

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-000100**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Mar-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0098**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Tower Diaphragm
Procedural	Procedural	Descriptor:	Unauthorized Ultrasonic Testing Procedure

Reference Description:**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed ZPMC Quality Control (QC) perform Ultrasonic Testing (UT) on a tower diaphragm plate complete joint penetration weld number SSD1-SA335-1B/1A, "B" side of the weld joint. During the UT inspection high amplitude ultrasonic signals were observed when scanning the weld toe areas using both a 70 and 45 degree transducer. The weld joint was not "ground smooth and blended with the adjacent material" per the Special Provisions. When asked about the indications QC inspector informed him that the UT signals were "finger dampened", which is not allowed by the Special Provisions.

Applicable reference:

Special Provisions 8-3.01 Welding, page 150 "Questionable test results are defined as test results containing relevant or non-relevant indications or results from a situation where a defect may have been masked by the weld profile. Finger dampening the ultra-sonic (UT) signal shall not be considered resolution of questionable test results." and "Groove weld surface profiles that interfere with the performance of the NDT procedure or produce questionable test results shall be ground smooth and blended with the adjacent material."

Who discovered the problem: Paul Stovall, Quality Assurance Inspector**Name of individual from Contractor notified:** Kevin Carpenter**Time and method of notification:** 3/20/08; 0800, Verbal**Name of Caltrans Engineer notified:** Scott Kennedy**Time and method of notification:** 3/26/08; 0800, Verbal**QC Inspector's Name:** Unknown**Was QC Inspector aware of the problem:** Yes No**Contractor's proposal to correct the problem:**

Kevin Carpenter agreed that ZPMC would need to grind the complete joint penetration weld butt welds on the diaphragm plates and perform the ultrasonic testing after.

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Wahbeh,Mazen

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge

333 Burma Road
Oakland CA 94607
Tel: Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To: American Bridge/Fluor Enterprises, a JV
375 BURMA ROAD
OAKLAND CA 95607
Date: 28-Mar-2008
Contract No: 04-0120F4
04-SF-80-13.2 / 13.9
Dear: Mr. Charles Kanapicki
Job Name: SAS Superstructure
Attention: Mr. Dave Williams Consultant
Document No: 05.03.06-000077
Subject: NCR No. ZPMC-0098
Reference Description: Tower Diaphragm / Unauthorized Ultrasonic Testing Procedure

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 - No Response Required.

Material Location: Tower **Lift:**

Remarks:

ZPMC Quality Control (QC) performed Ultrasonic Testing(UT) on a tower diaphragm plate complete joint penetration weld number SSD1-SA335-1B/1A, "B" side of the weld joint. During the UT inspection high amplitude ultrasonic signals were observed when scanning the weld toe areas using both a 70 and 45 degree transducer. The weld joint was not "ground smooth and blended with the adjacent material" per the Special Provisions. When asked about the indications QC inspector informed him that the UT signals were "finger dampened", which is not allowed by the Special Provisions.

Action Required and/or Action Taken:

Please refer to the attached Non-Conformance Report for details.

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0098

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

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000077

Subject: NCR No. ZPMC-0098

Dated: 27-Aug-2008

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000114 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC inspectors have been notified that finger damping cannot be used to determine the acceptability of a weld. ZPMC inspectors have been notified that finger damping cannot be used to determine the acceptability of a weld. If indications exist that exceed the reference level they shall be repaired.

Submitted by: Kanapicki, Charles
Attachment(s): ABF-NPR-000114R00

Caltrans' comments:

Status: CLO
Date: 28-Sep-2008

The proposed resolution is acceptable. Each of the finger dampened areas was re-inspected, and finger dampening during Ultrasonic Testing has no longer been an issue. The Department concurs that Non-Conformance ZPMC-0098 is closed.

Submitted by: Wright, Doug
Attachment(s):

Date: 28-Sep-2008

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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-000064**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 16-Jun-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0098**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-Mar-2008**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed ZPMC Quality Control (QC) perform Ultrasonic Testing (UT) on a tower diaphragm plate complete joint penetration weld number SSD1-SA335-1B/1A, "B" side of the weld joint. During the UT inspection high amplitude ultrasonic signals were observed when scanning the weld toe areas using both a 70 and 45 degree transducer. The weld joint was not "ground smooth and blended with the adjacent material" per the Special Provisions. When asked about the indications QC inspector informed him that the UT signals were "finger dampened", which is not allowed by the Special Provisions.

Contractor's proposal to correct the problem:

ZPMC has generated an internal NCR to document the finger dampening. ZPMC states their inspector did not "restrain the signal or decrease the amplitude of the signal". In the future ZPMC will ensure that its inspectors do not finger dampen the weld during ultrasonic testing.

Corrective action taken:

It is METS understanding that in the future ZPMC will comply with Section 8-3.01 Welding, which states "... Finger dampening the ultra-sonic (UT) signal shall not be considered resolution of questionable test results." and "Groove weld surface profiles that interfere with the performance of the NDT procedure or produce questionable test results shall be ground smooth and blended with the adjacent material."

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:**

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QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

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Inspected By: Ishibashi,Josh

Quality Assurance Inspector

Reviewed By: Ishibashi,Josh

QA Reviewer