

**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-000685

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

**Date:** 22-Feb-2010

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

**NCR #:** ZPMC-0652

### 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 8AE Deck Panel
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b>	

**Reference Description:** The welder was not using his qualified weld process/position while performing base metal repairs on Segment 8AE Deck Panel

### Description of Non-Conformance:

During Quality Assurance (QA) random in-process observations of the fabrication of segment 8AE, this QA Inspector discovered the following issue:

- Welder was not qualified to perform base metal repairs in this process/position.
- Repairs being performed using the Shielded Metal Arc Welding (SMAW) process.
- The welder is qualified for Flux Cored Arc Welding (FCAW) only.
- The welder is identified as Mr. Wang Zhao Cong (068445).
- The base metal repairs were being performed at temporary attachment removal sites on the deck panel near the bike path side.
- The plate identifications under repair are identified as:
- DP667A, Plate number-PL1376A and DP470A, Plate number-PL436C.
- During the repair, Quality Control (QC) Inspector could not provide a weld repair report (WRR) for the repairs.
- OBG Segment 8AE is currently located outside the north end of bay 19.



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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 5.24.1.2: "A welder, welding operator, or tack welder shall be qualified for each process used."

**Who discovered the problem:** Subhasis Bera

**Name of individual from Contractor notified:** Wang Heng

**Time and method of notification:** 1000 hours, 02-22-10, Verbal

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

**Time and method of notification:** 1430 hours, 02-22-10, Verbal

**QC Inspector's Name:** Liu Hua Jie

**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:** 25-Feb-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:** 05.03.06-000642

**Subject:** NCR No. ZPMC-0652

**Reference Description:** The welder was not using his qualified weld process/position while performing base metal repairs on Segment 8AE Deck 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:** 08

**Remarks:**

- During Quality Assurance (QA) random in-process observations of the fabrication of segment 8AE, this QA Inspector discovered the following issue:
- Welder was not qualified to perform base metal repairs in this process/position.
  - Repairs being performed using the Shielded Metal Arc Welding (SMAW) process.
  - The welder is qualified for Flux Cored Arc Welding (FCAW) only.
  - The welder is identified as Mr. Wang Zhao Cong (068445).
  - The base metal repairs were being performed at temporary attachment removal sites on the deck panel near the bike path side.
  - The plate identifications under repair are identified as:
  - DP667A, Plate number-PL1376A and DP470A, Plate number-PL436C.
  - During the repair, Quality Control (QC) Inspector could not provide a weld repair report (WRR) for the repairs.
  - OBG Segment 8AE is currently located outside the north end of bay 19.

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

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. Provide NDT report indicating acceptability of the repair. A response for the resolution of this issue is expected within days.

**Transmitted by:** Bill Howe Sr. Transportation Engineer  
**Attachments:** ZPMC-0652

**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:** 05.03.06-000642

**Subject:** NCR No. ZPMC-0652

**Dated:** 09-Jun-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000679 Rev: 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC has written an internal NCR and removed the welds in question. ZPMC is providing the NDT to show that the welds are acceptable, based on this ZPMC requests closure of this NCR.

ZPMC has written an internal NCR and removed the welds in question. ZPMC is providing the NDT to show that the welds are acceptable, based on this ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000679R00;

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### Caltrans' comments:

**Status:** CLO

**Date:** 13-Jun-2010

This proposed resolution is acceptable. The documentation received is sufficient and the Department concurs that Non-Conformance ZPMC-0652 is closed.

**Submitted by:** Eagen, Sean

**Attachment(s):**

**Date:** 13-Jun-2010



No. B-781

## LETTER OF RESPONSE

**TO: American Bridge/Flour**

**DATE: 2010-6-7**

**REGARDING: NCR-000685(ZPMC-0652)**

ZPMC acknowledged this problem and has written an internal NCR. The unsatisfied welds have been removed and were repaired after. ZPMC is providing the WRR and NDT record for Engineer to review and is expecting the closure of this NCR.

**ATTACHMENT:**

NCR-000685(ZPMC-0652)

B-WR11503

B787-MT-23790

*Jay W*  
6/7/10



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: 25-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-0652

Job Name: SAS Superstructure  
Document No: 05.03.06-000642

Reference Description: The welder was not using his qualified weld process/position while performing base metal repairs on Segment 8AE Deck Par. 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.
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- Recurring QC issue that constitutes a systematic problem in quality control.
- Non-Conformance Resolved.

Material Location: OBG

Lift: 08

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Transmitted by: Bill Howe Sr. Transportation Engineer

Attachments: ZPMC-0652

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

02.02:15.04  
12 05.03.06-000642,NCT

Received  
NCT-000642 25 Feb 10 Page 1 of 1

**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF ENGINEERING SERVICES**  
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### QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, P.R. China

Report No: NCR-000685

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 22-Feb-2010

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

NCR #: ZPMC-0652

**Type of problem:**

Welding  Concrete  Other

Welding  Curing  Procedural

Bridge No: 34-0006

Joint fit-up  Coating  Other

Component: Segment 8AE Deck Panel

Procedural  Procedural  Description:

**Reference Description:** The welder was not using his qualified weld process/position while performing base metal repairs on Segment 8AE Deck Panel

**Description of Non-Conformance:**

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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AWS D1.5/2002, Section 5.24.1.2: "A welder, welding operator, or tack welder shall be qualified for each process used."

**Who discovered the problem:** Subhasis Bera

**Name of individual from Contractor notified:** Wang Heng

**Time and method of notification:** 1000 hours, 02-22-10, Verbal

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

**Time and method of notification:** 1430 hours, 02-22-10, Verbal

**QC Inspector's Name:** Liu Hua Jie

**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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**Inspected By:** Tsang, Eric

SMR

**Reviewed By:** Wahbeh, Mazen

SMR

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# 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	SEG044	报告编号 Report No.	B-WR11503
合同号 Contract No.:	04-0120F4	部件名称 Items Name	DP667A/DP470A	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:**

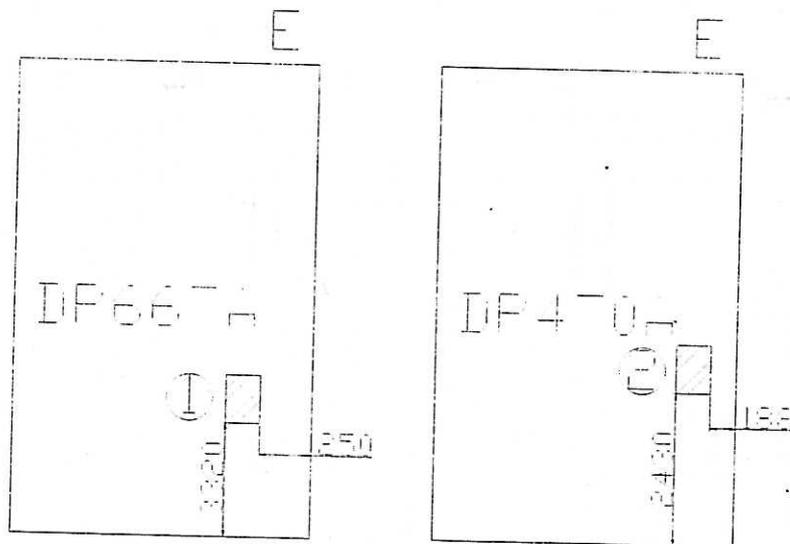
经检查发现8AE箱梁顶板DP667A/DP470A在进行母材返修时, 未按正确返修工艺程序进行, 现要求将不合格焊缝去除后, 重新返修。1. L=24mm 2. L=18mm, 具体位置见下图!

After inspection 8AE box deck plate DP667/DP470A, repair base metal didn't according to technology procedure, and remove unaccepted weld and repair, 1. L=24mm 2. L=18mm, the detail position sees the following draft.

检验员 (Inspector): Li Yanhua 日期(Date): 10.03.14

焊缝返修位置示意图:

Draft of welding discontinuity:



产生原因:

**Caused:**

工人操作失误, 导致母材损伤。

Worker operated error caused base metal gouged.

车间负责人(Foreman): *Li Zhigang* 日期(Date): *10.03.15*

处理意见

**Disposition :**

1. QC和CWI在整个修补过程中都应在场并指导以确保返修按照处理意见以及AWS D1.5要求进行;
2. 按照焊接返修工艺规程(WPS)打磨缺陷区域至光滑;
3. 准备一个正确的接头形式, 具体参见返修的WPS;
4. 在NDT检测前口头通知QA。对返修区域作100%MT和100%VT检查;
5. 如果仍发现有缺陷, 通过打磨的方法去除所有缺陷以确认缺陷完全被清除, 并重复第四步以确认缺陷完全被清除;
6. 将杂物以及MT检测遗留的残留物清理干净;
7. 根据批准的焊接返修工艺规程(WPS)进行预热及焊接;
8. 将焊接区域打磨至与母材平齐;
9. 在NDT检测前口头通知QA。对返修区域作100%MT和100%VT检查。

1. QC and CWI should be present to witness the repair, direct and supervise all repair operations during this repair to ensure the repair is per the disposition requirements, and the AWS D1.5 code requirements.
2. Grind the repair area to a smooth finish according to the approved repair WPS.
3. Prepare the joint according to the approved WPS.
4. Notify QA verbally prior to NDT. Perform 100%MT and 100%VT of the repair area.
5. Remove all defects by grinding to ensure all defects are completely removed if defects still exist, and repeat "step 4" to assure complete removal of all defects if necessary.
6. Clean the repair area of all loose debris including MT powder.
7. Preheat and weld according to the approved WPS.
8. Grind the weld flush after welding.
9. Notify QA verbally prior NDT. Perform 100%MT and 100%VT of the repair area.

工艺: *He Xiaolin*  
Technical engineer

审核:  
Approved by

日期 *10.03.15*  
Date



# 焊缝返修报告

## Welding Repair Report

版本 Rev. No.

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	SEG044	报告编号 Report No.	B-WR11503
合同号 Contract No.:	04-0120F4	部件名称 Items Name	DP667A	NDT报告编号 Report No.of NDT	
项目编号 Project No.:	ZP06-787				

纠正措施:

**Correction action to prevent re occurrence:**

培训和教育操作工, 提高操作水平。

**Train and educate operator to improve operation skill.**
 车间负责人(Foreman): *Li Zhigan* 日期(Date): *10.03.15*

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-1 G(1F)-Repair	工艺员 technologist	<i>He Xiao Lin</i> <i>10.03.15</i>
返修(碳刨)前预热温度 Preheat temperature before gouging	<i>NA</i>	返修的缺陷 Description of discontinuity	<i>z-p</i>
焊前处理检查 Inspection before welding	<i>Acc</i>	焊前预热温度 Preheat temperature before welding	<i>98°C</i>
最大碳刨深度 Max. depth of gouging	<i>5mm</i>	碳刨总长 Total length of gouging	<i>121mm</i>
焊工 welder <i>067610</i>	焊接类型 welding type <i>Smaw</i>	焊接位置 position	<i>2G</i>
焊接电流 Current <i>168</i>	焊接电压 Voltage <i>24-7</i>	焊接速度 Speed	<i>152</i>
<b>返修后检查</b> Inspection After repairing:			
外观检查 VT result <i>Acc</i>	检验员 Inspector <i>Liyanhua</i> <i>07120701</i>	日期 Date	<i>2010.06.06</i>
NDT复检 NDT result <i>Acc</i>	探伤员 NDT person <i>Sungomy cheng</i>	日期 Date	<i>2010.06.06</i>
见证: Witness/Review:			
备注: Remark:			

#R787-QCP-900



**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

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Bay Area Branch  
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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-000681**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 13-Jul-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0652**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:** 22-Feb-2010**Description of Non-Conformance:**

During Quality Assurance (QA) random in-process observations of the fabrication of segment 8AE, this QA Inspector discovered the following issue:

- Welder was not qualified to perform base metal repairs in this process/position.
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- During the repair, Quality Control (QC) Inspector could not provide a weld repair report (WRR) for the repairs.
- OBG Segment 8AE is currently located outside the north end of bay 19.

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

Remove said weld and have qualified personnel replace it.

**Corrective action taken:**

Weld was removed and replaced by welder qualified for the applicable position and process. The Contractor issued an internal NCR regarding this matter and supplied NDT documentation verifying the weld meets 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?**

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## QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

( Continued Page 2 of 2 )

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**Yes    No**

**Comments:**

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<b>Inspected By:</b>	Simonis,Jim	Quality Assurance Inspector
<b>Reviewed By:</b>	Wahbeh,Mazen	QA Reviewer

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