

**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-000237**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 28-Mar-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0211**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 3AW: CB202D-001-001
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b> Quality Control UT Inspection	

**Reference Description:** A Class "A" indication was not found by QC UT Technician**Description of Non-Conformance:**

During an Ultrasonic Testing (UT) on weld joint CB202D-001-001, Caltrans Quality Assurance (QA) Inspector discovered class "A" non conforming indications measuring approximately 20mm in length. This weld was previously tested and accepted by ZPMC Quality Control (QC) UT Technicians.

**Applicable reference:**

AWS D1.5 (2002) - Section 6, Table 6.3

**Who discovered the problem:** Hiranch Patel**Name of individual from Contractor notified:** Lou Weng**Time and method of notification:** 03/28/2009, 1030 hours, Verbal**Name of Caltrans Engineer notified:** Stanley Ku**Time and method of notification:** 03/29/2009, 1300 hours, Verbal**QC Inspector's Name:** Haung Wen Pang**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, +(86) 1500.042.2372, who represents the Office of Structural Materials for your project.

**Inspected By:** Tsang, Eric

SMR

**Reviewed By:** Wahbeh, Mazen

SMR



**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge**  
666 Feng Bin Road Room 708, Changxing Island  
Shanghai 201913 PR China  
Tel: 021-56856666 ext 207061 Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

**To:** AMERICAN BRIDGE/FLUOR, A JV  
375 BURMA ROAD  
OAKLAND CA 95607

**Date:** 06-Apr-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 Manager - OBG

**Document No:** 05.03.06-000204

**Subject:** NCR No. ZPMC-0211

**Reference Description:** A Class "A" indication was not found by QC UT Technician

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:**

### Remarks:

During an Ultrasonic Testing (UT) on weld joint CB202D-001-001, Caltrans Quality Assurance (QA) Inspector discovered class "A" non conforming indications measuring approximately 20mm in length. This weld was previously tested and accepted by ZPMC Quality Control (QC) UT Technicians.

### Action Required and/or Action Taken:

A response for the resolution of this issue is expected within 14 days.

**Transmitted by:** Stanley Ku Sr. Bridge Engineer

**Attachments:** ZPMC-0211

**cc:** Rick Morrow, Gary Pursell, Brian Boal, Jason Tom, 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:** 05.03.06-000204

**Subject:** NCR No. ZPMC-0211

**Dated:** 18-May-2009

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000208 Rev: 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC has generated an internal NCR for this nonconformance, repaired and re-inspected the welds as required. ZPMC requests this NCR be closed.

ZPMC has generated an internal NCR for this nonconformance, repaired and re-inspected the welds as required. Attached is documentation of work performed regarding this NCR. ZPMC requests this NCR be closed.

### Submitted by:

**Attachment(s):** ABF-NPR-000208R00;

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### Caltrans' comments:

**Status:** CLO

**Date:** 25-May-2009

The proposed resolution is acceptable. An internal ZPMC NCR was written, and the welding repair report for the repair is included. Also, the welds in question have been re-inspected and accepted by UT as shown in the attached documents. The Department concurs that Non-Conformance ZPMC-0211 is closed.

**Submitted by:** Wright, Doug

**Date:** 25-May-2009

**Attachment(s):**



No. B-341

## LETTER OF RESPONSE

**TO: American Bridge/Flour JV**

**DATE: 2009-5-7**

**REGARDING: NCR-000242/000237/000238 (ZPMC-0216/0211/0212)**

With this letter of response, ZPMC requests closure for caltrans' NCR-000242/000237/000238 (ZPMC-0216/0211/0212) . we have instructed our NDT operators with the requirement of AWS, especially for the checks and calibration of equipment, and as the additional we add up the some weld NDT inspection to 100 percent, but we have to point out that some of the indication in the NCR description did not in the random of the ZPMC's inspection areas.

We have done the new inspection for all of the indication areas until not any defects was been founded.

Basic on the attached documentation we apply to close the caltrans's NCR-000242/000237/000238 (ZPMC-0216/0211/0212) ,all of the final NDT report should be proved the good quality for the corresponding welds.

Please check the attached documentation for acceptance and close the NCR-000242/000237/000238 (ZPMC-0216/0211/0212) .

**ATTACHMENT:**

**ZPMC internal NCR**

**NCR-000242/000237/000238 (ZPMC-0216/0211/0212)**

**The final complete VT/MT/UT inspection report**

**The reports for the weld repair**

*Lujianhua 5/15/09*



# 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: ZPMC-0211  
 NCR 编号: NCR-B-137 (NCR-000237)

Item: A Class "A" indication was not found by QC UT Technician  
 名称描述: UT 漏检

Item Number: CB5  
 件号: CB5

Drawing Number: CB202D  
 图号: CB202D

Location: OBG CB5  
 位置: OBG CB5

Date: 2009-4-15  
 日期: 2009-4-15

**Description of Nonconformance:**  
 不符合项状态描述:

During an UT on weld joint CB202D-001-001, Caltrans QA inspector discovered class "A" non conforming indications measuring approximately 20mm in length . This weld was previously tested and accepted by ZPMC QC UT Technicians.

焊缝 CB202D-001-001 已经由 ZPMC 的 UT 检验员检验合格, 但是加州检验员在对此焊缝做 UT 复探的时候发现一个 20mm 长的 "A 类" 缺陷。

Work By: L. Liming Prepared by: S. Khanjari Reviewed by QCE: [Signature] 4.15.  
 施工方: 2009.04.15 准备: 2009.4.15 质量工程师批准:

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: 复检, 返修. Inspection again then repair.

Prepared by: L. Liming Approved by QCA: \_\_\_\_\_  
 准备: 2009.04.15 质量经理批准

**Reason for Nonconformance:**  
 不符合原因: 因超声波 dB 数差异, 导致 "A" 类缺陷漏检.

For the discrepancy in dB caused class A defect.

**Prevention of Re-occurrence:**  
 预防措施: 加强现场控制, 减少 dB 误差.

Enhance controlling on-site to reduce dB error.

Approved by/批准: L. Liming 2009.04.15

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

Reviewed /批准: \_\_\_\_\_

Verification:  Acceptable     Unacceptable  
 确认:                      可接受                      不可接受

Verified by QCI/质检确认: \_\_\_\_\_ Reviewed by QCA/质检主任审核: [Signature]



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## NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FLUOR, A JV  
375 BURMA ROAD  
OAKLAND CA 95607

Date: 06-Apr-2009

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

Dear: Mr. Charles Kanapicki  
Attention: Mr. Thomas Nilsson Project Manager - OBG  
Subject: NCR No. ZPMC-0211

Job Name: SAS Superstructure  
Document No: 05.03.06-000204

Reference Description: A Class "A" indication was not found by QC UT Technician

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- Non-Conformance Resolved.

Material Location: OBG

Lift:

### Remarks:

During an Ultrasonic Testing (UT) on weld joint CB202D-001-001, Caltrans Quality Assurance (QA) Inspector discovered class "A" non conforming indications measuring approximately 20mm in length. This weld was previously tested and accepted by ZPMC Quality Control (QC) UT Technicians.

### Action Required and/or Action Taken:

A response for the resolution of this issue is expected within 14 days.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0211

cc: Rick Morrow, Gary Pursell, Brian Boal, Jason Tom, Ching Chao

File: 05.03.06

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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-000237**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 28-Mar-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0211**Type of problem:**Welding  Concrete  Other Welding  Curing  Procedural  Bridge No: 34-0006Joint fit-up  Coating  Other  Component: OBG Segment 3AW: CB202D-001-001Procedural  Procedural  Description: Quality Control UT Inspection**Reference Description:** A Class "A" indication was not found by QC UT Technician**Description of Non-Conformance:**

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**Who discovered the problem:** Hiranch Patel**Name of individual from Contractor notified:** Lou Weng**Time and method of notification:** 03/28/2009, 1030 hours, Verbal**Name of Caltrans Engineer notified:** Stanley Ku**Time and method of notification:** 03/29/2009, 1300 hours, Verbal**QC Inspector's Name:** Haung Wen Pang**Was QC Inspector aware of the problem:**  Yes  No**Contractor's proposal to correct the problem:****Comments:**

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<b>Inspected By:</b>	Tsang, Eric	SMR
<b>Reviewed By:</b>	Wahbeh, Mazen	SMR





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		<b>焊缝返修报告</b> <b>Welding Repair Report</b>			版本 Rev. No.
					0
项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	CB202D	报告编号 Report No.	B-WR3212
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG CROSS BEAM	NDT报告编号 Report No. of NDT	B787-UT-5439
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of welding discontinuity:

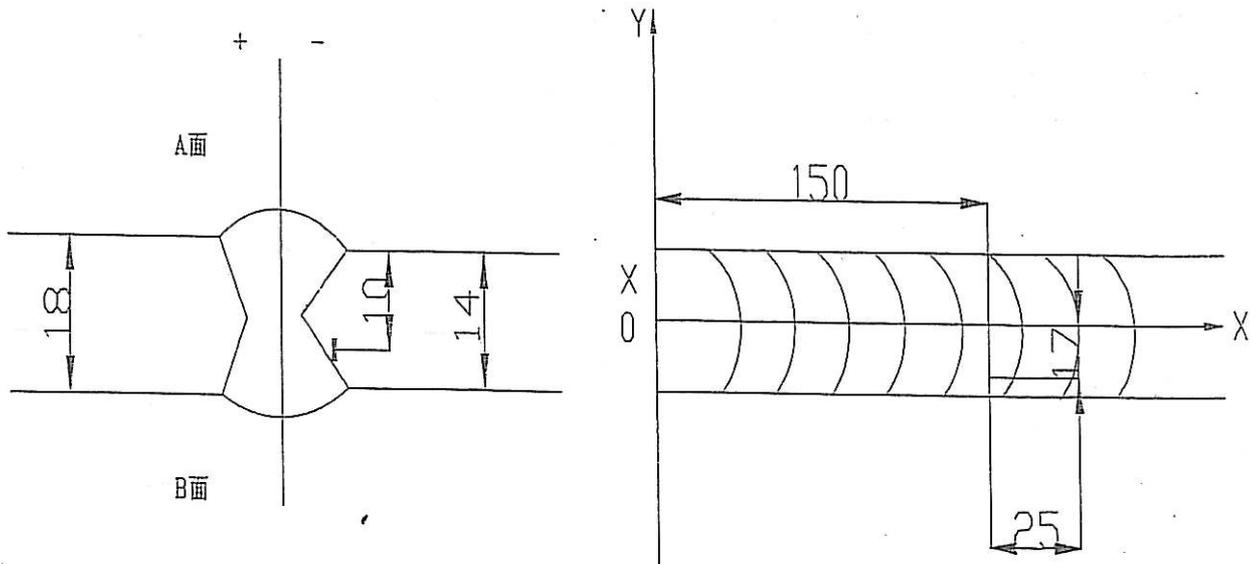
Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

(UT探伤发现的缺陷总长度小于最大允许长度。) CB202D-001-001

检验员 (Inspector): Sun Yin 日期(Date): 09.03.23

焊缝返修位置示意图:

Draft of welding discontinuity:



WELD NUMBER: CB202D-001-001

产生原因:

Caused:

1、焊道未及时处理干净。

1. Did not clear the weld pass completely in time.

车间负责人(Foreman): *Hu Yuzhang* 期(Date): *09.03.24*

处理意见

Disposition :

1. 从缺陷距离端面较近一侧 ( $D \leq 0.65T$ , D为缺陷深度, T为板厚) 采用碳刨或打磨的方法去除焊缝缺陷;
2. 参照返修焊接工艺规程 (WPS) 准备正确的接头型式, 预热和焊接;
3. 焊前对修补区域进行VT检测保证缺陷完全被清除;
4. 将修补区域打磨到与母材或邻近焊缝平齐;
5. 根据批准的车间图纸检查焊缝.

1. Gouge or grind from nearer side from metal edge ( $D \leq 0.65T$ , "D" is depth of defects, "T" is thickness of metal) to remove all defects;
2. Follow repair WPS for joint preparation, preheat, and weld deposit;
3. Verify with VT no defects remain in the weld joint prior to welding;
4. Grind the repaired area flush with base metal or the adjacent weld;
5. Check the welds according to the working drawings.

工艺:  
Technical engineer

*Nia Tiefeng*

审核:  
Approved by

*Lv Tian*

日期  
Date

*09.03.25*



# 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.	CB202D	报告编号 Report No.	B-WR3212
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG CROSS BEAM	NDT报告编号 Report No. of NDT	B787-UT-5439
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

1. 加强焊接监控和道间清理。

1. Improve monitoring of welding and interpass cleaning.

 车间负责人(Foreman): *Hu Yuzhou* 日期(Date): *09.03.24*

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-1 G(1F)-FCM-Repair WPS-345-FCAW-1 G(1F)-FCM-Repair	工艺员 technologist	<i>Niu Tiefeng</i> <i>09.03.25</i>
返修(碳刨)前预热温度 Preheat temperature before gouging	<i>76°C</i>	返修的缺陷 Description of discontinuity	<i>Slag</i>
焊前处理检查 Inspection before welding	<i>Acc</i>	焊前预热温度 Preheat temperature before welding	<i>100°C</i>
最大碳刨深度 Max. depth of gouging	<i>5mm</i>	碳刨总长 Total length of gouging	<i>100mm</i>
焊工 welder	<i>Yao Xuhe</i> <i>057795</i>	焊接类型 welding type	<i>SMAW</i>
焊接电流 Current	<i>130</i>	焊接电压 Voltage	<i>243</i>
		焊接位置 position	<i>1G</i>
		焊接速度 Speed	<i>110mm/min</i>

返修后检查

Inspection After repairing:

外观检查 VT result	<i>Acc</i>	检验员 Inspector	<i>chen xi</i>	日期 Date	<i>2009.03.27.</i>
NDT复检 NDT result	<i>Acc</i>	探伤员 NDT person	<i>Sun Ym</i>	日期 Date	<i>09.03.28</i>

见证:

Witness/Review:

备注:

Remark:

#R787-QCP-900





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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-000233**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 18-Jun-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0211**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:** 28-Mar-2009**Description of Non-Conformance:**

During an Ultrasonic Testing (UT) on weld joint CB202D-001-001, Caltrans Quality Assurance (QA) Inspector discovered class "A" non conforming indications measuring approximately 20mm in length. This weld was previously tested and accepted by ZPMC Quality Control (QC) UT Technicians.

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

ZPMC to conduct training in regards to performing MT and UT inspections in conformance with applicable subsections of Section 6 of AWS D1.5. Additional UT and MT reports to be provided after repair.

**Corrective action taken:**

ZPMC has conducted training with NDT inspectors in regards to Section 6 of AWS D1.5. Subsequent reports were submitted after repair confirming welds are with Contract requirements. After the repair, the areas are now acceptable.

**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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

**Inspected By:** Lowry, Patrick

Quality Assurance Inspector

**Reviewed By:** Wahbeh, Mazen

QA Reviewer