

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-000454**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 04-Oct-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0427**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: 1AAE to 1AE Weld Splice OBE1A-003
Procedural	Procedural	Description:	Missed UT Indication

Reference Description: Missed UT Transverse Indication on Transverse Splice of Segment 1AAE to 1AE**Description of Non-Conformance:**

The Caltrans Quality Assurance Inspector (QA) discovered one (1) rejectable Transverse Crack during ultrasonic testing verification of 1AAE-1AE segment to segment splice weld designated as OBE1A-003 (Bottom Weld Splice) utilizing scanning pattern "D". The indication exhibited planar characteristics with significant flaw height dimension as the search unit was moved toward and away from the indications and were not detectable during scanning patterns parallel to the weld axis. In addition, the search unit was rotated 360° around the indications in order to ascertain if they were spherical, cylindrical or linear in nature. No significant ultrasonic response was noted as the search unit was rotated around the indications with the exception of both transverse directions with the search unit located directly on top of the weld (scanning pattern "D"). In evidence of this information the indications were determined to be indicative of a Transverse Indication. This non-conforming indication was previously tested and accepted by ZPMC QC UT technician.

NOTE: The Y location was taken from the OBE1A-004 Side Panel to the OBE1A-003 Bottom Panel longitudinal weld seam on the Bike Path side progressing toward the Crossbeam side. The Y location of the one Class "A" rejectable Transverse Linear indication is Y = 3665mm.

Applicable reference:

AWS D1.5-02 Section 6.26.3.2 "Ultrasonically tested welds are evaluated on the basis of a discontinuity reflecting ultrasound in proportion to its effect on the integrity of the weld.

- (1) Indications of discontinuities that remain on the screen as the search unit is moved towards and away from the discontinuity (scanning movement "B") may be indicative of planar discontinuities with significant flaw height dimension.
- (2) As the orientation of such discontinuities, relative to the sound beam, deviates from the perpendicular, dB ratings which do not allow direct reliable evaluation of the welded joint integrity may result.
- (3) When indications that exhibit these planar characteristics are present at scanning sensitivity, a more detailed evaluation of the discontinuity by other means may be required (e.g., alternate UT techniques, RT, grinding, or gouging for visual inspection, etc.)."

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

AWS D1.5-02 Section 6.26.1.1 "The weld shall have no cracks."

Who discovered the problem: Gary Richmond

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 1400 hours, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 0800 hours, Email

QC Inspector's Name: Wang Lu

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 Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By:	Carreon,Albert	Lead Reviewer/Task Leader
Reviewed By:	Wahbeh,Mazen	SMR



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:	27-Oct-2009
Dear:	Mr. Charles Kanapicki	Contract No:	04-0120F4 04-SF-80-13.2 / 13.9
Attention:	Mr. Thomas Nilsson Project/Fabrication Manager	Job Name:	SAS Superstructure
Subject:	NCR No. ZPMC-0427	Document No:	05.03.06-000417

Reference Description: Missed UT Transverse Indication on Transverse Splice of Segment 1AAE to 1AE

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:** 01

Remarks:

The Caltrans Quality Assurance Inspector (QA) discovered one (1) rejectable Transverse Crack during ultrasonic testing verification of 1AAE-1AE segment to segment splice weld designated as OBE1A-003 (Bottom Weld Splice) utilizing scanning pattern "D". The indication exhibited planar characteristics with significant flaw height dimension as the search unit was moved toward and away from the indications and were not detectable during scanning patterns parallel to the weld axis. In addition, the search unit was rotated 360° around the indications in order to ascertain if they were spherical, cylindrical or linear in nature. No significant ultrasonic response was noted as the search unit was rotated around the indications with the exception of both transverse directions with the search unit located directly on top of the weld (scanning pattern "D"). In evidence of this information the indications were determined to be indicative of a Transverse Indication. This non-conforming indication was previously tested and accepted by ZPMC QC UT technician.

NOTE: The Y location was taken from the OBE1A-004 Side Panel to the OBE1A-003 Bottom Panel longitudinal weld seam on the Bike Path side progressing toward the Crossbeam side. The Y location of the one Class "A" rejectable Transverse Linear indication is Y = 3665mm.

Action Required and/or Action Taken:

- Submit a repair procedure to the engineer for approval.
- Note: This non-conforming indication was previously tested and accepted by ZPMC QC UT technician.

Transmitted by: Bill Howe

Attachments: ZPMC-0427

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, Jason Tom, Contract Files, Ching Chao
File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000417

Subject: NCR No. ZPMC-0427

Dated: 20-Nov-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000427 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has completed repairs associated with the non conformance and is providing weld repair reports and NDT documentation to show the soundness of the weld. ZPMC requests closure of this NCR.

ZPMC has completed repairs associated with the non conformance and is providing weld repair reports and NDT documentation to show the soundness of the weld. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000427R00;

Caltrans' comments:

Status: CLO

Date: 01-Dec-2009

The documentation submitted has been reviewed by the Engineer and is found to be acceptable.

Submitted by: Chao, Ching

Date: 01-Dec-2009

Attachment(s):



No. B-497

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-11-20

REGARDING: NCR-000454 (ZPMC-0427)

With this letter of response, ZPMC requests closure for Caltrans **NCR-000454 (ZPMC-0427)**. Per the meeting memo of the three parties we have done the weld repair for the transverse splice between 1AAE and 1AE bottom plate. We first prepared one CWR for the engineer approval and then repair the weld with the comments and requirement of the CWR, before we start the repair all of the forman and QC were instructed with the new procedure of repairing for the planar indication which found by the UT scanning from pattern D. So far the weld has been complete with the weld repair and accepted by the UT re-inspection, the result has been also verified by the ABF and record as the formal documentation.

we are providing the related weld repair report(please find the CWR868R1 from document control)and final UT report to support the weld repair has been complete and accepted with the NDT method.

so base on the above explanation, ZPMC applies to close the caltrans's report **NCR-000454 (ZPMC-0427)**.

Please reference attached document for acceptance and closure the **NCR-000454 (ZPMC-0427)**.

ATTACHMENT:

NCR-000454 (ZPMC-0427)

The acceptable UT reports

A handwritten signature in black ink, appearing to read 'Zhou Shuangbao', is written over the printed text of the attachments.

2009. 11. 20

Caltrans

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: 27-Oct-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: 05.03.06-000417

Subject: NCR No. ZPMC-0427

Reference Description: Missed UT Transverse Indication on Transverse Splice of Segment IAAE to 1AE

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: 01

Remarks:

The Caltrans Quality Assurance Inspector (QA) discovered one (1) rejectable Transverse Crack during ultrasonic testing verification of IAAE-1AE segment to segment splice weld designated as OBE1A-003 (Bottom Weld Splice) utilizing scanning pattern "D". The indication exhibited planar characteristics with significant flaw height dimension as the search unit was moved toward and away from the indications and were not detectable during scanning patterns parallel to the weld axis. In addition, the search unit was rotated 360° around the indications in order to ascertain if they were spherical, cylindrical or linear in nature. No significant ultrasonic response was noted as the search unit was rotated around the indications with the exception of both transverse directions with the search unit located directly on top of the weld (scanning pattern "D"). In evidence of this information the indications were determined to be indicative of a Transverse Indication. This non-conforming indication was previously tested and accepted by ZPMC QC UT technician.

NOTE: The Y location was taken from the OBE1A-004 Side Panel to the OBE1A-003 Bottom Panel longitudinal weld seam on the Bike Path side progressing toward the Crossbeam side. The Y location of the one Class "A" rejectable Transverse Linear indication is Y = 3665mm.

Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval.

Note: This non-conforming indication was previously tested and accepted by ZPMC QC UT technician.

Transmitted by: Bill Howe

Attachments: ZPMC-0427

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, Jason Tom, Contract Files, Ching Chao

File: 05.03.06

02.02.15.04
05.03.06-000417,NCT

868R1

Received

05.03.06 07:03:00 Page 1 of 1

DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
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 Quality Assurance and Source Inspection

Bay Area Branch
 690 Walnut Ave. St. 150
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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, P.R. China

Report No: NCR-000454

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 04-Oct-2009

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

NCR #: ZPMC-0427

Type of problem:

Welding **Concrete** **Other**

Welding **Curing** **Procedural** **Bridge No:** 34-0006

Joint fit-up **Coating** **Other** **Component:** 1AAE to 1AE Weld Splice OBE1A-003

Procedural **Procedural** **Description:** Missed UT Indication

Reference Description: Missed UT Transverse Indication on Transverse Splice of Segment 1AAE to 1AE

Description of Non-Conformance:

The Caltrans Quality Assurance Inspector (QA) discovered one (1) rejectable Transverse Crack during ultrasonic testing verification of 1AAE-1AE segment to segment splice weld designated as OBE1A-003 (Bottom Weld Splice) utilizing scanning pattern "D". The indication exhibited planar characteristics with significant flaw height dimension as the search unit was moved toward and away from the indications and were not detectable during scanning patterns parallel to the weld axis. In addition, the search unit was rotated 360° around the indications in order to ascertain if they were spherical, cylindrical or linear in nature. No significant ultrasonic response was noted as the search unit was rotated around the indications with the exception of both transverse directions with the search unit located directly on top of the weld (scanning pattern "D"). In evidence of this information the indications were determined to be indicative of a Transverse Indication. This non-conforming indication was previously tested and accepted by ZPMC QC UT technician.

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Applicable reference:

AWS D1.5 02 Section 6.26.3.2 "Ultrasonically tested welds are evaluated on the basis of a discontinuity reflecting ultrasound in proportion to its effect on the integrity of the weld.

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- (2) As the orientation of such discontinuities, relative to the sound beam, deviates from the perpendicular, dB ratings which do not allow direct reliable evaluation of the welded joint integrity may result.
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

AWS D1.5-02 Section 6.26.1.1 "The weld shall have no cracks."

Who discovered the problem: Gary Richmond

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 1400 hours, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 0800 hours, Email

QC Inspector's Name: Wang Lu

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 Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By: Carreon,Albert

Lead Reviewer/Task Leader

Reviewed By: Wahbeh,Mazen

SMR

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Vallejo, CA 94592-1133
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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, P.R. China**Report No:** NCS-000400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Dec-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0427**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: 04-Oct-2009**Description of Non-Conformance:**

The Caltrans Quality Assurance Inspector (QA) discovered one (1) rejectable Transverse Crack during ultrasonic testing verification of 1AAE-1AE segment to segment splice weld designated as OBE1A-003 (Bottom Weld Splice) utilizing scanning pattern "D". The indication exhibited planar characteristics with significant flaw height dimension as the search unit was moved toward and away from the indications and were not detectable during scanning patterns parallel to the weld axis. In addition, the search unit was rotated 360° around the indications in order to ascertain if they were spherical, cylindrical or linear in nature. No significant ultrasonic response was noted as the search unit was rotated around the indications with the exception of both transverse directions with the search unit located directly on top of the weld (scanning pattern "D"). In evidence of this information the indications were determined to be indicative of a Transverse Indication. This non-conforming indication was previously tested and accepted by ZPMC QC UT technician.

NOTE: The Y location was taken from the OBE1A-004 Side Panel to the OBE1A-003 Bottom Panel longitudinal weld seam on the Bike Path side progressing toward the Crossbeam side. The Y location of the one Class "A" rejectable Transverse Linear indication is Y = 3665mm.

Contractor's proposal to correct the problem:

The contractor will repair the weld and perform NDT to verify that the weld is acceptable.

Corrective action taken:

ZPMC has repaired the indications documented in the NCR. ABFJV has conducted the NDT and found that the welds are acceptable.

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

(Continued Page 2 of 2)

Office of Structural Materials for your project.

Inspected By: Tsang, Eric

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer
