolve the recurring failure for QC to detect MT indications, ABFJV QCM has implemented training with ZPMC to improve quality of inspectors. Topics include: inspection of equipment prior to use, proper conditions for inspection, proper technique for MT & UT. In addition, ABFJV is performing weld over-checks. This will serve two purposes, first to monitor if the training is effective at reducing the number of missed indications and second, to ensure missed indications are prevented.

Did corrective action require Engineer's approval? Yes No**If so, name of Engineer providing approval:****Date:****Is Engineer's approval attached?** Yes No**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, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod, Serge

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer