

**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  
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Contract #: 04-0120F4  
 Cty: SF/ALA Rte: 80 PM: 13.2/13.9  
 File #: 69.25B

## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

**Location:** Changxing Island, Shanghai, PRC

**Report No:** NCR-000107

**Prime Contractor:** American Bridge/Fluor Enterprises, a JV

**Date:** 09-Apr-2008

**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

**NCR #:** ZPMC-0104

### Type of problem:

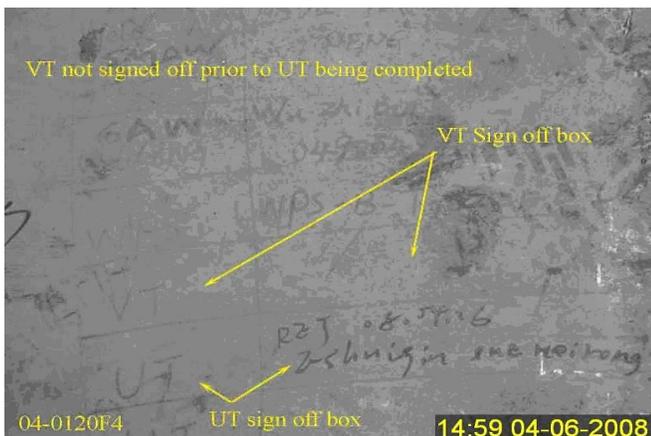
<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b>
<b>Procedural</b>	<b>Procedural</b>	<b>Descriptor:</b> Finger Dampening of UT signal	

**Reference Description:** Caltrans Special Provisions 8-3.01 Welding, AWS D1.5-2002, 6.5.5, AWS D1.5, 6.7

### Description of Non-Conformance:

A ZPMC Quality Control (QC) Inspector, Eshui Qin, was observed using unapproved procedures while performing Ultrasonic Testing on the on Complete Joint Penetration (CJP) Internal Tower Diaphragm splice weld number ESD1-SA234-A/B-10A. During the UT inspection high amplitude ultrasonic signals were observed when scanning the weld toe areas. The QA inspector observed that the UT signals were "finger dampened" in order to decrease the amplitude of the signals, this technique is not allowed by the Special Provisions.

It should be noted that when QC Inspector Eshui Qin went to mark on the plate, the UT inspection had been performed but the visual inspection had not been marked as being completed prior to the UT inspection. The QC Inspector did not appear to be aware of the status of the visual inspection. A table marked on the plate by ZPMC that is to be used for marking the status of inspections was not marked prior to the UT Inspector. See digital photo below.



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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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**Applicable reference:**

Caltrans Special Provisions 8-3.01 Welding, "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:** Kenneth Riley/Craig Hager, Quality Assurance Inspectors

**Name of individual from Contractor notified:** Kevin Carpenter, ABF Quality Control Inspector

**Time and method of notification:** 06-APR-08 at 1445 hours via phone

**Name of Caltrans Engineer notified:** Scott Kennedy, Structure Representative

**Time and method of notification:** 07-APR-08 at 0900 hours; Verbal

**QC Inspector's Name:** Eshui Qin, ZPMC Quality Control Inspector

**Was QC Inspector aware of the problem:** Yes No

**Contractor's proposal to correct the problem:**

None at this time.

**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.

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<b>Inspected By:</b>	Wahbeh,Mazen	Quality Assurance Inspector
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<b>Reviewed By:</b>	Wahbeh,Mazen	QA Reviewer
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**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge**  
666 Feng Bin Road Room 708, Changxing Island  
Shanghai 201913 PR China  
Tel: 021-56856666 ext 207061 Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

**To:** American Bridge/Fluor Enterprises, a JV  
375 BURMA ROAD  
OAKLAND CA 95607

**Date:** 10-Apr-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:** 05.03.06-000085

**Subject:** NCR No. ZPMC-0104

**Reference Description:** Caltrans Special Provisions 8-3.01 Welding, AWS D1.5-2002, 6.5.5, AWS D1.5, 6.7

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:** 01

### Remarks:

The QC inspector observed that the UT signals were "finger dampened" in order to decrease the amplitude during UT inspection of CJP of internal Tower diaphragm splice plate. This is the same technique that resulted to issuance of NCR ZPMC-0098, 0100 and 0103. The QC inspector also noticed that the UT inspection has been performed on the same weld but the VT inspection had not been marked on the plate to indicate the completion of VT inspection.

### Action Required and/or Action Taken:

Propose a resolution to ensure that this systematic non-conformance with the contract documents will not continue to occur and steps taken by the welding Quality Control Manager to prevent future occurrences.

**Transmitted by:** Ching Chao

**Attachments:** ZPMC-0104

**cc:** Rick Morrow, Gary Pursell, Peter Siegenthaler, Mark Woods, Doug Coe, Jason Tom, Contract Files, Ching Chao, 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:** 05.03.06-000085

**Subject:** NCR No. ZPMC-0104

**Dated:** 26-Aug-2008

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000113 **Rev:** 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC has been informed that the Contract does not allow finger damping as a means of acceptance

ZPMC has been informed that the Contract does not allow finger damping as a means of acceptance. All welds exceeding the reference levels and or requirements of the Contract shall be repaired. NOTE: AWS D1.5 does not address performing visual inspection prior to ultrasonic inspection as suggested in this NCR.

**Submitted by:** Kanapicki, Charles  
**Attachment(s):** ABF-NPR-000113R00

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### 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-0104 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-000044**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 19-May-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0104**Type of problem:**

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b>
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b>	

**Date the Non-Conformance Report was written:** 09-Apr-2008**Description of Non-Conformance:**

A ZPMC Quality Control (QC) Inspector, Eshui Qin, was observed using unapproved procedures while performing Ultrasonic Testing on the on Complete Joint Penetration (CJP) Internal Tower Diaphragm splice weld number ESD1-SA234-A/B-10A. During the UT inspection high amplitude ultrasonic signals were observed when scanning the weld toe areas. The QA inspector observed that the UT signals were "finger dampened" in order to decrease the amplitude of the signals, this technique is not allowed by the Special Provisions.

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**Contractor's proposal to correct the problem:**

None at this time.

**Corrective action taken:**

ZPMC issued internal NCR-T-003 to address this non-conformance, but has not otherwise taken any action to prevent it from occurring in the future. If the action persists in the future, then additional actions will be required.

**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 Mazen Wahbeh, (818) 292-0659, who represents the

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# QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

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Office of Structural Materials for your project.

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**Inspected By:** McReynolds,Robert

Quality Assurance Inspector

**Reviewed By:** Wahbeh,Mazen

QA Reviewer

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