

**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, P.R. China**Report No:** NCR-000790**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 08-Jul-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0752**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> Segment 11BW U-Rib Deck Diaphragm |
| <b>Procedural</b>   | <b>Procedural</b> | <b>Description:</b> UT indications found after ZPMC accepted the weld |   |

**Reference Description:** Caltrans QA found 4 UT Indications after the contractor's had tested and accepted the welds for the 11BW U-Rib Deck Diaphragm

**Description of Non-Conformance:**

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of welds located on Orthotropic Box Girder (OBG) segment 11BW, this QA Inspector discovered the following issues:

- Four (4) longitudinal linear class "A" rejectable indications measuring approximately 15mm~35mm in length.
- The welds are identified as SEG067\*-008, 012, 024, and 035
- Material thickness at these joints is 14mm.
- The dBs rating of the indications are +2 to +9.
- The depth of the indications is approximately 5mm~10mm.
- The welds SEG067\*-008, 012, and 035 are at panel point (PP) 98 and SEG067\*-024 is at PP 100.
- These welds are Complete Joint Penetration (CJP) butt joints.
- The joints are joined between Deck Plate Diaphragm (X1B) to Deck Plate Diaphragm (X1B).
- These welds are designated as Non Seismic Performance Critical Members (Non SPCM).
- The indications are clearly marked on or near the weld.
- Segment 11BW is located at Back side of Bay 13.
- The Notice of Witness Inspection (NWIT) No. is 006125. The indication for joint SEG067\*-008 is located within an area previously tested and accepted by ZPMC Quality Control (QC) personnel and remaining joints SEG067\*-012, 024, and 035 are located not within the tested area, by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform twenty five (25%) percent UT inspection of those welds and additional NDT when unacceptable discontinuities are found in a joint.

**Applicable reference:**

-AWS D1.5-02 Section 6; Table 6.3 specifies a class "A" indication as having a rating of 10db and under for material thicknesses 8mm through 20mm.

-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

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

**Who discovered the problem:** Subhasis Bera

**Name of individual from Contractor notified:** Li Man Kit

**Time and method of notification:** 1630 hours, 07-08-10, Verbal

**Name of Caltrans Engineer notified:** Ching Chao, Laraine Woo

**Time and method of notification:** 1200 hours, 07-09-10, Verbal

**QC Inspector's Name:** Zhong Wei

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

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

N/A

**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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

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| <b>Inspected By:</b> | Tsang, Eric | SMR |
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| <b>Reviewed By:</b> | Devey, Jim | SMR |
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**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge**

333 Burma Road  
Oakland CA 94607  
Tel: Fax:

**NON-CONFORMANCE REPORT TRANSMITTAL**

|                   |   |                     |                                   |
|-------------------|---|---------------------|-----------------------------------|
| <b>To:</b>        | AMERICAN BRIDGE/FLUOR, A JV<br>375 BURMA ROAD<br>OAKLAND CA 95607 | <b>Date:</b>        | 09-Jul-2010                       |
| <b>Dear:</b>      | Mr. Charles Kanapicki   | <b>Contract No:</b> | 04-0120F4<br>04-SF-80-13.2 / 13.9 |
| <b>Attention:</b> | Mr. Thomas Nilsson Project/Fabrication Manager                    | <b>Job Name:</b>    | SAS Superstructure                |
| <b>Subject:</b>   | NCR No. ZPMC-0752   | <b>Document No:</b> | 05.03.06-000747                   |

**Reference Description:** Caltrans QA found 4 UT Indications after the contractor's had tested and accepted the welds for the 11BW U-Rib Deck Diaphragm

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:** OBG **Lift:** 11

**Remarks:**

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of welds located on Orthotropic Box Girder (OBG) segment 11BW, this QA Inspector discovered the following issues:

- Four (4) longitudinal linear class "A" rejectable indications measuring approximately 15mm~35mm in length.
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**Action Required and/or Action Taken:**

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences.,A response for the resolution of this issue is expected within 7 days.

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# NCT

( Continued Page 2 of 2 )

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**Transmitted by:** Laraine Woo      Transportation Engineer

**Attachments:**    ZPMC-0752

**cc:**    Gary Pursell, Peter Siegenthaler, Stanley Ku, Contract Files, Ching Chao, Bill Casey

**File:** 05.03.06

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000747

**Subject:** NCR No. ZPMC-0752

**Dated:** 12-Aug-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000734 Rev: 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC has performed the repair of this indication and attached the subsequent UT report denoting acceptance of this weld.

ZPMC has performed the repair of this indication and attached the subsequent UT report denoting acceptance of this weld. ZPMC and ABFJV have held several meetings with the NDT department regarding missed indications. A disciplinary action procedure has been developed as well as an incentive procedure regarding this issue. We have stressed the point of being more thorough with inspections and to provide a cross checking for designated welds and or if questions arise regarding indications. ZPMC requests closure of this NCR.

**Submitted by:** Lawton, Steve

**Attachment(s):** ABF-NPR-000734R00;

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### Caltrans' comments:

**Status:** CLO

**Date:** 17-Aug-2010

The proposed resolution is acceptable. This NCR is considered closed.

**Submitted by:** Woo, Laraine

**Attachment(s):**

**Date:** 17-Aug-2010



No. B-839

## LETTER OF RESPONSE

**TO: American Bridge/Flour**

**DATE: 2010-08-11**

**REGARDING: NCR-000790(ZPMC-0752)**

ZPMC is providing the NDT record show the missed indications have been repaired and were tested to be acceptable. ZPMC QA has discussed this issue with the head of the NDT department and to address the issue through greater oversight by supervisors. Based on this ZPMC is requesting closure of this NCR.

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**ATTACHMENT:**

NCR-000790(ZPMC-0752)

B787-UT-13764 R1

*Jm*  
8/11/10



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge  
333 Burma Road  
Oakland CA 94607  
Tel: Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

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

**Date:** 09-Jul-2010

**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:** 05.03.06-000747

**Subject:** NCR No. ZPMC-0752

**Reference Description:** Caltrans QA found 4 UT Indications after the contractor's had tested and accepted the welds for the 11BW U-Rib Deck Diaphragm

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**NCT**

*( Continued Page 2 of 2 )*

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**Transmitted by:** Laraine Woo      Transportation Engineer

**Attachments:**    ZPMC-0752

**cc:**    Gary Pursell, Peter Siegenthaler, Stanley Ku, Contract Files, Ching Chao, Bill Casey

**File:** 05.03.06

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Contract #: 04-0120F4

Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCR-000790**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 08-Jul-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0752**Type of problem:**Welding  Concrete  Other Welding  Curing  Procedural  **Bridge No:** 34-0006Joint fit-up  Coating  Other  **Component:** Segment 11BW U-Rib Deck DiaphragmProcedural  Procedural  **Description:** UT indications found after ZPMC accepted the weld**Reference Description:** Caltrans QA found 4 UT Indications after the contractor's had tested and accepted the welds for the 11BW U-Rib Deck Diaphragm**Description of Non-Conformance:**

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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**Who discovered the problem:** Subhasis Bera

**Name of individual from Contractor notified:** Li Man Kit

**Time and method of notification:** 1630 hours, 07-08-10, Verbal

**Name of Caltrans Engineer notified:** Ching Chao, Laraine Woo

**Time and method of notification:** 1200 hours, 07-09-10, Verbal

**QC Inspector's Name:** Zhong Wei

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

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

N/A

**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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

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**Inspected By:** Tsang, Eric

SMR

**Reviewed By:** Devey, Jim

SMR

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**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION**


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**Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCS-000720**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 17-Aug-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0752**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> |                           |

**Date the Non-Conformance Report was written:** 08-Jul-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of welds located on Orthotropic Box Girder (OBG) segment 11BW, this QA Inspector discovered the following issues:

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

Repair said indications and perform NDT required to verify weld quality.

**Corrective action taken:**

Contractor supplied post repair NDT documentation verifying repair meets Contract weld quality requirements. ZPMC has instituted disciplinary actions as well as incentives to prompt inspectors to perform more thorough inspections.

