

**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-000679

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

**Date:** 10-Feb-2010

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

**NCR #:** ZPMC-0646

### 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 7DW Side Panel
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b>	

**Reference Description:** ZPMC performed a non-approved tack welding of scaffolding to the OBG Segment 7DW Side Panel

### Description of Non-Conformance:

During the Quality Assurance (QA) random visual inspection after grit blast inside Orthotropic Box Girder (OBG) segment 7DW, this Quality Assurance Inspector (QA) discovered the following issues:

- ZPMC has temporarily tack welded 2 scaffolding legs to a Seismic Performance Critical Member (see pictures for reference).
- The approved shop drawings do not specify any welds in these areas.
- The size and length of the tack welds do not meet the requirements of AWS D1.5 2002, table 12.2.
- The member is a side panel identified as: SP483A.
- The Side panel is designated on the approved shop drawings as (SPCM).
- The Side panel is located between panel point PP057 and PP058 on the Cross Beam side.
- The location of the temporary tack welds are 340mm and 1100mm from PP058.
- The material composition of the scaffolding being welded to the side panel is not known.
- OBG Segment 7DW is located inside the Blast Shop.



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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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**Applicable reference:**

AWS D1.5-2002 Section 6.5.1: "The Inspector shall make certain that the size, length, and location of all welds conform to the requirements of this code and to the detail drawings and that no unspecified welds have been added without approval".

AWS D1.5-2002 Section 3.3.8 Temporary welds: "Temporary welds shall be subject to the same WPS requirements as final welds." "Temporary welds at other locations shall be shown on the shop drawings."

AWS D1.5-2002 Section 12.13.1.1 Location: All tack welds used in assembly shall be located within the joint unless otherwise approved by the Engineer.

AWS D1.5-2002 Table 12.2 specifies tack welds outside the joint shall be a minimum of 75mm in length and refers to footnote 3 which specifies "tack welds outside the joint shall require the Engineers approval."

**Who discovered the problem:** Subhasis Bera

**Name of individual from Contractor notified:** Peter Shaw

**Time and method of notification:** 1700 hours, 02/10/10, Verbal

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

**Time and method of notification:** 10:30 hours, 02/11/10, Verbal

**QC Inspector's Name:** Zhang 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 Mazen Wahbeh, +(86) 134.7247.7571, 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>	Wahbeh, Mazen	SMR
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**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:** 11-Feb-2010

**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-0646

**Job Name:** SAS Superstructure  
**Document No:** 05.03.06-000636

**Reference Description:** ZPMC performed a non-approved tack welding of scaffolding to the OBG Segment 7DW Side Panel

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:** 07

**Remarks:**

- During the Quality Assurance (QA) random visual inspection after grit blast inside Orthotropic Box Girder (OBG) segment 7DW, this Quality Assurance Inspector (QA) discovered the following issues:
- ZPMC has temporarily tack welded 2 scaffolding legs to a Seismic Performance Critical Member (see pictures for reference).
  - The approved shop drawings do not specify any welds in these areas.
  - The size and length of the tack welds do not meet the requirements of AWS D1.5 2002, table 12.2.
  - The member is a side panel identified as: SP483A.
  - The Side panel is designated on the approved shop drawings as (SPCM).
  - The Side panel is located between panel point PP057 and PP058 on the Cross Beam side.
  - The location of the temporary tack welds are 340mm and 1100mm from PP058.
  - The material composition of the scaffolding being welded to the side panel is not known.
  - OBG Segment 7DW is located inside the Blast Shop.

**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.

**Transmitted by:** Bill Howe Sr. Transportation Engineer  
**Attachments:** ZPMC-0646

**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:** 05.03.06-000636

**Subject:** NCR No. ZPMC-0646

**Dated:** 10-Jun-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000687 Rev: 00

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**Contractor's Proposed Resolution:**

**Reference Resolution:** When the temporary attachments are removed, ZPMC will perform NDT of the base metal to ensure there was no damage.

When the temporary attachments are removed, ZPMC will perform NDT of the base metal to ensure there was no damage. In addition, ZPMC will issue an internal NCR to notify work crews that temporary attachments should adhere to the same standards as other welds. Based on this proposal ZPMC requests that this NCR be approved, with actions pending.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000687R00

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**Caltrans' comments:**

**Status:** REJ

**Date:** 15-Jun-2010

The areas where unidentified material was tacked welded shall be ground out such that any impurities introduced are removed. MT should then be performed and the base metal repaired per approved methods. Additionally, a description of the measures being taken to ensure that similar non-conformances do not occur in the future.

**Submitted by:** Eagen, Sean

**Attachment(s):**

**Date:** 15-Jun-2010

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000636

**Subject:** NCR No. ZPMC-0646

**Dated:** 29-Jun-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000687 Rev: 01

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**Contractor's Proposed Resolution:**

**Reference Resolution:** Per the Department's comments, ZPMC had removed the tack welds an ground into the base metal to remove the unidentified material. The area was subsequently repaired and NDT was performed .

Per the Department's comments, ZPMC had removed the tack welds an ground into the base metal to remove the unidentified material. The area was subsequently repaired and NDT was performed on it to ensure the repair was successful. Based on this repair and subsequent NDT, ZPMC request closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000687R01;

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**Caltrans' comments:**

**Status:** AAP

**Date:** 07-Jul-2010

The corrective measures taken are acceptable. The area has been repaired and NDT documents have been submitted. This NCR is considered closed.

**Submitted by:** Woo, Laraine

**Attachment(s):**

**Date:** 07-Jul-2010



No. B-805

## LETTER OF RESPONSE

**TO: American Bridge/Flour**

**DATE: 2010-6-29**

**REGARDING: NCR-000679(ZPMC-0646)**

ZPMC acknowledged this problem and has written an internal NCR. The area where unidentified material was tacked welded have been ground out and fixed. ZPMC is providing the WRR and NDT record what shows the repair procedure and the acceptance of this area after repair. Based on this, please consider closure of this NCR.

**ATTACHMENT:**

NCR-000679(ZPMC-0646)

B-WR13849

B787-MT-24521

*Jay W*  
*6/29/10*



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: 11-Feb-2010

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-0646

Job Name: SAS Superstructure  
Document No: 05.03.06-000636

Reference Description: ZPMC performed a non-approved tack welding of scaffolding to the OBG Segment 7DW Side Panel

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- Non-Conformance Resolved.

Material Location: OBG

Lift: 07

### Remarks:

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RECEIVED

FEB 12 2010

AMERICAN BRIDGE/

### 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.

Transmitted by: Bill Howe Sr. Transportation Engineer

Attachments: ZPMC-0646,

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

File: 05.03.06

05.03.06-000636,NCT

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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-000679

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 10-Feb-2010

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

NCR #: ZPMC-0646

**Type of problem:**

- Welding  Concrete  Other
- Welding  Curing  Procedural
- Joint fit-up  Coating  Other
- Procedural  Procedural  Description:

Bridge No: 34-0006

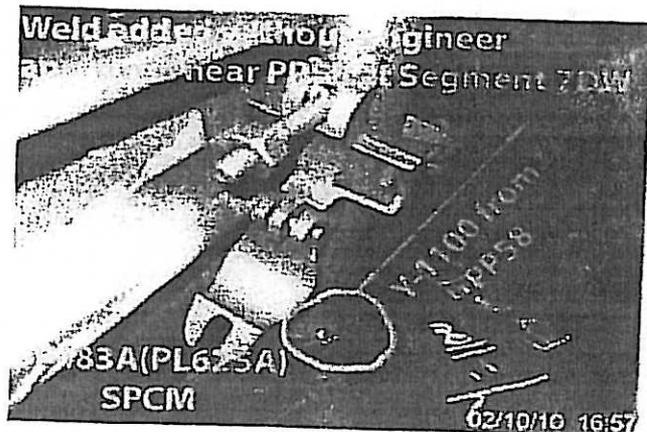
Component: OBG Segment 7DW Side Panel

Reference Description: ZPMC performed a non-approved tack welding of scaffolding to the OBG Segment 7DW Side Panel

**Description of Non-Conformance:**

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# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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**Name of individual from Contractor notified:** Peter Shaw

**Time and method of notification:** 1700 hours, 02/10/10, Verbal

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

**Time and method of notification:** 10:30 hours, 02/11/10, Verbal

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

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

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

N/A

**Comments:**

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**Inspected By:** Tsang, Eric

SMR

**Reviewed By:** Wahbeh, Mazen

SMR



# 焊缝返修报告

版本 Rev. No.

## Welding Repair Report

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	SEG039	报告编号 Report No.	B-WR13849
合同号 Contract No.:	04-0120F4	部件名称 Items Name	SP483A	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

**Description of welding discontinuity:**

经检查发现7DW箱梁斜底板SP483A与箱体内脚手架钢管的接触点处有2个点焊, 现要求将不合格点焊去除后, 重新返修。具体位置见下图!

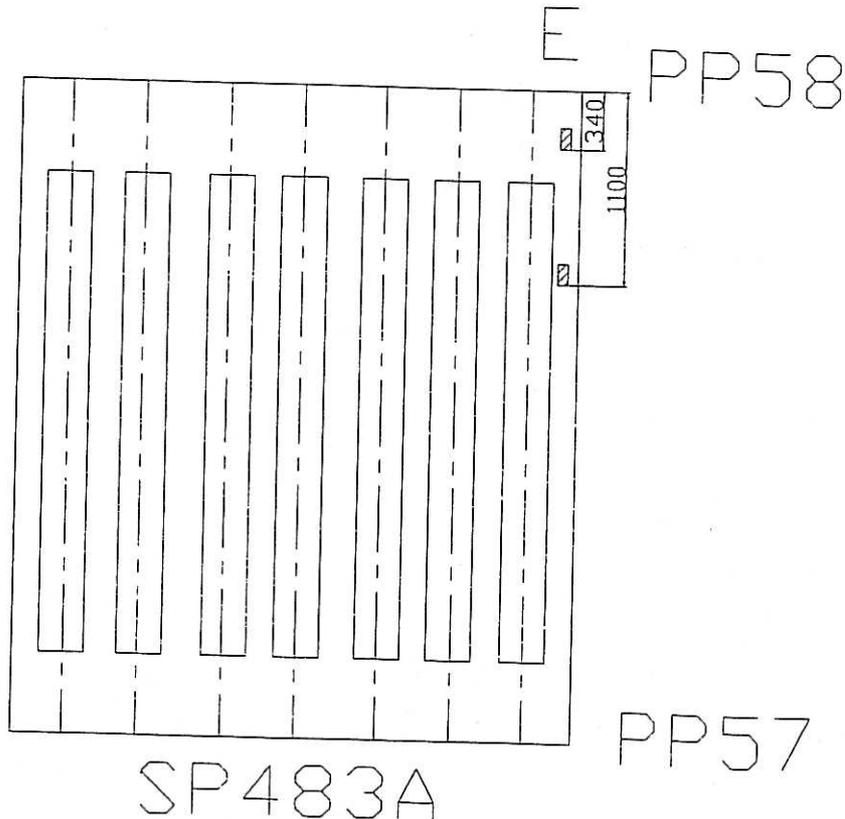
There are two unacceptable tack welds between SP483A and the bracket of scaffold in segment 7DW, which need to be removed and repair again.

Please see the details in the following sketch.

*Li Yan Hua*

检验员 (Inspector): Li Yanhua 日期(Date): 10.06.28

焊缝返修位置示意图:

**Draft of welding discontinuity:**

产生原因:

**Caused:**

工人操作失误。

Worker operated error.

车间负责人(Foreman):

*L. H. Gao*

日期(Date):

6.28

处理意见

**Disposition :**

1. 采用打磨的方法将上述点焊处的未知母材完全去除, 并将要修补的区域打磨光滑;
2. 返修前做100%VT和MT确保没有缺陷存在;
3. 根据返修的焊接返修工艺规程(WPS)进行预热及焊接;
4. 返修后将焊缝打磨至与母材平齐;
5. 根据图纸要求进行相应的NDT检测;

1. Remove the repair area including unknown base metal mentioned above away by the way of grinding, and grind the repair area cleanly;
2. Perform 100%VT and MT to the repair area to make sure no defects exist;
3. Preheat and weld according to the relevant WPS;
4. Grind the welds to flush with the adjacent base metal;
5. Perform relevant NDT inspection to the repair welds according to the working drawings.

工艺: *Hexipoh.*  
Technical engineer

审核:  
Approved by

日期  
Date

6.28

#R787-QCP-900

13849



# 焊缝返修报告

## Welding Repair Report

版本 Rev. No.

0

纠正措施:

**Correction action to prevent re occurrence:**

1. 培训和教育操作工, 提高操作水平。  
Train and educate operator to improve operation.

2. 加强焊接过程中的监控, 减少误差。  
Enhance supervision in process of welding to reduce error.

 车间负责人(Foreman): *Lizhigang* 日期(Date): *6.28*

**返修后检查**  
Inspection After repairing:

外观检查 VT result <i>Ac</i>	检验员 Inspector <i>Litankun</i> <i>07120701</i>	日期 Date <i>10.06.29</i>
NDT复检 NDT result <i>M7 Au</i>	探伤员 NDT person <i>Wangwei</i>	日期 Date <i>10.06.29</i>

见证:  
Witness/Review:

备注:  
Remark:



**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

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(707) 649-5453  
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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-000715**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 07-Jul-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0646**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:** 10-Feb-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) random visual inspection after grit blast inside Orthotropic Box Girder (OBG) segment 7DW, this Quality Assurance Inspector (QA) discovered the following issues:

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-The location of the temporary tack welds are 340mm and 1100mm from PP058.

-The material composition of the scaffolding being welded to the side panel is not known.

-OBG Segment 7DW is located inside the Blast Shop.

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

Remove temporary tack welds, grind and repair base metal, and perform NDT required to verify weld quality.

**Corrective action taken:**

Contractor submitted post repair NDT documentation verifying base metal has been repaired and repair welds meet Contract weld quality requirements.

**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 )

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**Inspected By:** Simonis,Jim

Quality Assurance Inspector

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**Reviewed By:** Wahbeh,Mazen

QA Reviewer