

**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 #: 04-0120F4  
 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-000548

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

**Date:** 16-Dec-2009

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

**NCR #:** ZPMC-0521

### 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> OBG Segment 9BW |
| <b>Procedural</b>   | <b>Procedural</b> | <b>Description:</b> |                                   |

**Reference Description:** Improper Weld Preheat, Segment 9BW

### Description of Non-Conformance:

During a random visual inspection of Shielded Metal Arc Welding (SMAW 4G) on Segment 9BW, the Caltrans Quality Assurance (QA) Inspector observed ZPMC personnel in-process of welding a complete joint penetration (CJP) weld without achieving the required preheat temperature of 60 degree C as per approved welding procedure specification (WPS).

- 1) The WPS was identified as: WPS-B-C-2214-Tc-U4b-FCM-1
- 2) The weld joint was identified as: SEG-051A-024
- 3) Side Panel (SP) plate is identified as: SP770A
- 4) Floor Beam (FB) plate is identified as: FB27B
- 5) The welder was identified as: Welder ID # 066413
- 6) This material being welded is A709 Grade 345 Seismic Performance Critical Material (SPCM).
- 7) The weld is located between the SP770A to FB27B Cross Beam (CB) side at PP76.



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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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**Applicable reference:**

Approved Welding Procedure Specification; WPS-B-P-2214-U4b-FCM-1

**Who discovered the problem:** Subhasis Bera

**Name of individual from Contractor notified:** Steve Lawton

**Time and method of notification:** 0945 hours, 12-16-09, Verbal

**Name of Caltrans Engineer notified:** Bill Howe

**Time and method of notification:** 1100 hours, 12-17-09, Verbal

**QC Inspector's Name:** Li Yan Hue

**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.

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**Inspected By:** Guest, Skyler

SMR

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**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

**Job Name:** SAS Superstructure

**Attention:** Mr. Thomas Nilsson Project/Fabrication Manager

**Document No:** 05.03.06-000509

**Subject:** NCR No. ZPMC-0521

**Reference Description:** Improper Weld Preheat, Segment 9BW

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:** 09

**Remarks:**

During a random visual inspection of Shielded Metal Arc Welding (SMAW 4G) on Segment 9BW, the Caltrans Quality Assurance (QA) Inspector observed ZPMC personnel in-process of welding a complete joint penetration (CJP) weld without achieving the required preheat temperature of 60 degree C as per approved welding procedure specification (WPS).

- 1) The WPS was identified as: WPS-B-C-2214-Tc-U4b-FCM-1
- 2) The weld joint was identified as: SEG-051A-024
- 3) Side Panel (SP) plate is identified as: SP770A
- 4) Floor Beam (FB) plate is identified as: FB27B
- 5) The welder was identified as: Welder ID # 066413
- 6) This material being welded is A709 Grade 345 Seismic Performance Critical Material (SPCM).
- 7) The weld is located between the SP770A to FB27B Cross Beam (CB) side at PP76.

**Action Required and/or Action Taken:**

Submit a repair procedure to the engineer for approval. Instruct welder regarding how to achieve the correct preheat. A response for the resolution of this issue is expected within 7 days.

**Transmitted by:** Bill Howe

**Attachments:** ZPMC-0521

**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:** 05.03.06-000509

**Subject:** NCR No. ZPMC-0521

**Dated:** 14-Jan-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000482 Rev: 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC has generated an internal NCR as a means to educate the workers and CWI's to prevent future occurrences. ZPMC has subsequently performed the required NDT.

ZPMC acknowledges the non-conformance and has generated an internal NCR as a means to educate the workers and CWI's to prevent future occurrences. ZPMC has subsequently performed the required NDT and has attached the report. ZPMC requests closure of this NCR.

**Submitted by:** Lawton, Steve

**Attachment(s):** ABF-NPR-000482R00;

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### Caltrans' comments:

**Status:** CLO

**Date:** 27-Jan-2010

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

**Submitted by:** Chao, Ching

**Attachment(s):**

**Date:** 27-Jan-2010



No. B-576

## LETTER OF RESPONSE

**TO: American Bridge/Flour**

**DATE: 2010-1-12**

**REGARDING: NCR-00548 (ZPMC-0521)**

With this letter of response, ZPMC requests closure of CT NCR-000548(ZPMC-0521), what mentioned that CT Inspector observed unapproved improper weld preheat in 9BW.

- ZPMC acknowledged this problem and has issued internal NCR. See attached NCR-B-365(ZPMC-0521).
- It is nearly 3M in length of this weld. The temporary get lower at the start of this weld when the welder was welding at end. ZPMC QC has arranged preheat again prior to next weld pass.
- The taken action has been explained to this CT inspector when ZPMC QC was notified with this nonconformance.
- NDT was performed to warrant the welds' quality.

Based on the taken actions and attached documentations, ZPMC requests closure of this NCR.

**ATTACHMENT:**

NCR-B-365(ZPMC-0521)

NCR-000548(ZPMC-0521)

B787-UT-10715

A handwritten signature in black ink, appearing to be 'J. W.', is written over the attachment list.

1/12/10



# Nonconformance Report

## 不符合项报告

|   |                         |   |
|---|-------------------------|---|
| Project Name: S.F.O.B.B<br>项目名称: 美国加州海湾大桥   |                         | NCR Number:<br>NCR 编号: NCR-B-365(ZPMC-0521) |
| Item: improper weld preheat<br>名称描述: 预热温度不够 | Item Number:<br>件号: 9BW | Drawing:<br>图号: SEG-051A-024                |
| Location: outside yard<br>位置: 外场            | Date:<br>日期: 2010-01-04 |   |

### Description of Nonconformance:

#### 不符合项状态描述:

During a random visual inspection of SMAW-4G on 9BW the CT inspector observed ZPMC personnel in process of welding a complete joint penetration weld without achieving the required preheat temperature of 60 degree as approved welding procedure specification.

加州检验员在 9BW 检验时发现了 9BW 返修时预热温度不够。

- 1、WPS: WPS-B-C-2214-TC-U4B-FCM-1
- 2、SEG-51A-024
- 3、斜筋板: SP770A
- 4、FB: FB27B
- 5、焊工编号: 06613
- 6、母材为 SPCM 板
- 7、位置在 SP770A 与 FB27B PP76 上

|  |  |  |
|--|--|--|
| Work By: <u>                    </u>   | Prepared by: <u>                    </u> | Reviewed by QCE: <u>                    </u>               |
| 施工方: <u>                    </u>       | 准备: <u>2010.1.4</u>                      | 质量工程师批准: <u>                    </u>                       |
| <input type="checkbox"/> Drawing Error | <input type="checkbox"/> Material Defect | <input type="checkbox"/> Fabrication Error                 |
| 图纸错误                                   | 材料缺陷                                     | 制作错误   |
|  |  | <input type="checkbox"/> Other <u>                    </u> |
|  |  | 其他原因   |

|  |                                 |                                 |
|--|---------------------------------|---------------------------------|
| Disposition: <input checked="" type="checkbox"/> Use as is | <input type="checkbox"/> Repair | <input type="checkbox"/> 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:

返修时预热温度不够。  
Preheat inadequately during repair.

Prevention of Re-occurrence:

预防措施:

- 1. 返修时预热温度达到后再进行返修。
- 2. 加强对现场返修的监控。

- 1. preheat adequately during repair then repair.
- 2. Enhance supervision on-site during repairing.

Approved by/批准: 李友明

Technical Justification for Use-As-Is/Repair:

Attachment

Non-attachment

回用或返修的技术依据:

加强现场箱梁焊接

附件

无附件

时的监控力度, 杜绝类似问题再次发生, 并对此焊缝进行NDT检测。(合格回用)

Enhance supervision during welding to avoid this kind of problem happen again, meanwhile, check the weld with NDT, perform use-as-it if the weld is acceptable.

Reviewed /批准: Tang Yongbo

Verification:

Acceptable

Unacceptable

确认:

可接受

不可接受

Verified by QCI/质检确认:

Litan hui 07112020

Reviewed by QCA/质检主任审核:

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 / 13.3

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

Job Name: SAS Superstructure

Subject: NCR No. ZPMC-0521

Document No: 05.03.06-000509

Reference Description: Improper Weld Preheat, Segment 9BW

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: 100

### Remarks:

During a random visual inspection of Shielded Metal Arc Welding (SMAW) on Segment 9BW, the Caltrans Quality Assurance (QA) Inspector observed ZPMC personnel in-process of welding a complete joint penetration (CJP) weld without achieving the required preheat temperature of 60 degree C as per approved welding procedure specification (WPS).

- 1) The WPS was identified as: WPS-B-C-2214-1-145-FCM-1
- 2) The weld joint was identified as: SEG-051A-024
- 3) Side Panel (SP) plate is identified as: SP770A
- 4) Floor Beam (FB) plate is identified as: FB27B
- 5) The welder was identified as: Welder ID# 066413
- 6) This material being welded is A709 Grade 345 Seismic Performance Critical Material (SPCM).
- 7) The weld is located between the SP770A to FB27B Cross Beam (CB) side at PP76.

### Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval. Instruct welder regarding how to achieve the correct preheat. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Bill Howe

Attachments: ZPMC-0521

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

DEPARTMENT OF TRANSPORTATION  
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690 Walnut Ave. St. 180  
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(707) 649-5453  
(707) 649-5493

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-000548

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 16-Dec-2009

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

NCR #: ZPMC-0521

Type of problem:

Welding  Concrete  Other

Welding  Curing  Procedural

Joint fit-up  Coating  Other

Procedural  Procedural  Description:

Bridge No: 34-0006

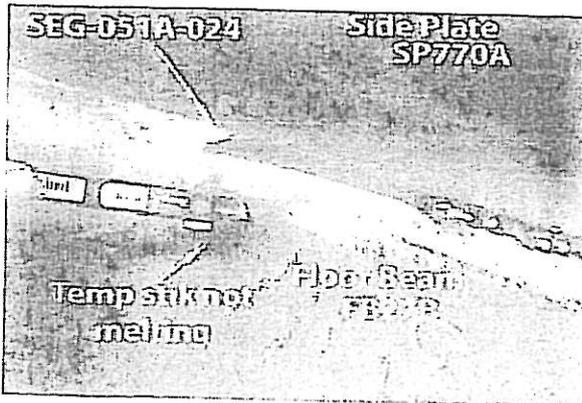
Component: OBG Segment 9BW

Reference Description: Improper Weld Preheat, Segment 9BW

Description of Non-Conformance:

During a random visual inspection of Shielded Metal Arc Welding (SMAW 4G) on Segment 9BW, the Caltrans Quality Assurance (QA) Inspector observed ZPMC personnel in-process of welding a complete joint penetration (CJP) weld without achieving the required preheat temperature of 60 degree C as per approved welding procedure specification (WPS).

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Applicable reference:

Approved Welding Procedure Specification: WPS-B-P-2214-U4b-FCM-1

Who discovered the problem: Subhasis Bera

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 0945 hours, 12-16-09, Verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 1100 hours, 12-17-09, Verbal

QC Inspector's Name: Li Yan Hue

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**

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-000468**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 22-Jan-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0521**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:** 16-Dec-2009**Description of Non-Conformance:**

During a random visual inspection of Shielded Metal Arc Welding (SMAW 4G) on Segment 9BW, the Caltrans Quality Assurance (QA) Inspector observed ZPMC personnel in-process of welding a complete joint penetration (CJP) weld without achieving the required preheat temperature of 60 degree C as per approved welding procedure specification (WPS).

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- 4) Floor Beam (FB) plate is identified as: FB27B
- 5) The welder was identified as: Welder ID # 066413
- 6) This material being welded is A709 Grade 345 Seismic Performance Critical Material (SPCM).
- 7) The weld is located between the SP770A to FB27B Cross Beam (CB) side at PP76.

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

Perform required NDT to verify the quality of the weld.

**Corrective action taken:**

Contractor submitted Ultrasonic Testing documentation verifying the weld is in conformance with Contract specifications.

**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 Jim Simonis, who represents the Office of Structural

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## QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

( Continued Page 2 of 2 )

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Materials for your project.

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**Inspected By:** Simonis,Jim

Quality Assurance Inspector

**Reviewed By:** Wahbeh,Mazen

QA Reviewer

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