

**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, PRC**Report No:** NCR-000105**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 22-Mar-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0102**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> DP-137-001, DP-002-001
<b>Procedural</b>	<b>Procedural</b>	<b>Descriptor:</b>	OBG Deck Panels

**Reference Description:****Description of Non-Conformance:**

The Contractor welded closed ribs to box shell plate without welding the two stems of the closed rib simultaneously. Welding of closed ribs for deck panels DP-137-001 and DP-002-001 commenced on 03-21-2008. For unknown reasons, the SAW cover pass on one weld joint from each panel was not completed during the work shift. The Contractor finished welding of the incomplete joints on 03-22-2008. This occurred on weld #003 of deck panel DP-137-001 and on weld #008 of DP-002-001.

**Applicable reference:**

Special Provisions, Section 10-1.59 Steel Structures, Subsection, Welding of Closed Ribs to Box Shell Plate (page 328): "Closed ribs shall be clamped or tack welded in place, and both stems welded to the deck plate simultaneously."

**Who discovered the problem:** Tim McClendon**Name of individual from Contractor notified:** ABFJV QC: Steve Lawton**Time and method of notification:** Verbal notification at 14:00 on 04-04-2008**Name of Caltrans Engineer notified:** Stanley Ku**Time and method of notification:** Verbal notification on 03-24-2008**QC Inspector's Name:** NA**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 Patrick Lowry, 916-227-5719, who represents the Office of Structural Materials for your project.

**Inspected By:** Lowry, Patrick

Quality Assurance Inspector

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# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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**Reviewed By:** Lowry,Patrick

QA Reviewer



**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 Enterprises, a JV  
375 BURMA ROAD  
OAKLAND CA 95607

**Date:** 09-Apr-2008

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

**Dear:** Mr. Charles Kanapicki

**Job Name:** SAS Superstructure

**Attention:** Mr. Dave Williams Consultant

**Document No:** 05.03.06-000082

**Subject:** NCR No. ZPMC-0102

**Reference Description:** The Contractor welded closed ribs to box shell plate without welding the two stems of the closed rib

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 - No Response Required.

**Material Location:** OBG **Lift:** 03

### Remarks:

Welding of closed ribs for deck panels DP-137-001 and DP-002-001 commenced on 03-21-2008. For unknown reasons, the SAW cover pass on one weld joint from each panel was not completed during the work shift. The Contractor finished welding of the incomplete joints on 03-22-2008. This occurred on weld #003 of deck panel DP-137-001 and on weld #008 of DP-002-001.

### Action Required and/or Action Taken:

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

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

**Attachments:** ZPMC-0102

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

**File:** 05.03.06

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000082

**Subject:** NCR No. ZPMC-0102

**Dated:** 26-Aug-2008

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000111 Rev: 00

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**Contractor's Proposed Resolution:**

**Reference Resolution:** A machine malfunction caused one of the welding heads to fail but after repairing the weld head the weld was completed

A machine malfunction caused one of the welding heads to fail. ZPMC shut down the welding head to prevent damage to the stem but finished welding the remainder of the welds. After repairing the weld head the weld was completed.

**Submitted by:** Kanapicki, Charles

**Attachment(s):** ABF-NPR-000111R00

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**Caltrans' comments:**

**Status:** REJ

**Date:** 31-Oct-2008

The proposed resolution is not acceptable. This proposed resolution does not include any mention of what will be done to prevent recurrence of this issue. Also, there is no documentation of the NDT performed to show that the welds in question are acceptable.

Revision 01 of this proposed Non-Conformance resolution has already been submitted. See the response to NPR-0111R01.

**Submitted by:** Wright, Doug

**Attachment(s):**

**Date:** 31-Oct-2008

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000082

**Subject:** NCR No. ZPMC-0102

**Dated:** 07-Oct-2008

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000111 Rev: 01

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC has retrained the worker and provided documentation of the repair.  
Please find attached.

**Submitted by:**

**Attachment(s):** ABF-NPR-000111R01;

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**Caltrans' comments:**

**Status:** CLO

**Date:** 31-Oct-2008

The proposed resolution is acceptable. An internal ZPMC NCR was written, and the welder received additional training. Also, the welds in question (DP-137-001-03 and DP-002-001-08) have been accepted as shown in the attached VT and MT reports. The Department concurs that Non-Conformance ZPMC-0102 is closed.

**Submitted by:** Wright, Doug

**Date:** 31-Oct-2008

**Attachment(s):**



TRANSMITTAL LETTER

PROJECT: SAN FRANCISCO OAKLAND BAY BRIDGE

DATE: 10/06/2008

TO: RUBY/ ABFJV QA DEPARTMENT

FROM: ZPMC QA DEPARTMENT

SUBJECT: NCR-000105(ZPMC-0102) FOR CLOSURE

SUBMITTED FOR YOUR APPROVAL.

ENCLOSED WITH THIS TRANSMITTAL IS ONE

- (1) COPY OF LETTER OF RESPONSE WITH NO.B-306 FOR CLOSURE.
- (2) COPY OF NCR WITH NUMBER NCR-000105(ZPMC-0102)
- (3) COPY OF ZPMC INTERNAL NCR:NCR-B-036
- (4) COPY OF THE FINAL VT AND MT REPORTS.

PLEASE SIGN THIS TRANSMITTAL AND RETURN TO ME.

ACKNOWLEDGEMENT:

Rosemary  
 \_\_\_\_\_  
 PLAN HOLDER

Oct 6, 2008 10:21 am  
 \_\_\_\_\_  
 DATE

ABFJV  
 \_\_\_\_\_  
 COMPANY

\_\_\_\_\_  
 PHONE NO.

PLAN NUMBER: N/A  
 #R787-QCP-102



No. B-306

## LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2008-10-6

REGARDING: NCR-000105 (ZPMC-0102)

With this letter of response, ZPMC requests closure for caltrans NCR-000105 (ZPMC-0102). We have educated the worker in charge of the deck panel welding gantry with the specification. It describes very clear that "closed ribs shall be clamped or tack welded in place, and both stems welded to the deck plate simultaneously", therefore the weld process must be followed the procedure. If the cease-arc is happen in the weld process cause by the gantry or the other reasons, the both side of the torch on one stem should be stop together, and then can continue working until the trouble resolved.

So ZPMC considers NCR-000105 (ZPMC-0102) can be closed, and we attach the final VT and MT reports to prove that the good quality of the corresponding weld areas.

Please reference attached documentation for acceptance and closure the NCR-000105.

ATTACHMENT:

NCR-000105 (ZPMC-0102)

ZPMC internal NCR-B-036

The final VT and MT reports of that panel

Zhao Shuangbao

2008.10.6

Thomas W. Pennington  
ABF - QCM  
6 OCT. 08



# 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-000105 (ZPMC-0102) NCR 编号: NCR-B-036	
Item: the weld joint was not complete simultaneously 名称描述: U肋两侧焊缝没同时完成		Item Number: 件号: DP-137-001 DP-002-001.	Drawing Number: 图号:
Location: 位置: 3#和 8# 焊缝		Date: 日期: 2008-3-22	
Description of Nonconformance: 不符合项状态描述: The contractor welded closed ribs to box shell plate without welding the two stems of the closed rib simultaneously. Welding of closed ribs for deck panels DP-137-001 and DP-002-001 commenced on 03-21-2008. for unknown reasons, the SAW cover pass on one weld joint from each panel was not completed during the work shift the contractor finished welding of the incomplete joints on 03-22-2008. this occurred on weld #003 of deck panel DP-137-001 and on weld #008 of DP-002-001. ZPMC 在焊接过程中 U肋两侧并没有同时完成焊接. 在 3月 21 日焊接顶板 DP-137-001 and DP-002-001 的时候, 两块板单元上分别有一道盖面的埋弧焊没有完成, 原因不明, 在 22 号才重新完成了该面焊接. 以上情况分别发生在 DP-137-001 的 3# 焊缝和 DP-002-001 的 8# 焊缝.			
Work By: <u>Zhang Yan Jun</u> Prepared by: <u>Wang Lu</u> Reviewed by QCE: <u>Zhao Shuang Bao</u> 施工方: 2008.4.19 准备: 2008.4.18 质量工程师批准: 2008.4.18 <input type="checkbox"/> Drawing Error <input type="checkbox"/> Material Defect <input checked="" type="checkbox"/> Fabrication Error <input type="checkbox"/> Other 图纸错误 材料缺陷 制作错误 其他原因			
Disposition: <input type="checkbox"/> Use as is <input type="checkbox"/> Repair <input type="checkbox"/> Reject 处理措施: 回用 返修 拒收			
Recommendation: 建议 对未焊接完的焊缝打磨去潮, 经检验合格, 继续按规范要求焊接. Grind the welds which were not completed. If it is acceptable by visual inspection, then perform PMT testing and weld according to requirements. Prepared by: <u>LV Guang Bin</u> Approved by QCA: <u>Hu Gang</u> 准备 质量经理批准			
Reason for Nonconformance: 不符合原因: 第一台门式自动焊机 1# 焊臂突发故障 (不起弧). There was something wrong with closed rib welding machine in the process of welding.			
Prevention of Re-occurrence: 预防措施: Check the weld machine to ensure the weld machine can work as normal. 对自动焊机全面检修, 确保焊机正常使用. Approved by/批准: <u>LV Guang Bin</u>			
Technical Justification for Use-As-Is/Repair: <input type="checkbox"/> Attachment <input checked="" type="checkbox"/> Non-attachment 回用或返修的技术依据: 做 PMT 试验, 模拟工况, 无附件 实际操作情况, 以检验焊缝质量, 并对焊机设备进行检查, 确保焊机正常使用. Perform PMT testing by simulating shop work conditions. Check the welding machine to insure the welding machine working normally and welding quality. Reviewed/批准: <u>Jiang Yong Bo</u> 1220			
Verification: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable 确认: 可接受 不可接受			
Verified by QCI/质检确认: <u>Sun Wei</u> 08.8.11 / Reviewed by QCA/质检主任审核: <u>Hu Gang</u> 2008.8.11			



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 Enterprises, a JV  
375 BURMA ROAD  
OAKLAND CA 95607

Date: 09-Apr-2008

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

Dear: Mr. Charles Kanapicki  
Attention: Mr. Dave Williams Consultant  
Subject: NCR No. ZPMC-0102

Job Name: SAS Superstructure  
Document No: 05.03.06-000082

Reference Description: The Contractor welded closed ribs to box shell plate without welding the two stems of the closed rib

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 - No Response Required.

Material Location: OBG

Lift: 03

### Remarks:

Welding of closed ribs for deck panels DP-137-001 and DP-002-001 commenced on 03-21-2008. For unknown reasons, the SAW cover pass on one weld joint from each panel was not completed during the work shift. The Contractor finished welding of the incomplete joints on 03-22-2008. This occurred on weld #003 of deck panel DP-137-001 and on weld #008 of DP-002-001.

### Action Required and/or Action Taken:

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

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0102

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

File: 05.03.06

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, PRC

Report No: NCR-000105

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 22-Mar-2008

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

NCR #: ZPMC-0102

### Type of problem:

Welding  Concrete  Other   
 Welding  Curing  Procedural  Bridge No: 34-0006  
 Joint fit-up  Coating  Other  Component: DP-137-001, DP-002-001  
 Procedural  Procedural  Descriptor: OBG Deck Panels

### Reference Description:

#### Description of Non-Conformance:

The Contractor welded closed ribs to box shell plate without welding the two stems of the closed rib simultaneously. Welding of closed ribs for deck panels DP-137-001 and DP-002-001 commenced on 03-21-2008. For unknown reasons, the SAW cover pass on one weld joint from each panel was not completed during the work shift. The Contractor finished welding of the incomplete joints on 03-22-2008. This occurred on weld #003 of deck panel DP-137-001 and on weld #008 of DP-002-001.

#### Applicable reference:

Special Provisions, Section 10-1.59 Steel Structures, Subsection, Welding of Closed Ribs to Box Shell Plate (page 328): "Closed ribs shall be clamped or tack welded in place, and both stems welded to the deck plate simultaneously."

Who discovered the problem: Tim McClendon

Name of individual from Contractor notified: ABFJV QC: Steve Lawton

Time and method of notification: Verbal notification at 14:00 on 04-04-2008

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: Verbal notification on 03-24-2008

QC Inspector's Name: NA

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 Patrick Lowry, 916-227-5719, who represents the Office of Structural Materials for your project.

Inspected By: Lowry, Patrick

Quality Assurance Inspector

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT  
( Continued Page 2 of 2 )

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Reviewed By: Lowry,Patrick

QA Reviewer









REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-2496      DATE日期 2008.07.30      PAGE OF 页码 1/1      Revision No: 0

PROJECT NO. 工程编号: ZP06-787	CONTRACTOR: 用户: CALTRANS		
DRAWING NO. 图号: DP137 OBG U-RIB	CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4		
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 <sup>ST</sup> , 2008
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm
MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度	A709M-345T2-X 12/14mm
WELDING PROCESS 焊接方法	GMAW+SAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY 不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
DP137-001-001				ACC.		10%MT
DP137-001-002				ACC.		10%MT
DP137-001-003				ACC.		10%MT
DP137-001-004				ACC.		10%MT
DP137-001-005				ACC.		10%MT
DP137-001-006				ACC.		10%MT
DP137-001-007				ACC.		10%MT
37-001-008				ACC.		10%MT
DP137-001-009				ACC.		10%MT
DP137-001-010				ACC.		10%MT

BLANK

EXAMINED BY 主探 <u>Xufei</u>	REVIEWED BY 审核 <u>Zhou Dongyan</u>
LEVEL - II SIGN 签名 / DATE 日期 <u>08.7.30</u>	LEVEL-II SIGN / DATE 日期 <u>08.7.30</u>
质量经理 / QCM <u>Hugang 2008.08.07</u>	用户 CUSTOMER
签字 SIGN / 日期 DATE	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  
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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, PRC**Report No:** NCS-000172**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 31-Dec-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0102**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-Mar-2008**Description of Non-Conformance:**

The Contractor welded closed ribs to box shell plate without welding the two stems of the closed rib simultaneously. Welding of closed ribs for deck panels DP-137-001 and DP-002-001 commenced on 03-21-2008. For unknown reasons, the SAW cover pass on one weld joint from each panel was not completed during the work shift. The Contractor finished welding of the incomplete joints on 03-22-2008. This occurred on weld #003 of deck panel DP-137-001 and on weld #008 of DP-002-001.

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

ZPMC has retrained the worker and provided documentation of the repair.

**Corrective action taken:**

ZPMC wrote its internal NCR. The welder received additional training. The welds in question (DP-137-001-03 and DP-002-001-08) have been accepted per NDT results.

**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 Eric Tsang, +(86) 150.0042.2372, who represents the Office of Structural Materials for your project.

**Inspected By:** Tsang, Eric

Quality Assurance Inspector

**Reviewed By:** Wahbeh, Mazen

QA Reviewer