

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

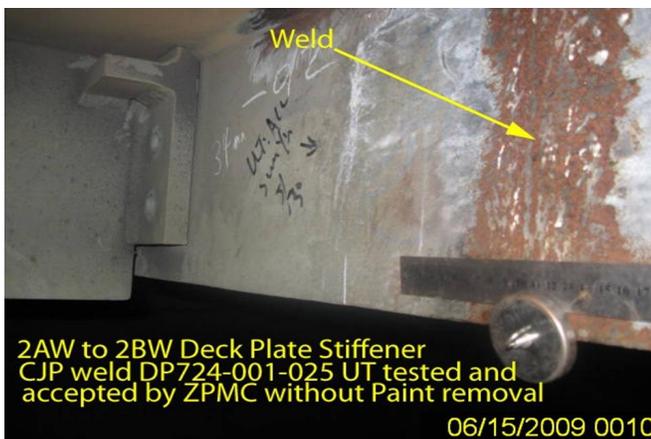
Quality Assurance and Source Inspection



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-000328**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 15-Jun-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0302**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** OBG Segment Splice 2AW/2BW**Procedural****Procedural****Description:****Reference Description:** UT Over Painted Surfaces, 2AW/2BW Deck Panel Stiffener Splices**Description of Non-Conformance:**

During ultrasonic testing (UT) verification of 2AW to 2BW stiffener complete joint penetration (CJP) welds (as requested in NDT Inspection Notification Sheet #003423), Caltrans Quality Assurance (QA) Inspector observed that weld DP724-001-025 and several adjacent welds were UT tested and accepted by ZPMC Quality Control (QC) without the removal of paint from the base metal for the full scanning distance surface area. The thicknesses of the stiffener base metal of the associated weld joints were 30mm and 35mm. These base metal thicknesses require 88mm and 102mm of scanning distance respectively. The paint was observed to only be removed from approximately 50 mm of the base metal surface both sides of weld centerline.

**Applicable reference:**

AWS D1.5 (02) Section 6.19.3 – “All surfaces to which a search unit is applied shall be free of weld spatter, dirt, grease, oil, paint, and loose scale and shall have a contour allowing intimate coupling.”

**Who discovered the problem:** Larry Viars

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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**Name of individual from Contractor notified:** Raymond Mah

**Time and method of notification:** 0130 hours, 06/14/09, Verbal

**Name of Caltrans Engineer notified:** Stanley Ku

**Time and method of notification:** 0800 hours, 06/16/09, Verbal

**QC Inspector's Name:** Wu Zhi Cheng

**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 Skyler Guest, (86) 1500-042-2360, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Guest,Skyler	SMR
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<b>Reviewed By:</b>	Wahbeh,Mazen	SMR
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**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:** 22-Jun-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:** 05.03.06-000292

**Subject:** NCR No. ZPMC-0302

**Reference Description:** UT Over Painted Surfaces, 2AW/2BW Deck Panel Stiffener Splices

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:** 02

### Remarks:

During ultrasonic testing (UT) verification of 2AW to 2BW stiffener complete joint penetration (CJP) welds (as requested in NDT Inspection Notification Sheet #003423), Caltrans Quality Assurance (QA) Inspector observed that weld DP724-001-025 and several adjacent welds were UT tested and accepted by ZPMC Quality Control (QC) without the removal of paint from the base metal for the full scanning distance surface area. The thicknesses of the stiffener base metal of the associated weld joints were 30mm and 35mm. These base metal thicknesses require 88mm and 102mm of scanning distance respectively. The paint was observed to only be removed from approximately 50 mm of the base metal surface both sides of weld centerline.

See attached NCR No. ZPMC-302 for details.

See attached NCR No. ZPMC-302 for details.

### Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences.

**Transmitted by:** Ching Chao

**Attachments:** ZPMC-0302

**cc:** Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, 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:** 05.03.06-000292

**Subject:** NCR No. ZPMC-0302

**Dated:** 07-Aug-2009

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000284 **Rev:** 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC has responded to this NCR and has attached documents as evidence of completion. ZPMC requests closure of this NCR.

ZPMC has responded to this NCR and has attached documents as evidence of completion. ZPMC requests closure of this NCR.

### Submitted by:

**Attachment(s):** ABF-NPR-000284R00;

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### Caltrans' comments:

**Status:** CLO

**Date:** 19-Aug-2009

The proposed resolution is acceptable. There has not been a recurrence of this issue of performing Ultrasonic Testing (UT) over painted surfaces, and the weld in question has been re-inspected by UT as shown in the attached documents. The Department concurs that Non-Conformance ZPMC-0302 is closed.

**Submitted by:** Wright, Doug

**Date:** 19-Aug-2009

**Attachment(s):**



No. B-437

## LETTER OF RESPONSE

**TO: American Bridge/Flour**

**DATE: 2009-8-6**

**REGARDING: NCR-000328(ZPMC-0302)**

With this letter of response, ZPMC requests closure for Caltrans NCR-000328 (ZPMC-0302). We agree what describe in the non-conformance report, and we have instructed sub-constructor who in charge of the grinding job before MT inspection. And also inform the QC guy that should refuse the conduct if find the paint not completed removed in the arrange of the NDT specification.

By the way we have conduct the VT and NDT re-inspection to confirm the good quality of the corresponding weld in the NCR, so base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report NCR-000328(ZPMC-0302).

Please reference attached documentation for acceptance and closure the NCR-000328(ZPMC-0302).

**ATTACHMENT:**

**NCR-000328(ZPMC-0302)**

**The final VT/UT inspection reports**

*Shao Shuang Bao*

*2009. 8. 6*



# 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:  
NCR 编号: NCR-B-203  
(NCR-000 328)

Item: UT Over Painted Surfaces  
名称描述: 有效 UT 扫查距离不够

Item Number:  
件号: N/A

Drawing:  
图号: 2AW/2BW

Location: OBG Trial Assembly Yard  
位置: OBG 总拼外场

Date:  
日期: 2009-06-30

### Description of Nonconformance:

#### 不符合项状态描述:

During Ultrasonic Testing(UT) verification of 2AW to 2BW stiffener complete joint penetration welds(as requested in NDT Inspection Notification Sheet #003423),Caltrans Quality Assurance inspector observed that weld DP724-001-025 and several adjacent welds were UT tested and accepted by ZPMC Quality Control without the removal of paint from the base metal for the full scanning distance surface area, The thickness of the stiffener base metal of the associated weld joints were 30mm and 50mm. These base metal thickness require 88mm and 102mm of scanning distance respectively. The paint were observed to only be removed from approximately 50mm of the base metal surface both sides of weld centerline.

加州检验员在对 DP724-001-025 以及相邻焊缝做 UT, 发现 ZPMCU 接受了这些并未完全去除油漆的焊缝 (实际扫描范围不够)。实际按照筋板厚度 30mm-50mm.按照此厚度做 UT 需要 88mm-102mm 的扫查距离。实际从焊缝中间算起两边各去除了 50mm 的油漆。

Work By: [Signature] Prepared by: [Signature] Reviewed by QCE: [Signature]  
施工方: [Signature] 准备: [Signature] 质量工程师批准: [Signature]

Drawing Error  Material Defect  Fabrication Error  Other 09.7.1  
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: 打磨到一定的扫查距离,重新UT.  
Grind and do UT again.

Prepared by: [Signature] Approved by QCA: \_\_\_\_\_  
准备 2009.08.06 质量经理批准

### Reason for Nonconformance:

不符合原因: 扫描范围不够  
Scan area inadequately.  
预防措施: Perform according to procedure and enhance supervision.  
严格执行程序,加强监督

Approved by/批准: [Signature] 2009.08.06

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: \_\_\_\_\_



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:** 22-Jun-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:** 05.03.06-000292

**Subject:** NCR No. ZPMC-0302

**Reference Description:** UT Over Painted Surfaces, 2AW/2BW Deck Panel Stiffener Splices

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:** 02

### Remarks:

During ultrasonic testing (UT) verification of 2AW to 2BW stiffener complete joint penetration (CJP) welds (as requested in NDT Inspection Notification Sheet #003423), Caltrans Quality Assurance (QA) Inspector observed that weld DP724-001-025 and several adjacent welds were UT tested and accepted by ZPMC Quality Control (QC) without the removal of paint from the base metal for the full scanning distance surface area. The thicknesses of the stiffener base metal of the associated weld joints were 30mm and 35mm. These base metal thicknesses require 88mm and 102mm of scanning distance respectively. The paint was observed to only be removed from approximately 50 mm of the base metal surface both sides of weld centerline.

See attached NCR No. ZPMC-302 for details.

See attached NCR No. ZPMC-302 for details.

### Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences.

**Transmitted by:** Ching Chao

**Attachments:** ZPMC-0302

**cc:** Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, 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

Bay Area Branch  
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 Vallejo, CA 94592-1133  
 (707) 649-5453  
 (707) 649-5493

Contract #: 04-0170F4Cty: 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-000328

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 15-Jun-2009

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

NCR #: ZPMC-0302

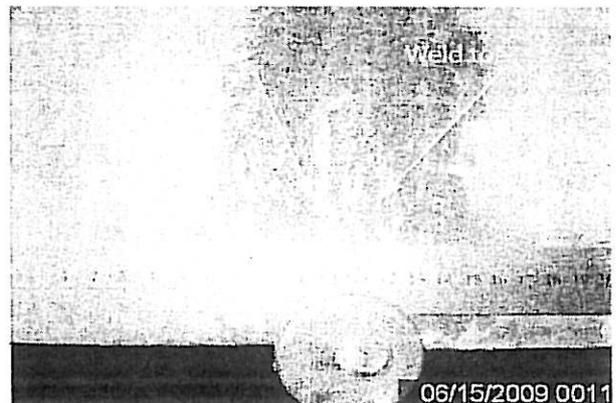
## Type of problem:

Welding  Concrete  Other Welding  Curing  Procedural  Bridge No: 34-0006Joint fit-up  Coating  Other  Component: OBG Segment Splice 2AW/2BWProcedural  Procedural  Description:

Reference Description: UT Over Painted Surfaces, 2AW/2BW Deck Panel Stiffener Splices

## Description of Non-Conformance:

During ultrasonic testing (UT) verification of 2AW to 2BW stiffener complete joint penetration (CJP) welds (as requested in NDT Inspection Notification Sheet #003423), Caltrans Quality Assurance (QA) Inspector observed that weld DP724-001-025 and several adjacent welds were UT tested and accepted by ZPMC Quality Control (QC) without the removal of paint from the base metal for the full scanning distance surface area. The thicknesses of the stiffener base metal of the associated weld joints were 30mm and 35mm. These base metal thicknesses require 88mm and 102mm of scanning distance respectively. The paint was observed to only be removed from approximately 50 mm of the base metal surface both sides of weld centerline.



## Applicable reference:

AWS D1.5 (02) Section 6.19.3 – “All surfaces to which a search unit is applied shall be free of weld spatter, dirt, grease, oil, paint, and loose scale and shall have a contour allowing intimate coupling.”

Who discovered the problem: Larry Viars

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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**Name of individual from Contractor notified:** Raymond Mah

**Time and method of notification:** 0130 hours, 06/14/09, Verbal

**Name of Caltrans Engineer notified:** Stanley Ku

**Time and method of notification:** 0800 hours, 06/16/09, Verbal

**QC Inspector's Name:** Wu Zhi Cheng

**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 Skyler Guest, (86) 1500-042-2360, 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





# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 B787-UT-7997      DATE 2009.08.05      PAGE 1 OF 1      Revision No: 0

PROJECT NO. :工程编号 ZP06-787      CONTRACTOR : CALTRANS

ITEMS NAME: CORNER ASSEMBLY I-RIB      DRAWING NO.: OBW2      CALTRANS CONTRACT NO.: 04-0120F4  
 部件名称      图号      加州工程编号

REFERENCING CODE 参考规范      ACCEPTANCE STANDARD 接受标准      PROCEDURE NO. 程序编号  
 AWS D1.5-2002      AWS D1.5-2002(Table 6.3)      ZPQC-UT-01

WELDING PROCESS 焊接方法      JOINT TYPE 焊缝类型      CALIBRATION DUE DATE 仪器校正有效期  
 SMAW      BUTT      Dec. 28<sup>ST</sup>, 2009

EQUIPMENT 设备      MANUFACTURER 制造商      MODEL NO. 样式编号      SERIAL NO. 序列编号  
 UT SCOPE      PANAMETRICS      EPOCH-4B      071565311, 061488510, 061495811, 070152011,

CALIBRATION BLOCK 试块      COUPLANT 耦合剂      MATERIAL/THICKNESS 材料厚度  
 AWS IIW BLOCK TYPE II      C.M.C.      A709M-HPS485W      35mm

### TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70°	2.5MHz	18×18mm				
Changchao	0°	2.5MHz	20mm	Reference Level 参考灵敏度		20dB	

Base metal inspected per AWS D1.5-2002 Section 6.19.5      0° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注	
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)							
									a	b	c	d	Length 长度			Sound Path 声程
DP724-001-025		70				32									ACC.	100%
BLANK																

EXAMINED BY 主探 Xue Hairong <i>Xue Hairong</i>	REVIEWED BY 审核 <i>Zshuiyin</i>
LEVEL - II SIGN / DATE <i>8.08.05</i>	LEVEL - II SIGN / DATE <i>8.08.05</i>
质量经理 / QCM <i>Wang...</i>	用户 CUSTOMER
签字 SIGN / 日期 DATE <i>8.5</i>	签字 SIGN / 日期 DATE

**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-000352**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 30-Nov-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0302**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:** 15-Jun-2009**Description of Non-Conformance:**

During ultrasonic testing (UT) verification of 2AW to 2BW stiffener complete joint penetration (CJP) welds (as requested in NDT Inspection Notification Sheet #003423), Caltrans Quality Assurance (QA) Inspector observed that weld DP724-001-025 and several adjacent welds were UT tested and accepted by ZPMC Quality Control (QC) without the removal of paint from the base metal for the full scanning distance surface area. The thicknesses of the stiffener base metal of the associated weld joints were 30mm and 35mm. These base metal thicknesses require 88mm and 102mm of scanning distance respectively. The paint was observed to only be removed from approximately 50 mm of the base metal surface both sides of weld centerline.

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

Submit NDT verifying welds in question conform to Contract requirements.

**Corrective action taken:**

ZPMC has issued instructions to NDT technicians not to perform Ultrasonic Testing over painted welds and has submitted documentation verifying the the welds are in conformance.

**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 Materials for your project.

**Inspected By:** Simonis, Jim

Quality Assurance Inspector

**Reviewed By:** Wahbeh, Mazen

QA Reviewer