

**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-000598**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 05-Jan-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0571**Type of problem:**

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b>

**Bridge No:** 34-0006**Component:** Cross beam CB12 Side Panel

**Reference Description:** ZPMC performed base metal repairs on Cross Beam 12 Side Panel without the Engineer's approval

**Description of Non-Conformance:**

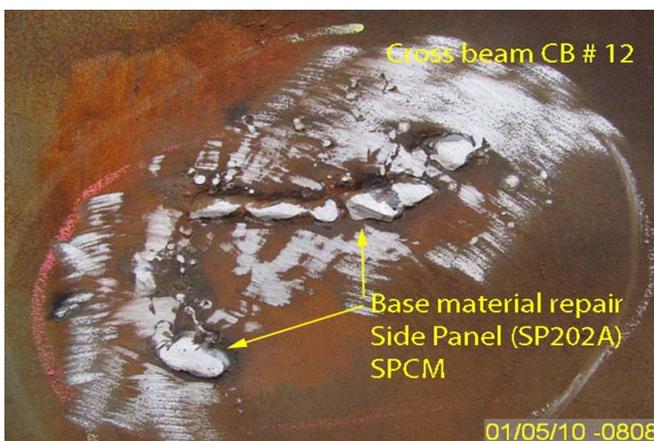
During the Quality Assurance (QA) random in-process visual inspection of OBG Crossbeam CB12, this QA inspector discovered the following issue:

-Base metal repairs being performed in way of Mechanical damage areas on the Side Panel without prior approval of the engineer.

-The Side panel identifications under repair is identified as Side Panel (SP202A).

-The material is A709 Grade 345 Seismic Performance Critical Member (SPCM).

OBG Cross beam CB12 is located in the open yard west side of Bay 19.

**Applicable reference:**

Caltrans Special Provision Section 8-3.01: "The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also of the proposed repair procedures to correct them. For requests to perform repairs, The contractor shall include an engineering evaluation of the proposed repair."

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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ZPMC Welding Quality Control Plan, Section 9.2.1.2: “Prior approval of the Engineer shall be obtained for repairs to base metal other than what was identified in Section 9.2.1.1 of this manual and the repair of all other cracks.”

AWS D1.5/2002, Section 3.7.4: “Prior approval of the Engineer shall be obtained for repairs to base metal.”

**Who discovered the problem:** Dhanasingh Sukathan

**Name of individual from Contractor notified:** Cao Haizhou

**Time and method of notification:** 0815 hour, 01-05-10, Verbal

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

**Time and method of notification:** 1515 hours, 01-05-10, 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>	Carreon,Albert	Lead Reviewer/Task Leader
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<b>Reviewed By:</b>	Wahbeh,Mazen	SMR
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## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000562

**Subject:** NCR No. ZPMC-0571

**Dated:** 15-Mar-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000616 Rev: 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** Attached is the weld repair report used and the NDT which shows that the base metal is acceptable. Based on this ZPMC requests closure of this NCR.

ZPMC has instructed its onsite personnel on the importance of having the Engineer's approval for base metal repairs. Attached is the weld repair report used and the NDT which shows that the base metal is acceptable. Based on this ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000616R00;

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### 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-667

## LETTER OF RESPONSE

**TO:** American Bridge/Flour

**DATE:** 2010-3-15

**REGARDING:** NCR-000598(ZPMC-0571)

The damaged base metal where temporary attachments were removed at CB12 side plate SP202 has been repaired. ZPMC is providing the CWR and NDT records to show that the repaired areas are acceptable. ZPMC QA has instructed the requirement of WRRs/CWRs to be prepared on site during the base metal repair to ZPMC QC/CWI personnel. Based on this ZPMC requests closure of this NCR.

**ATTACHMENT:**

NCR-000598(ZPMC-0571)

B-CWR1041

B787-MT-20681

*[Handwritten signature]*  
3/15/10



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:** 06-Jan-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:** 05.03.06-000562

**Subject:** NCR No. ZPMC-0571

**Reference Description:** ZPMC performed base metal repairs on Cross Beam 12 Side Panel without the Engineer's approval

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:** Xbeam

**Lift:** 09

### Remarks:

During the Quality Assurance (QA) random in-process visual inspection of OBG Crossbeam CB12, this QA inspector discovered the following issue:

- Base metal repairs being performed in way of Mechanical damage areas on the Side Panel without prior approval of the engineer.
- The Side panel identifications under repair is identified as Side Panel (SP202A).
- The material is A709 Grade 345 Seismic Performance Critical Member (SPCM).

OBG Cross beam CB12 is located in the open yard west side of Bay 19.

### Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. Do not perform base metal repairs with out notifying the engineer prior to starting the work. A response for the resolution of this issue is expected within 7 days.

**Transmitted by:** Bill Howe Sr. Transportation Engineer

**Attachments:** ZPMC-0571

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

**File:** 05.03.06

**DEPARTMENT OF TRANSPORTATION**  
 DIVISION OF ENGINEERING SERVICES  
 Office of Structural Materials  
 Quality Assurance and Source Inspection



Contract #: 04-0120F4

Bay Area Branch  
 690 Walnut Ave. St. 150  
 Vallejo, CA 94592-1133  
 (707) 649-5453  
 (707) 649-5493

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-000598

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 05-Jan-2010

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

NCR #: ZPMC-0571

### Type of problem:

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

Bridge No: 34-0006

Component: Cross beam CB12 Side Panel

Reference Description: ZPMC performed base metal repairs on Cross Beam 12 Side Panel without the Engineer's approval

### Description of Non-Conformance:

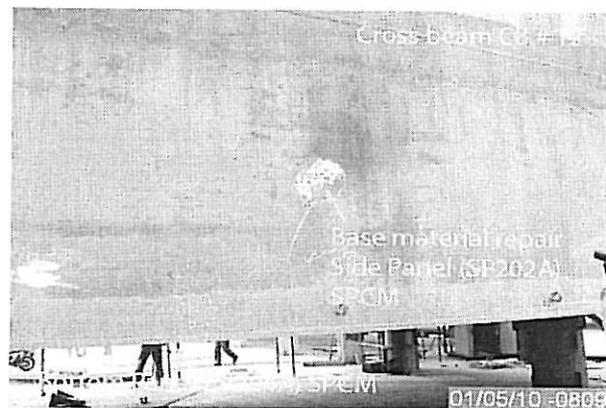
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### Applicable reference:

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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( Continued Page 2 of 2 )

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ZPMC Welding Quality Control Plan, Section 9.2.1.2: "Prior approval of the Engineer shall be obtained for repairs to base metal other than what was identified in Section 9.2.1.1 of this manual and the repair of all other cracks."

AWS D1.5/2002, Section 3.7.4: "Prior approval of the Engineer shall be obtained for repairs to base metal."

**Who discovered the problem:** Dhanasingh Sukathan

**Name of individual from Contractor notified:** Cao Haizhou

**Time and method of notification:** 0815 hour, 01-05-10, Verbal

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

**Time and method of notification:** 1515 hours, 01-05-10, 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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**Inspected By:** Carreon, Albert

Lead Reviewer/Task Leader

**Reviewed By:** Wahbeh, Mazen

SMR

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# 关键焊缝返修报告

版本  
Rev. No.:

## Critical Welding Repair Report (CWR)

0

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	CB12-SP202A	报告编号 Report No.:	B-CWR1041
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	标准横梁 Standard Beam	NDT 报告编号 NDT Report No.:	NA
项目编号 Project No.:	ZP06-787				

### 焊缝缺陷描述:

#### Description of Welding Discontinuity:

对李政界施工队制作的CB12标准横梁东侧腹板SP202A (SPCM) 上马脚割除后损伤母材, 深度3mm, 具体位置见下图:

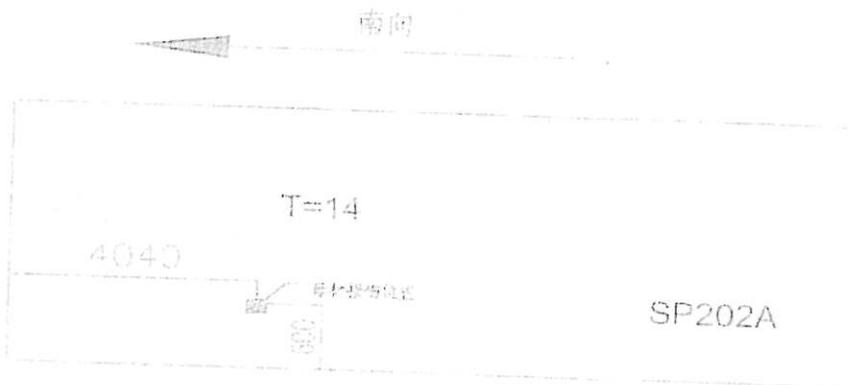
CB12 fabricated by work team: Liu Zhenjie, the base metal was gouged at east edge plate SP202A (SPCM), 3mm in depth, the detail sees the following draft.

检验员 (Inspector): GUO YANFEI

日期 (Date): 2010-01-05

### 焊缝返修位置示意图:

#### Draft of Welding Discontinuity:



This document is APPROVED  
 State of California  
 DEPARTMENT OF TRANSPORTATION  
 Pursuant to Section 5-1.02 of the  
 Standard Specifications  
 Date: 1/11/10

产生原因:

Cause:

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):

Hu Yusheng

日期 (Date):

10.15

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 the 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:

Technical Engineer:

Xu Dong

审核:

Approved By:

C. [Signature]

日期:

Date:

10.16

This document is APPROVED  
 State of California  
 DEPARTMENT OF TRANSPORTATION  
 Pursuant to Section 5-1.02 of the  
 Standard Specifications  
 Initial: [Signature] Date: 10/16



# 关键焊缝返修报告

版本  
Rev. No.

## Critical Welding Repair Report (CWR)

0

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	CB12-SP202A	报告编号 Report No.:	B-CWR1041
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	标准横梁 Standard Beam	NDT 报告编号 NDT Report No.:	NA
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective 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

wps-345-SMAW-3G(L3F)-FLM-Repair

Sun Bo 2010.3.7

车间负责人 (Foreman):

Lin Jinsong

日期 (Date):

2010.3.5

返修的WPS编号 Repair WPS No.:	WPS-345-SMAW-1G(1F)-FCM -Repair	工艺员 Technologist:	Xu Donghan
返修 (原因): 前预热温度 Preheat Temperature Before Gauging:	NA	返修的缺陷 Description of Discontinuity:	Damage to Base Material
焊前检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	172
最大刨削深度 Max. Depth of Gouge:	4mm	刨削总长 Total Length of Gouge:	Down
焊工 Welder:	066179	焊接类型 Welding Type:	SMAW
焊接电流 Current:	104	焊接位置 Position:	3G
		焊接速度 Speed:	95

返修后检查

Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	Guo Yanfei	日期 Date:	2010.03.07
NDT复检 NDT Result:	Acc	探伤员 NDT Person:	Jim Jianbing	日期 Date:	2010.03.08

见证:  
Witness/Review:

备注:  
Remark:





**DEPARTMENT OF TRANSPORTATION**

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(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-000552**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 18-Mar-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0571**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:** 05-Jan-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) random in-process visual inspection of OBG Crossbeam CB12, this QA inspector discovered the following issue:

-Base metal repairs being performed in way of Mechanical damage areas on the Side Panel without prior approval of the engineer.

-The Side panel identifications under repair is identified as Side Panel (SP202A).

-The material is A709 Grade 345 Seismic Performance Critical Member (SPCM).

OBG Cross beam CB12 is located in the open yard west side of Bay 19.

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

Perform NDT required to verify weld quality and reiterate the importance of obtaining Engineer's approval prior to performing base metal repairs on SPCM members.

**Corrective action taken:**

Contractor submitted WRR used to perform repairs along with subsequent NDT documentation verifying the welds are in conformance with Contract 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:**

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 152. 1675.3703, who represents the Office of Structural Materials for your project.

**Inspected By:** Simonis, Jim

Quality Assurance Inspector

**Reviewed By:** Wahbeh, Mazen

QA Reviewer