

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-000544**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 18-Dec-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0517**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: OBG Lift 6 West
Procedural	Procedural	Description:	

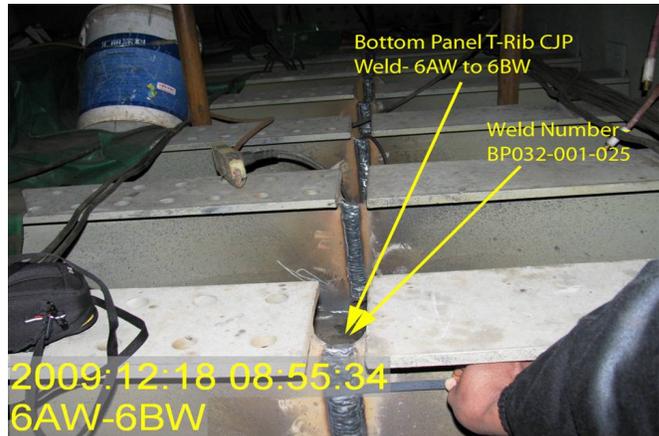
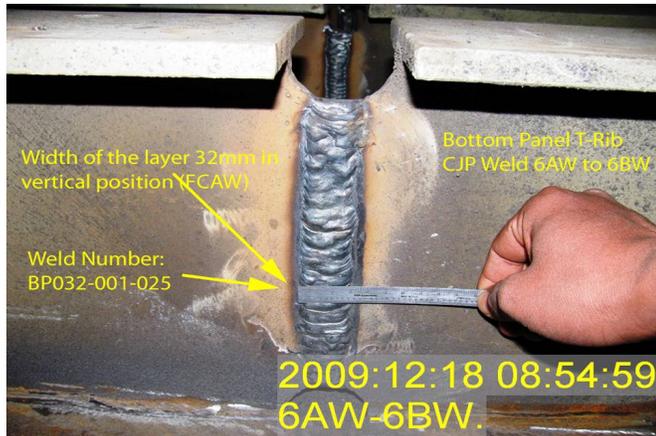
Reference Description: Excessive Weld Size, T-rib Splice, L6W**Description of Non-Conformance:**

During a random visual inspection at Segments 6AW to 6BW for dimension verifications of T-Stiffeners, the Caltrans Quality Assurance (QA) Inspector observed ZPMC in-process of welding T-Stiffeners that connect the segment splice at 6AW to 6BW. The non-conforming item documented during the welding process was the excessive width of a vertical single weld pass, utilizing the Flux Core Arc Welding (FCAW) process. Additional information identifying the non-conforming issues is listed below.

- The vertical weld is identified as: BP032-001-025
- The welding process is identified as: FCAW
- The Weld is a Complete Joint Penetration (CJP) joint.
- The maximum vertical single pass width for FCAW is 25mm.
- The maximum root opening between parts shall not exceed 5mm
- The approved weld procedure specification (WPS) is identified as: WPS-B-T-2233-B-U2-F
- The approved WPS allows a root opening of 5mm maximum.
- The 6AW to 6BW segment splice weld is identified as: OBW6B-003
- The vertical T-Stiffener weld is located at panel point 41 (PP41).

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

Approved WPS # WPS-B-T-2233-B-U2-F; "states the maximum root opening is 5mm."

AWS D1.5 (02) Section 3.3.2.1; The root opening between parts shall not exceed 5mm [3/16 in.].

AWS D1.5 (02) Section 4.14.1.5 FCAW; "The thickness of the weld layers in groove welds, except root and surface layers, shall not exceed 6 mm [1/4 in.]. When the root opening is 12 mm [1/2 in.] or greater, a multiple-pass split-layer technique shall be used. When the width of a layer of a groove weld in the flat, horizontal, or overhead position is 16 mm [5/8 in.] or greater, a multiple-pass split-layer technique shall be used. When welding in the vertical position, a split-layer technique shall be used when the width of the layer exceeds 25 mm [1 in.]."

Who discovered the problem: M. Manikandan

Name of individual from Contractor notified: Kevin Chen

Time and method of notification: 1600 hours, 12-18-09, Verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 1100 hours, 12-21-09, Verbal

QC Inspector's Name: Wang Lu

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 Eric Tsang, 15000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Guest, Skyler	SMR
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: 24-Dec-2009

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

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Subject: NCR No. ZPMC-0517

Job Name: SAS Superstructure
Document No: 05.03.06-000505

Reference Description: Excessive Weld Size, T-rib Splice, L6W

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:** 06

Remarks:

During a random visual inspection at Segments 6AW to 6BW for dimension verifications of T-Stiffeners, the Caltrans Quality Assurance (QA) Inspector observed ZPMC in-process of welding T-Stiffeners that connect the segment splice at 6AW to 6BW. The non-conforming item documented during the welding process was the excessive width of a vertical single weld pass, utilizing the Flux Core Arc Welding (FCAW) process. Additional information identifying the non-conforming issues is listed below.

- The vertical weld is identified as: BP032-001-025
- The welding process is identified as: FCAW
- The Weld is a Complete Joint Penetration (CJP) joint.
- The maximum vertical single pass width for FCAW is 25mm.
- The maximum root opening between parts shall not exceed 5mm
- The approved weld procedure specification (WPS) is identified as: WPS-B-T-2233-B-U2-F
- The approved WPS allows a root opening of 5mm maximum.
- The 6AW to 6BW segment splice weld is identified as: OBW6B-003
- The vertical T-Stiffener weld is located at panel point 41 (PP41).

Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Bill Howe

Attachments: ZPMC-0517

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, 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: 05.03.06-000505

Subject: NCR No. ZPMC-0517

Dated: 09-Mar-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000610 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is providing NDT documentation to show that the welds are acceptable. Based on this ZPMC requests closure of this NCR.

ZPMC acknowledges that the weld pass width exceeded the allowable limits and has issued an internal NCR to the Production department to prevent future occurrences. ZPMC is providing NDT documentation to show that the welds are acceptable. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000610R00;

Caltrans' comments:

Status: CLO

Date: 18-Mar-2010

The documentation received is sufficient to close this NCR.

Submitted by: Howe, Bill

Date: 18-Mar-2010

Attachment(s):



No. B-646

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-3-8

REGARDING: NCR-000544 (ZPMC-0517)

With this letter of response, ZPMC requests closure of CT NCR-000544 (ZPMC-0517) what mentioned about the Excessive Weld Size in L6W.

- ZPMC acknowledged this problem and has issued internal NCR.
- NDT was performed to warrant the affected welds' quality.
- Punch list item 338 what mentioned this NCR has been confirmed and closed by CT inspector.

Based on response above and attached documentations, ZPMC requests closure of this NCR.

ATTACHMENT:

NCR-000544 (ZPMC-0517)

BCR-B-371(ZPMC-0517)

B787-UT-10903

A handwritten signature in black ink, appearing to be 'J. M. W.' with a stylized flourish at the end.

3/8/10

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: 24-Dec-2009

Contract No: 04-0120F4

04-SF-80-13.2 / 13.9

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Job Name: SAS Superstructure

Subject: NCR No. ZPMC-0517

Document No: 05.03.06-000505

Reference Description: Excessive Weld Size, T-rib Splice, L6W

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: #6

Remarks:

During a random visual inspection at Segments 6AW to 6BW for dimension verifications of T-Stiffeners, the Caltrans Quality Assurance (QA) Inspector observed ZPMC in-process of welding T-Stiffeners that connect the segment splice at 6AW to 6BW. The non-conforming item documented during the welding process was the excessive width of a vertical single weld pass, utilizing the Flux Core Arc Welding (FCAW) process. Additional information identifying the non-conforming issues is listed below.

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- The welding process is identified as: FCAW
- The Weld is a Complete Joint Penetration (CJP) joint.
- The maximum vertical single pass width for FCAW is 25mm
- The maximum root opening between parts shall not exceed 5mm
- The approved weld procedure specification (WPS) is identified as: WPS-B-T-2253-B-U2-F
- The approved WPS allows a root opening of 5mm maximum.
- The 6AW to 6BW segment splice weld is identified as: OBW6B-003
- The vertical T-Stiffener weld is located at panel point 41 (PP41).

Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Bill Howe

Attachments: ZPMC-0517

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

File: 05.03.06

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Contract #: 04-0120F4

City: 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-000544

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 18-Dec-2009

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

NCR #: ZPMC-0517

Type of problem:

- Welding Concrete Other
- Welding Curing Procedural Bridge No: 34-0006
- Joint fit-up Coating Other Component: OBG Lift 6 West
- Procedural Procedural Description:

Reference Description: Excessive Weld Size, T-rib Splice, L6W

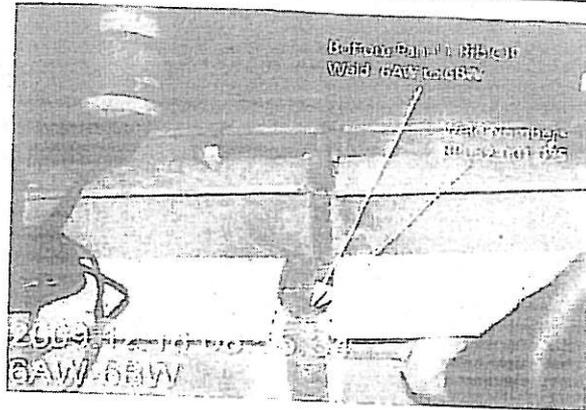
Description of Non-Conformance:

During a random visual inspection at Segments 6AW to 6BW for dimension verifications of T-Stiffeners, the Caltrans Quality Assurance (QA) Inspector observed ZPMC in-process of welding T-Stiffeners that connect the segment splice at 6AW to 6BW. The non-conforming item documented during the welding process was the excessive width of a vertical single weld pass, utilizing the Flux Core Arc Welding (FCAW) process. Additional information identifying the non-conforming issues is listed below.

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- The maximum root opening between parts shall not exceed 5mm
- The approved weld procedure specification (WPS) is identified as: WPS-B-T-2233-B-U2-F
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- The 6AW to 6BW segment splice weld is identified as: OBW6B-003
- The vertical T-Stiffener weld is located at panel point 41 (PP41).

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

Approved WPS # WPS-B-T-2233-B-U2-F; "states the maximum root opening is 5mm."
 AWS D1.5 (02) Section 3.3.2.1; The root opening between parts shall not exceed 5mm [3/16 in.].

AWS D1.5 (02) Section 4.14.1.5 FCAW; "The thickness of the weld layers in groove welds, except root and surface layers, shall not exceed 6 mm [1/4 in.]. When the root opening is 12 mm [1/2 in.] or greater, a multiple-pass split-layer technique shall be used. When the width of a layer of a groove weld in the flat, horizontal, or overhead position is 16 mm [5/8 in.] or greater, a multiple-pass split-layer technique shall be used. When welding in the vertical position, a split-layer technique shall be used when the width of the layer exceeds 25 mm [1 in.]."

Who discovered the problem: M. Manikandan
 Name of individual from Contractor notified: Kevin Chen
 Time and method of notification: 1600 hours, 12-18-09, Verbal
 Name of Caltrans Engineer notified: Bill Howe
 Time and method of notification: 1100 hours, 12-21-09, Verbal
 QC Inspector's Name: Wang Lu
 Was QC Inspector aware of the problem: Yes No
 Contractor's proposal to correct the problem:

Comments:

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Inspected By:	Guest, Skyler	SMR
Reviewed By:	Wahbeh, Mazen	SMR



Nonconformance Report

不符合项报告

Project Name: S.F.O.B.B
 项目名称: 美国加州海湾大桥
 NCR Number:
 NCR 编号: NCR-B-371 (ZPMC-0517)

Item: excessive weld size
 名称描述: 超大焊缝尺寸
 Item Number:
 件号: 6AW/6BW
 Drawing:
 图号: OBW6B-003

Location: trail assembly yard
 位置: 总拼外场
 Date:
 日期: 2010-01-04

Description of Nonconformance:

During a random visual inspection at segments 6AW to 6BW for dimension verifications of T-stiffeners, the CT people observed ZPMC in process of welding T-stiffeners that conned the segment splice at 6AW to 6BW. The non-conforming item documented during the welding process was the excessive width of a vertical single weld pass, utilizing the FCAW process. Additional information identifying the non-conforming issues is listed below.

在加州检验员巡检中发现我们连接 6AW,6BW 的 FCAW 焊缝单道尺寸过大.

- 1、立焊的焊缝编号: BP032-001-025.
- 2、焊接方法: FCAW.
- 3、最大单道焊尺寸: 25 毫米.
- 4、最大根部间隙: 5 毫米.
- 5、WPSH 号码: WPS-B-T-2233-B-U2-F
- 6、WPS 要求最大根部间隙为 5 毫米.
- 7、6AW 与 6BW 总拼焊缝编号: OBW6B-003.
- 8、立焊的位置在 PP41.

Work By: *Mafalin* Prepared by: *L. Xiong* Reviewed by QCE: *L. Xiong*
 施工方: *Mafalin* 准备: *2010.1.4* 质量工程师批准: *1/4/10*

Drawing Error Material Defect Fabrication Error Other
 图纸错误 材料缺陷 制作错误 其他原因

Disposition: Use as is Repair Reject
 处理措施: 回用 返修 拒收

Recommendation:
 建议:

Prepared by: _____ Approved by QCA: _____
 准备 质量经理批准

Reason for Nonconformance:
 不符合原因:
 由于 6AW, 6BW 的 FCAW 焊缝单道尺寸过大.
 weld size exceeded requirement at 6AW and 6BW.

Prevention of Re-occurrence:

预防措施:

加强现场监控和检查

Enhance supervision and inspection on-site.

Approved by/批准: Gao Jun 01.01.17

Technical Justification for Use-As-Is/Repair:

Attachment

Non-attachment

回用或返修的技术依据:

附件

无附件

对焊缝作 NDT 检测, 合格回用, 日后加强现场管理和监控以避免此类问题再发生.

Check the weld with NDT inspection, perform as-us-is if the result of NDT is acceptable.

Enhance management and supervision to avoid this problem happen again.

Reviewed /批准: He Xiaolan 10.01.12

Verification:

确认:

Acceptable
可接受

Unacceptable
不可接受

Ju Yong Jian

07120671

2010.3.6

Verified by QCI/质检确认:

Reviewed by QCA/质检主任审核:

#R787-QCP-1300

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 #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCS-000547**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 18-Mar-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0517**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: 18-Dec-2009**Description of Non-Conformance:**

During a random visual inspection at Segments 6AW to 6BW for dimension verifications of T-Stiffeners, the Caltrans Quality Assurance (QA) Inspector observed ZPMC in-process of welding T-Stiffeners that connect the segment splice at 6AW to 6BW. The non-conforming item documented during the welding process was the excessive width of a vertical single weld pass, utilizing the Flux Core Arc Welding (FCAW) process. Additional information identifying the non-conforming issues is listed below.

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- The approved WPS allows a root opening of 5mm maximum.
- The 6AW to 6BW segment splice weld is identified as: OBW6B-003
- The vertical T-Stiffener weld is located at panel point 41 (PP41).

Contractor's proposal to correct the problem:

Perform NDT required to verify weld quality.

Corrective action taken:

Contractor submitted NDT report verifying the weld is in conformance with Contract specifications and issued an internal NCR in regards to this issue.

Did corrective action require Engineer's approval? Yes No**If so, name of Engineer providing approval:****Date:****Is Engineer's approval attached?**

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Yes No

Comments:

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Inspected By:	Simonis,Jim	Quality Assurance Inspector
Reviewed By:	Wahbeh,Mazen	QA Reviewer
