

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

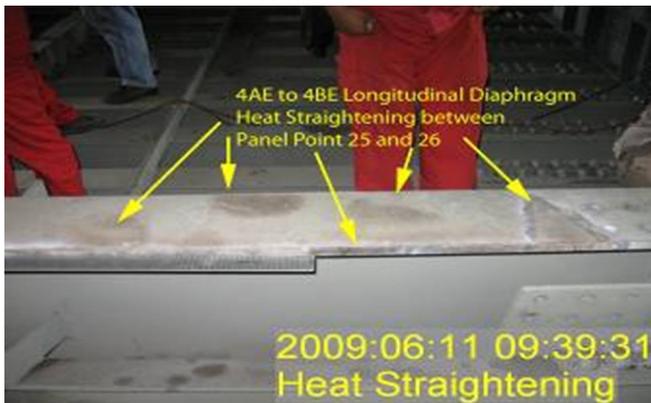
Quality Assurance and Source Inspection



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-000302**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 11-Jun-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0276**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** OBG Segment 4AE**Procedural****Procedural****Description:****Reference Description:** Unapproved Heat Straightening, Segment 4AE**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed deflection and distortion in the longitudinal diaphragms (LD)s located at the 4AE/4BE segment splice (between PP25 and PP26). Heat straightening was being performed on LD008-001 (Segment 4AE) for the second time without an approved heat straightening report and without the Engineer's approval.

**Applicable reference:**

AWS D1.5 2002 Section 3.7.3: "Members distorted by welding shall be straightened by mechanical means or by carefully supervised application of a limited amount of localized heat as approved by the Engineer."

Special Provisions 8-3-01 Welding Quality Control: "The Engineer shall be notified immediately when weld distortion occurs that cannot be corrected using the standard procedures for heat straightening submitted in the WQCP. Request to heat straighten shall be in writing and include.

1) Sketches of each distortion member showing the dimensions, length of weld, out of tolerance values, and locations where heat will be applied.

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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- 2) Estimate of the number of applications of heat to bring the material back into conformance.
- 3) Explanation of how distortion control procedures will be modified and improved.
- 4) The contractor shall allow the Engineer five (5) days to review these procedures.
- 5) No remedial work shall begin until the repair procedures are approved in writing by the Engineer.”

**Who discovered the problem:** S. Manjunath Math

**Name of individual from Contractor notified:** Weiping Yang

**Time and method of notification:** 9:40, 06-11-09, Verbal

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

**Time and method of notification:** 10:30, 06-11-09, Verbal

**QC Inspector's Name:** Wang Lu

**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:** 14-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:** 05.03.06-000265

**Subject:** NCR No. ZPMC-0276

**Reference Description:** Unapproved Heat Straightening, Segment 4AE

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:** 04

### Remarks:

Caltrans Quality Assurance (QA) Inspector observed deflection and distortion in the longitudinal diaphragms (LD)s located at the 4AE/4BE segment splice (between PP25 and PP26). Heat straightening was being performed on LD008-001 (Segment 4AE) for the second time without an approved heat straightening report and without the Engineer's approval.

See NCR Report No. ZPMC-276 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-0276

**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:** 05.03.06-000265

**Subject:** NCR No. ZPMC-0276

**Dated:** 27-Jul-2009

**Contract No.:** 04-0120F 4  
04-SF-80-13.2 / 13.9

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000269 **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-000269R00;

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### Caltrans' comments:

**Status:** REJ

**Date:** 10-Aug-2009

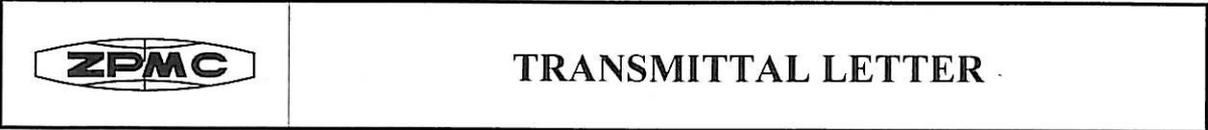
The attached documentation does not address the issue in the referenced Non-Conformance ZPMC-0276, which was issued for unapproved heat straightening on longitudinal diaphragm plates at the 4AE-4BE segment splice.

For NCR ZPMC-0276, please provide documentation of the heat straightening that was performed and that the affected welds are acceptable. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0276 at that time.

**Submitted by:** Wright, Doug

**Date:** 10-Aug-2009

**Attachment(s):**



PROJECT: SAN FRANCISCO OAKLAND BAY BRIDGE

DATE: 07/22/2009

TO: ROSE MARY/ ABFJV QA DEPARTMENT

FROM: ZPMC QA DEPARTMENT

SUBJECT: CT NCR FOR CLOSURE

SUBMITTED FOR YOUR APPROVAL.

ENCLOSED WITH THIS TRANSMITTAL IS ONE

- (1) COPY OF LETTER OF RESPONSE WITH NO.B-412FOR CLOSURE.
- (2) COPY OF CT NCR-000302(ZPMC-0276)
- (3) COPY OF THE ZPMC INTERNAL NCR
- (4) COPY OF THE HEAT STRAIGHTENING RECORD
- (5) COPY OF THE HEAT STRAIGHTENING PROCESS CHECKING RECORD
- (6) COPY OF THE FINAL VT/MT REPORT
- (7) COPY OF THE MISALIGN SURVEY RECORD

PLEASE SIGN THIS TRANSMITTAL AND RETURN TO ME.

ACKNOWLEDGEMENT:

*Rosemary*

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PLAN HOLDER

16:10  
RECEIVED 22 JUL 2009

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DATE

COMPANY

PHONE NO.

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



# 关键焊缝返修报告

版本  
Rev. No.:

## Critical Welding Repair Report (CWR)

1

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SP3007C	报告编号 Report No.:	B-CWR603
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	东箱梁斜底板12Bh-E7 OBG SIDE PLATE	NDT 报告编号 NDT Report No.:	B787-MT-11970
项目编号 Project No.:	-- ZP06-787				

### 焊缝缺陷描述:

#### Description of Welding Discontinuity:

在对SP3007-001-013检测时,发现1处横向裂纹。1、L=10mm。

Welder ID No. (焊工编号): 054459

Position:(位置): 2F

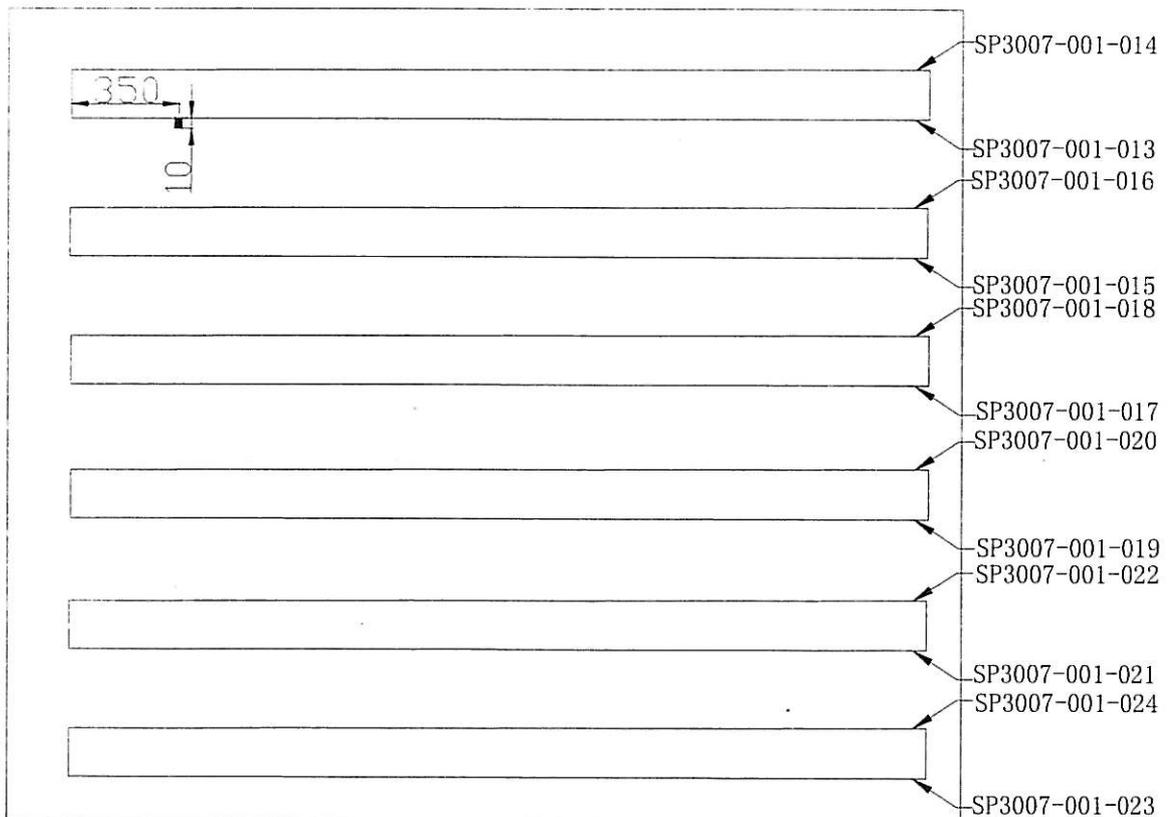
One transverse crack was found by use of MT on weld(SP3007-001-013).

检验员 (Inspector): Tan Chaowei

日期 (Date): 2009-07-01

### 焊缝返修位置示意图:

#### Draft of Welding Discontinuity:



产生原因:

Cause:

1. 火焰加热时, 水汽没有完全的去掉或者这个区域预热不够;

1. Moisture wasn't completely removed during drying operation (preheating) or the area wasn't preheated sufficiently.

车间负责人 (Foreman):

*Zi Harfei*

日期 (Date):

*09.07.22*

处理意见

Disposition:

1. 这次返修时, QC和Leader CWI到现场对打磨, 焊接进行指导和监控工作以保证返修按照处理意见进行;
2. 整个返修的过程, QC和Leader CWI应该有批准CWR的复印件;
3. 只能采用打磨的方法去除裂纹, 如果打磨时或打磨后根部间隙大于5mm, 那么则需要工程师批准后再进行下一步的修复工作;
4. 在MT检测前首先去除热影响区域上在各个方向上不小于25mm范围内的油漆;
5. 对返修区域及靠近裂纹的母材进行硬度测试, 在做硬度测试前应口头和书面形式告知工程师, 并且在硬度测试后但在下一步修复工作前向加州代表递交测试结果;
6. 焊接前按照焊接返修工艺规程(WPS)准备焊缝接头形式;
7. 返修前, VT和MT检测确认返修区域没有裂纹及其他缺陷存在, 同时靠近裂纹的母材也要做MT, 保证没有裂纹延伸到母材。如果在母材上发现裂纹, 则另外需CWR;

8. 按照批准的焊缝返修工艺规程(WPS)进行预热和焊接;
9. 将修补区域打磨与母材或相邻焊缝平齐;
10. 返修后按照图纸要求对所有的修补焊缝进行NDT检测, 其中对于承受拉应力和反向应力构件的表面和边缘在进行焊接修补后, 按照AWS D1.5章节中3.2.2.3的要求必须经过UT和MT检查。检测范围包括修补区域的正面焊缝及反面焊缝, 并按照合同10-1.59“钢结构”中的“检测和试验”注释3进行附加NDT检测。

1. QC and a Lead CWI shall be present, direct and supervise all grinding and welding operations during this repair to ensure the repair is per the disposition requirements.
2. QC and a Lead CWI shall have an approved copy of the CWR in hand prior to the repair.
3. Remove cracks only by use of grinding, If gap > 5mm is found while grinding, seek approval from engineer before next operation.
4. Remove paint  $\geq 25$ mm in all direction of HAZ prior to MT.
5. Perform hardness testing at repair area and base metal laying abroad cracks, provide verbal and written notification to Engineer prior to performing hardness testing, and submit the testing result to Caltrans for review prior to repairing after testing.
6. Prepare excavation in accordance with an approved repair WPS prior to welding.
7. Before this repair, Verify with VT and MT repair areas are defects free, and also MT shall be performed on the base metal laying abroad cracks to ensure that no cracks were propagated to the base metal. Separate CWR approval is needed if cracks are found in the base metal.
8. Preheat and weld according to the approved repair WPS.
9. Grind the repaired area flush with base metal or the adjacent weld.
10. Perform relevant NDT inspection (UT and MT must be performed for SRM members in accordance with Section 3.2.2.3 of AWS D1.5 after repair) to all repaired welds as well as the welds which are in the opposite position of the repaired welds according to shop drawing and additional NDT requirement stated in special provision 10-1.59 "inspection testing" note 3 after repair.

工艺:

Technical Engineer:

*Niu Trefef*

审核:

Approved By:

*Wujianhua*  
*for chenbin.*

日期:

Date: *09.07.22*



# 关键焊缝返修报告

版本  
Rev. No.:

Critical Welding Repair Report (CWR)

**1**

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SP3007C	报告编号 Report No.:	B-CWR603
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	东箱梁斜底板12Bh-E7 OBG SIDE PLATE	NDT 报告编号 NDT Report No.:	B787-MT-11970
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

1. 返修前, QC确认有效的预热, 以将水汽全部去除。

1. QC shall verify sufficient preheat has been applied, to remove moisture, prior to welding.

车间负责人 (Foreman):

*Li Haifei*

日期 (Date):

*09.07.22*

参照的WPS编号 Repair WPS No.:	WPS-SMAW-345-1G (1F)-Repair WPS-FCAW-345-1G (1F)-Repair WPS-SMAW-345-2G (2F)-Repair WPS-FCAW-345-2G (2F)-Repair	工艺员 Technologist:	<i>Nin Tiefel</i> <i>09.07.22</i>
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:		返修的缺陷 Description of Discontinuity:	
焊前处理检查 Inspection Before Welding:		焊前预热温度 Preheat Temperature Before Welding:	
最大碳刨深度 Max. Depth of Gouge:		碳刨总长 Total Length of Gouge:	
焊工 Welder:		焊接类型 Welding Type:	焊接位置 Position:
焊接电流 Current:		焊接电压 Voltage:	焊接速度 Speed:

返修后检查

Inspection After Repair:

外观检查 VT Result:		检验员 Inspector:		日期 Date:	
NDT复检 NDT Result:		探伤员 NDT Person:		日期 Date:	

见证:

Witness/Review:

备注:

Remark:

#R787-QCP-900



# REPORT OF MAGNETIC PARTICLE EXAMINATION

## 磁粉检测报告

REPORT NO. 报告编号 B787-MT-11970

DATE日期 2009.07.01

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:

SP3007C

CALTRANS CONTRACT NO.:

加州工程编号

04-0120F4

REFERENCING CODE

参考规范编码  
AWS D1.5-2002

OBG SIDE PLATE 12Bh-E7

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>th</sup>, 2009

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

WELDING 焊接件  
 CASTING 铸件  
 FORGING 锻造

Material & thickness  
母材, 厚度

A709M-345T2-X

WELDING PROCESS

焊接方法

FCAW

TYPE OF JOINT

焊缝类型

9/16mm

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			
SP3007-001-013	1	CRACK	10		REJ.	10%MT
SP3007-001-014				ACC.		10%MT
SP3007-001-015				ACC.		10%MT
SP3007-001-016				ACC.		10%MT
SP3007-001-017				ACC.		10%MT
SP3007-001-018				ACC.		10%MT
SP3007-001-019				ACC.		10%MT
SP3007-001-020				ACC.		10%MT
SP3007-001-021				ACC.		10%MT
SP3007-001-022				ACC.		10%MT
SP3007-001-023				ACC.		10%MT
SP3007-001-024				ACC.		10%MT

AFTER HSR1(B)-6951

BLANK

EXAMINED BY 主探

Tan Chaowei

Tan Chaowei

LEVEL-II SIGN 签名 / DATE日期

质量经理 / QCM

*[Signature]*

签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REVIEWED BY 审核

Shin Gang Chang

LEVEL-II SIGN / DATE日期

用户 CUSTOMER

签字 SIGN / 日期 DATE

DEPARTMENT OF TRANSPORTATION  
CHINA FABRICATION TEAM  
666 Feng Bin Road  
Changxing Island, Shanghai, PRC



### REVIEW OF CONTRACTOR'S SUBMITTAL

To: Thomas Nilsson, American Bridge/Fluor, a Joint Venture  
Gary Pursell, Resident Engineer

Review Date: July-8-2009

From: Eric Tsang, Structural Materials Representative

Contract No.: 04-0120F4

Date/Time Submittal Received: July-6-2009/ 10:49

China Standard Time  
(GMT+08:00)

Contractor's Transmittal #: AFC-CAL-TRN-003279

Rev. # 0

<input type="checkbox"/>	substantially complies with contract requirements and is approved		
<input type="checkbox"/>	substantially complies with contract requirements and is approved as noted.		
<input checked="" type="checkbox"/>	Lacks sufficient information and/or contains unacceptable items that must be corrected or prior to resubmital		
Verbal Notification	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	Date: _____ Time: _____
Name of individual from Contractor Notified:			
This submittal is a:	<input type="checkbox"/> Welding Report	<input checked="" type="checkbox"/> Critical Weld Repair	
	<input type="checkbox"/> Request for Information	<input type="checkbox"/> Heat Straightening Request	
	<input type="checkbox"/> Fabrication Procedures	<input type="checkbox"/> Other: _____	
Submitting Contractor: <u>American Bridge – Fluor, a Joint Venture</u>			
ITEMS REVIEWED	COMPLIES	COMMENTS	
1.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	SP3007 Transverse crack	

Remarks:

-Hardness testing is required at the transverse crack location prior to excavation and repair. The readings of the hardness testing shall be done along the weld and the adjacent base metal (the flange and the U-rib diaphragm).

-Provide written and verbal notification to the engineer prior to the hardness testing for engineer to witness the testing.

-The result of the hardness testing shall be submitted to Caltrans for review prior to repairing.

-Separate CWR approval is needed if cracks are found in the base metal heat affected zone.

-If excessive root gap (5mm or more) is found during grinding of the repair area, the contractor shall seek the engineer's approval prior performing further repair. Contractor shall also provide the locations of these findings in submitting a written document and marking the actual data on the steel surface.

-In disposition #2, gouging shall NOT be used for this repair.

Reviewer: Eric Tsang ET

Date: July-8-2009

Construction Concurrence: ET Initial 7/8/09 Date

Received by (ABFJV): Rosmary Date: 7/8/09 Time: 13:48



关键焊缝返修报告  
Critical Welding Repair Report (CWR)

版本  
Rev. No.:

0

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SP3007C	报告编号 Report No.:	B-CWR603
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	东箱梁斜底板12Bh-E7 OBG SIDE PLATE	NDT 报告编号 NDT Report No.:	B787-MT-11970
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

在对SP3007-001-013检测时, 发现1处横向裂纹。1、L=10mm。

Welder ID No. (焊工编号): 054459 Position: (位置): 2F

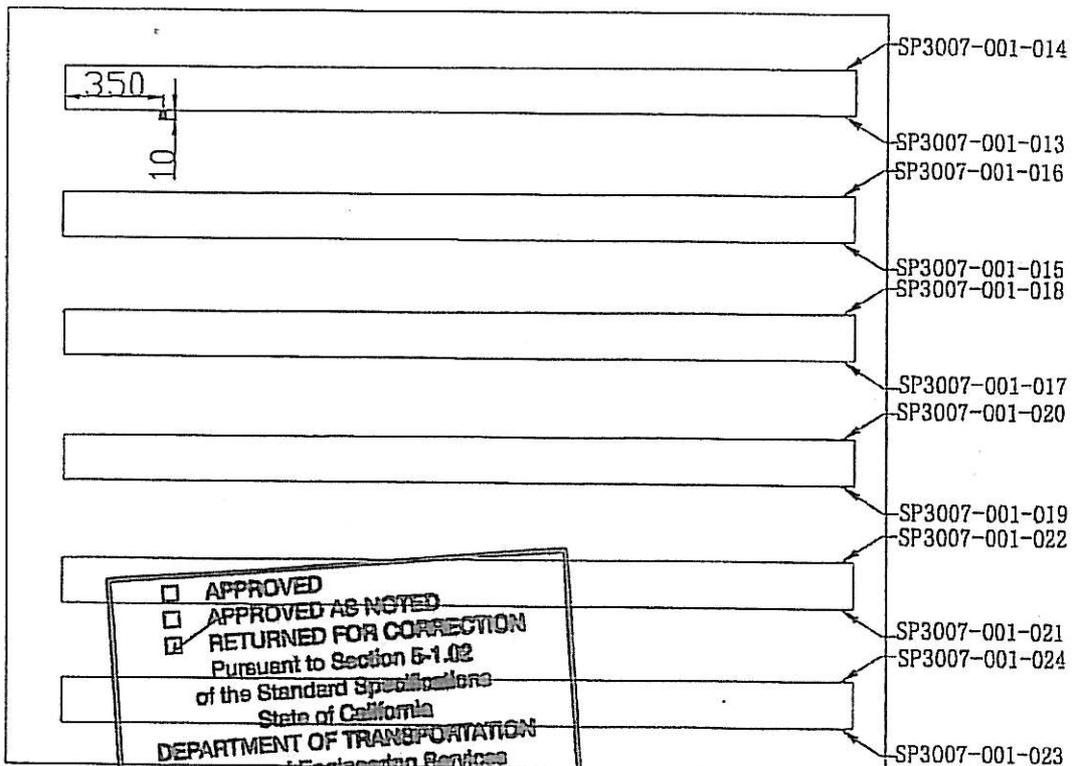
One transverse crack was found by use of MT on weld(SP3007-001-013).

检验员 (Inspector): Tan Chaowei

日期 (Date): 2009-07-01

焊缝返修位置示意图:

Draft of Welding Discontinuity:



APPROVED  
 APPROVED AS NOTED  
 RETURNED FOR CORRECTION  
 Pursuant to Section 5-1.02  
 of the Standard Specifications  
 State of California  
 DEPARTMENT OF TRANSPORTATION  
 Division of Engineering Services  
 Office of Structure Construction  
[Signature] 7/8/09  
 Structure Representative

产生原因:

Cause:

1. 火焰加热时, 水汽没有完全的去掉或者这个区域预热不够;
1. Moisture wasn't completely removed during drying operation (preheating) or the area wasn't preheated sufficiently.

车间负责人 (Foreman): Li Zhigang 日期 (Date): 09.07.02

*See TC-20*  
*- Hardness requirement*  
*- Notification of testing*  
*- Result of testing*  
*- HAZ CWR*  
*- Gap of 5mm*

<input type="checkbox"/>	APPROVED
<input type="checkbox"/>	APPROVED AS NOTED
<input checked="" type="checkbox"/>	RETURNED FOR CORRECTION
Pursuant to Section 5-1.02	
of the Standard Specifications	
State of California	
DEPARTMENT OF TRANSPORTATION	
Division of Engineering Services	
Structure Construction	
<u>Li Zhigang</u>	<u>7/8/09</u>
Structure Representative	Date

处理意见

Disposition:

1. 工程师通知到现场, 缺陷返修按照角焊缝返修程序;
2. 这次返修时, QC和Leader CWI到现场指导打磨, 焊接和监
3. 整个返修的过程, QC和Leader CWI应该有批准CWR的复印
4. QC和Leader CWI指导返修, 以保证返修按照处理意见进行
5. 在要求做MT的区域去除油漆;
6. 采用打磨的方式去除裂纹;
7. 准备一个正确的接头型式, 具体参照相应的返修WPS;
8. 返修前, VT和MT检测确认返修区域没有裂纹, 同时靠近横向裂纹的母材也要做MT, 也保证没有裂纹延伸到母材;
9. 根据批准的返修焊接工艺规程预热及焊接。
10. 将修补区域打磨与母材或相邻焊缝平齐;
11. VT检测焊缝, 按照标书10-1.59中的备注3的额外NDT要求进行检测;
12. 返修后对所有的焊缝进行100%的MT检测, 包括返修的反面, 以前没有返修的区域。

1. The Engineer shall be notified and present during this repair. Indicate repair procedure, *used.*
2. QC and a Lead CWI shall be present and direct all gouging, grinding and welding operations during this repair.
3. QC and a Lead CWI shall have an approved copy of the CWR in hand prior to the repair.
4. QC and a Lead CWI shall direct the repair to ensure the repair is per the disposition requirements.
5. Paint shall be removed in the area requiring MT;
6. Remove the crack by means of grinding.
7. Prepare excavation according to the approved repair WPS.
8. Before this repair, Verify with VT and MT repair areas are crack free, and also MT shall be perform on the base metal nearby transverse cracks to ensure that no cracks we re propagated in to the base metal;
9. Preheat and weld according to the approved repair WPS.
10. Grind the repaired area flush with base metal or the adjacent weld.
11. Perform VT after repair and additional% NDT requirement stated in special provision on 10-1.59 "inspection testing" note 3;
12. 100%MT all these welds after the weld repair, including the opposite side of the repaired weld that didn't require repair previously.

*Gouging shall not be used.*

工艺:

Technical Engineer:

N. J. J. J.

审核:

Approved By:

Li Zhigang  
for chen bin

日期:

Date: 09.07.03



# 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.:	SP3007C	报告编号 Report No.:	B-CWR603
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	东箱梁斜底板12Bh-E7 OBG SIDE PLATE	NDT 报告编号 NDT Report No.:	B787-MT-11970
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

1. 返修前, QC确认有效的预热, 以将水汽全部去除。

1. QC shall verify sufficient preheat has been applied, to remove moisture, prior to welding.

车间负责人 (Foreman):

Gao Jun

日期 (Date):

09.07.02

参照的WPS编号 Repair WPS No.:	WPS-SMAW-345-2G (2F)-Repair WPS-FCAW-345-2G (2F)-Repair-1	工艺员 Technologist:	Niu Tiejun 09.07.03
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:		返修的缺陷 Description of Discontinuity:	
焊前处理检查 Inspection Before Welding:		焊前预热温度 Preheat Temperature Before Welding:	
最大碳刨深度 Max. Depth of Gouge:		碳刨总长 Total Length of Gouge:	
焊工 Welder:	焊接类型 Welding Type:	焊接位置 Position:	
焊接电流 Current:	焊接电压 Voltage:	焊接速度 Speed:	

返修后检查

Inspection After Repair:

外观检查 VT Result:	检验员 Inspector:	日期 Date:
NDT复检 NDT Result:	探伤员 NDT Person:	日期 Date:

见证:  
Witness/Review:备注:  
Remark:

<input type="checkbox"/> APPROVED
<input checked="" type="checkbox"/> APPROVED AS NOTED
<input checked="" type="checkbox"/> RETURNED FOR CORRECTION Pursuant to Section 6-1.02 of the Standard Specifications State of California
DEPARTMENT OF TRANSPORTATION Division of Engineering Services Office of Structure Construction
<i>[Signature]</i> Structure Representative
7/8/09 Date

#R787-QCP-900



# REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11970

DATE日期 2009.07.01

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: SP3007C

CALTRANS CONTRACT NO.:

加州工程编号 04-D120F4

REFERENCING CODE

参考规范编码  
AWS D1.5-2002

OBG SIDE PLATE 12Bh-E7  
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>th</sup>, 2009

EQUIPMENT 设备  
MT YOKE

MANUFACTURER 制造商  
PARKER

MODEL NO. 样式编号  
B310S

SERIAL NO. 连续编号  
5395 5517 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

WELDING 焊接件  
 CASTING 铸件  
 FORGING 锻造

Material & thickness

母材,厚度 A709M-345T2-X

WELDING PROCESS

焊接方法

FCAW

TYPE OF JOINT

焊缝类型 T- JOINT

WELD I.D.  
焊缝编号

DISCONTINUITY不连续性

INDICATION  
指示

TYPE  
类型

LENGTH IN mm  
长度

ACCEPT  
接受

REJECT  
拒收

REMARKS  
备注

SP3007-001-013

1

CRACK

10

ACC.

REJ.

10%MT

SP3007-001-014

ACC.

10%MT

SP3007-001-015

ACC.

10%MT

SP3007-001-016

ACC.

10%MT

SP3007-001-017

ACC.

10%MT

SP3007-001-018

ACC.

10%MT

SP3007-001-019

ACC.

10%MT

SP3007-001-020

ACC.

10%MT

SP3007-001-021

ACC.

10%MT

SP3007-001-022

ACC.

10%MT

SP3007-001-023

ACC.

10%MT

SP3007-001-024

ACC.

10%MT

AFTER HSR1(B)-6951

BLANK

EXAMINED BY主探

Tan Chaowei Tan Chao wei

LEVEL-II SIGN 签名 / DATE日期

质量经理 / QCM

*[Signature]*

签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REVIEWED BY 审核

Shin Gong Chang

LEVEL-II SIGN / DATE日期

用户CUSTOMER

签字 SIGN / 日期 DATE

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000265

**Subject:** NCR No. ZPMC-0276

**Dated:** 17-Aug-2009

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000269 **Rev:** 01

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC has attached the correct data as requested and now requests closure of this NCR.  
ZPMC has attached the correct data as requested and now requests closure of this NCR.

**Submitted by:**

**Attachment(s):** ABF-NPR-000269R01;

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**Caltrans' comments:**

**Status:** REJ

**Date:** 18-Aug-2009

The proposed resolution is not acceptable. The attached documentation includes MT reports for some, but not all, of the affected welds.

Please submit acceptable MT reports for welds SEG020C-001 and SEG020C-007. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0276 at that time.

**Submitted by:** Wright, Doug

**Date:** 18-Aug-2009

**Attachment(s):**



No. B-412

## LETTER OF RESPONSE

**TO: American Bridge/Flour**

**DATE: 2009-7-22**

**REGARDING: NCR-000302 (ZPMC-0276)**

With this letter of response, ZPMC requests closure for Caltrans **NCR-000302 (ZPMC-0276)**. It's same location with the NCR(ZPMC-0277), so we considered the heat straightening was performed and the result have been agreed by three parties, the corresponding data can be found in the attached survey record. In addition we have conducted the NDT to verify the good quality of the influencing welds. Right now also provide the VT/MT report to assure the acceptable condition.

So base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report **NCR-000302 (ZPMC-0276)**.

Please reference attached documentation for acceptance and closure the **NCR-000302 (ZPMC-0276)**.

**ATTACHMENT:**

**NCR-000302 (ZPMC-0276)**

**ZPMC internal NCR**

**The heat straightening record**

**The heat straightening process checking record**

**The final VT/MT report**

**The misalign survey record.**

A handwritten signature in black ink, appearing to read "Zhao Shuangbao", is written in a cursive style.

2009.7.22



# 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-B-201 NCR 编号: (NCR-000302)	
Item: Unapproved Heat Straightening 名称描述: 未经批准的校火	Item Number: N/A 件号: N/A	Drawing: 4AE 图号: 4AE	
Location: OBG Trial Assembly Yard 位置: OBG 总拼外场		Date: 2009-06-30 日期: 2009-06-30	
Description of Nonconformance: 不符合项状态描述: <p>Caltrans Inspector observed deflection and distortion in the longitudinal diaphragms located at the 4AE/4BE segment splice (between PP25 and PP26). Heat straightening was being performed on LD008-001 (4AE) for the second time without an approved heat straightening report and without the Engineer's approval.</p> <p>加州检验员发现 4AE/4BE (PP25~PP26) 间的纵桁存在偏移及变形。LD008-001 (4AE) 正在进行第二次的校火, 但是没有校火报告也没有通过工程师批准。</p> <p>参考标准: AWS D1.5 章节 3.7.3 “因焊接变形的构件, 必须用机械的方法矫直, 或者在得到工程师批准后, 在仔细监控下进行一定程度的局部家人来矫直。”</p>			
Work By: <u>Nafalin</u> 施工方: <u>Nafalin</u>	Prepared by: <u>[Signature]</u> 准备: <u>6/30/09</u>	Reviewed by QCE: <u>[Signature]</u> 质量工程师批准: <u>Chao Shuangbao</u>	
<input type="checkbox"/> Drawing Error 图纸错误	<input type="checkbox"/> Material Defect 材料缺陷	<input type="checkbox"/> Fabrication Error 制作错误	<input type="checkbox"/> Other 其他原因 <u>09.6.30</u>
Disposition: <input type="checkbox"/> Use as is 处理措施: 回用	<input type="checkbox"/> Repair 返修	<input type="checkbox"/> Reject 拒收	
Recommendation: 建议:  Prepared by: _____ Approved by QCA: _____ 准备 质量经理批准			
Reason for Nonconformance: 不符合原因: <u>由于没有校火报告对 4AE/4BE 间的纵桁产生偏移及变形校火。Heat straighten 4AE/4BE longitudinal diaphragm offset without heat straightening report.</u> 预防措施: <u>红字是 监护 红字检查。Enhance supervision and inspection.</u> Approved by/批准: <u>Gao Jun 09.7.15</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: <u>将湾大桥的纵桁校火区域进行NDI (MT) 检测, 并加以控制及</u> <u>的监控与程序。对相关人员进行了教育和培训。</u> <u>Perform MT of heat straightening area, and enhance supervision and inspection, train and educate workers.</u>			
Reviewed /批准: <u>Tang Yongbo</u>			
Verification: <input type="checkbox"/> Acceptable 确认: 可接受		<input type="checkbox"/> Unacceptable 不可接受	
Verified by QCI/质检确认: _____		Reviewed by QCA/质检主任审核: _____	

**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-000302

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 11-Jun-2009

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

NCR #: ZPMC-0276

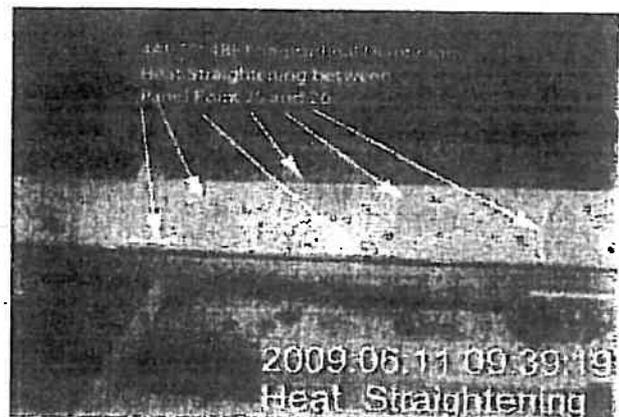
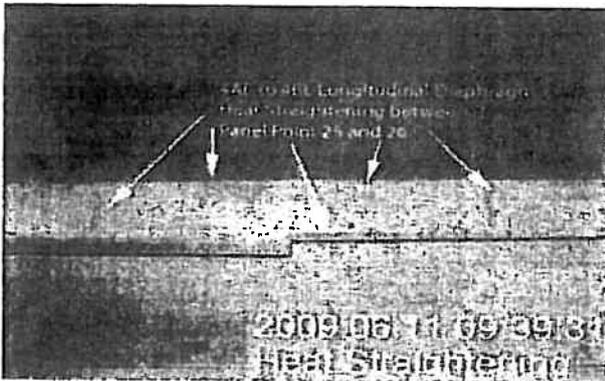
### Type of problem:

Welding  Concrete  Other Welding  Curing  Procedural  Bridge No: 34-0006Joint fit-up  Coating  Other  Component: OBG Segment 4AEProcedural  Procedural  Description:

Reference Description: Unapproved Heat Straightening, Segment 4AE

### Description of Non-Conformance:

Caltrans Quality Assurance (QA) Inspector observed deflection and distortion in the longitudinal diaphragms (LD)s located at the 4AE/4BE segment splice (between PP25 and PP26). Heat straightening was being performed on LD008-001 (Segment 4AE) for the second time without an approved heat straightening report and without the Engineer's approval.



### Applicable reference:

AWS D1.5 2002 Section 3.7.3: "Members distorted by welding shall be straightened by mechanical means or by carefully supervised application of a limited amount of localized heat as approved by the Engineer."

Special Provisions 8-3-01 Welding Quality Control: "The Engineer shall be notified immediately when weld distortion occurs that cannot be corrected using the standard procedures for heat straightening submitted in the WQCP. Request to heat straighten shall be in writing and include.

1) Sketches of each distortion member showing the dimensions, length of weld, out of tolerance values, and locations where heat will be applied.

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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- 2) Estimate of the number of applications of heat to bring the material back into conformance.
- 3) Explanation of how distortion control procedures will be modified and improved.
- 4) The contractor shall allow the Engineer five (5) days to review these procedures.
- 5) No remedial work shall begin until the repair procedures are approved in writing by the Engineer."

**Who discovered the problem:** S. Manjunath Math

**Name of individual from Contractor notified:** Weiping Yang

**Time and method of notification:** 9:40, 06-11-09, Verbal

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

**Time and method of notification:** 10:30, 06-11-09, Verbal

**QC Inspector's Name:** Wang Lu

**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

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: 14-Jun-2009

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

Dear: Mr. Charles Kanapicki  
Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Job Name: SAS Superstructure  
Document No: 05.03.06-000265

Subject: NCR No. ZPMC-0276

Reference Description: Unapproved Heat Straightening, Segment 4AE

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: 04

### Remarks:

Caltrans Quality Assurance (QA) Inspector observed deflection and distortion in the longitudinal diaphragms (LD)s located at the 4AE/4BE segment splice (between PP25 and PP26). Heat straightening was being performed on LD008-001 (Segment 4AE) for the second time without an approved heat straightening report and without the Engineer's approval.

See NCR Report No. ZPMC-276 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-0276

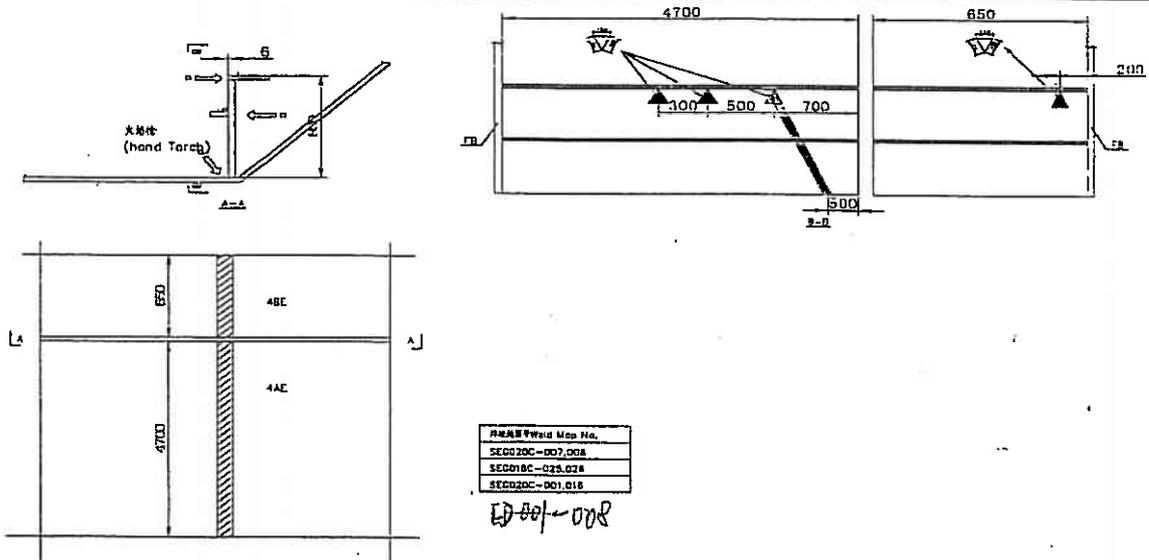
cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, Jason Tom, Contract Files, Ching Chao  
File: 05.03.06

02.02.15.04  
05.03.06-000265.NCT

Received  
NCT-000265 15 Jun 09 Page 1 of 1

VF30606, 30607

MF11459  
缺MT报告

 <b>火工校正记录</b> <b>Heat Straightening Record(HSR1)</b>		报告号 Record # HSR1(B)-6786
		版本号 Revision # 0
		日期 Date 2009.06.08
美国海湾大桥 San Francisco Oakland Bay Bridge CALTRANS #04-0120F4      工程编号 JOB#: ZP06-787		
装配 Assembly:	质检代表/Quality Control Representative	
部装 Sub-Assembly:	<i>Xin Jun</i> 209 611	
梁段 Gird: 4Lift-E	质检经理/Quality Assurance Manager-Approval	
塔段 Tower: N/A	<i>Luyfanhua</i>	
焊缝号 Weld No: See Sketch		
焊缝地图号 Weld Map No: See Sketch		
<b>情况描述 Description of Condition</b>		
Cause原因	Welding distortion 焊接变形	
Type of Defect缺陷类型	Welding distortion 焊接变形	
Inspection Method检查方法	Visual 目检	
<b>处置方法 Disposition</b>		
缺陷去除方法(Defect Removal Method):	Flame Straightening by oxygen acetylene	
后续NDE(Post-Removal NDE):	After finishing heat straightening, the weld of the heat area shall perform NDT according to the approved shop drawing	
纠正措施(Corrective Action(s)):	Control current, voltage and weld speed according to relevant WPS. If necessary anti-deformation or hold down device can be added.	
实施次数(Number of application):	1-3	
最高温度(Maximum temperature):	<650°C	
<b>简图 Sketch</b>		
		
<small>注: 最大焊缝宽度60mm, 最大高度20-40mm. NOTE: the max deformation is about 5mm, the width is 20-40mm.</small>		
<b>***To be signed when Closing HSR~Verify compliance and all necessary reports are ready to attach***</b>		
检验员 Inspector:	<i>Shi Lin</i>	签字 Signature:
CWI #	07120781	Closing Date:
II 级探伤 NDE Certification:	Level II	09.27.05
质检经理 QC Manager	<i>Luyfanhua</i>	审核日期 Review Date:
<small>Note: All repair work shall be performed in accordance with applicable CALTRANS approved procedures, contract specifications and AWS D1.5 2002.</small>		

#R787-QCP-1101

Approved by *Luyfanhua* 6/11/09



美国钢桥钢板平整度火工校正检查记录卡  
The report of steel plate heat straightening process checking

工程编号: The serial no. of project: 21046-787	图号: The drawing no.: S2G020C, S2G018C	构件名称: The part name: 4M41
材质: Material: A709m-345	炉批号: The heath of plate: N/A	火工校正次数: The times of heat straightening: 3
移植是否正确: Material mark checking: Right	钢板编号: Plate ID: N/A	桥段名称: Section name: 4A2+4B2

火工校正温度控制 The temperature record of heat straightening

检查时间 Checking time	9:20	6:100	10:30						
测量温度 Measure result	512	485	462						

校火前平整度测量 Flatness checking before heat straightening (mm)

测量点 Measure position:	1	2	3						
测量值 Measure result:	6	5.3	4.7						

校火后平整度测量 Flatness checking after heat straightening (mm)

测量点 Measure position:	1	2	3						
测量值 Measure result:	1	0.8	0.5						

整体平整度/翘板垂直度是否合格  
Heat straightening result: 合格

检验员  
QC inspector: Zhongyuanhong

日期  
Date: 09.6.13

若校正影响焊缝,请填写以下项目  
Fill the following items if the straightening affects the weld

对应NDT报告编号  
NDT report no. ✓

NDT检验员签字  
NDT inspector: Jin Jianming

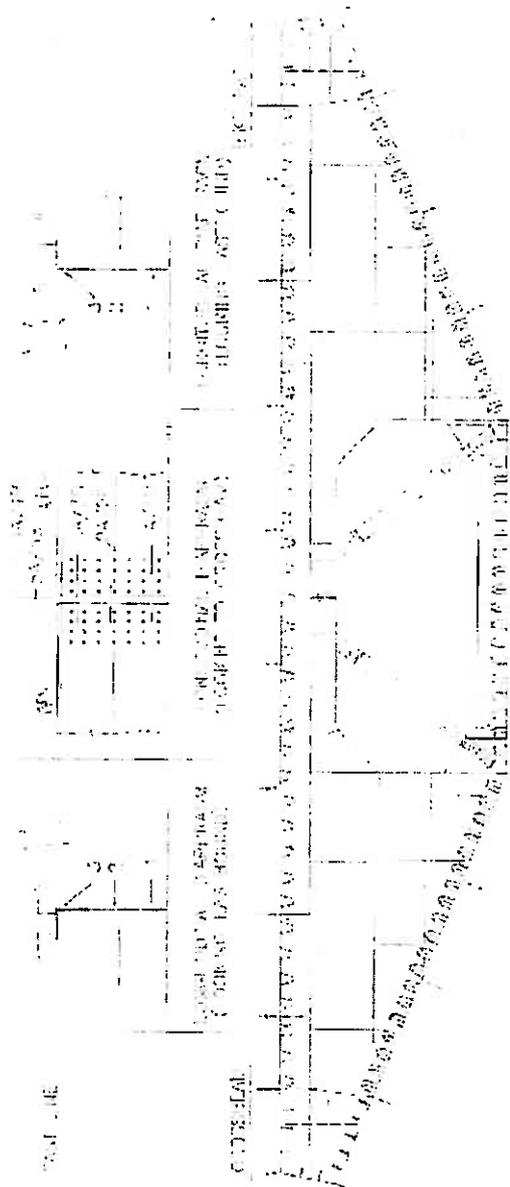
日期  
Date: 09.7.4

**CONFIRMATION SURVEY ON LD OFFSET FOR OBG LIFT 3 E LINE  
CONDUCTED BY ABF, CT AND ZPMC**

4AE TO 4BE

LOCATION SURVEY POINT	LD E4 (AT CB SIDE)					LD E3 (AT BK SIDE)				
	1	2	3	4	5	1	2	3	4	5
ABF, CT & ZPMC Jointly survey record										
SWEEP at survey point 3 between FB to FB	100mm to FB 1	800mm to FB 1	Mid point	800mm to FB 2	100mm to FB 2	100mm to FB 2	800mm to FB 1	Mid point	800mm to FB 2	100mm to FB 2
						12	10	14	13	12

Data recorded on July 12, 2009





Visual Weld Inspection Report  
焊缝目视检查报告

周数 84  
日期 2009.06.13

Girder/梁: OBG Plate Panel Splice

Tower/塔:

Quality Control Representative:  
质检代表:

*[Signature]*

CWI:

检验员:

Shi Lin  
07120791

Quality Assurance Manager ~ Approval  
质量控制经理:

*[Signature]*

Caltrans Contract No.  
加州合同编号

项目

项目

04-0120F4

San Francisco Oakland Bay Bridge  
旧金山海湾大桥

ZP06-787

Weld No.  
焊缝编号

Welder I.D.#  
焊工识别号

Location  
位置

Welding consumables  
焊接材料

Undercut  
咬边

Porosity  
气孔

Over lap  
焊瘤

Crater  
弧坑

Arc strike  
电弧擦伤

Spatters  
飞溅

Crack  
裂纹

Accept or Reject  
接受或拒收

Repair  
返修

Reject after repair  
返修后接受或拒

220064

220064

055564

2F

2F

2F

supercore71H(Φ1.4)

supercore71H(Φ1.4)

supercore71H(Φ1.4)

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√

After root weld  
 After CWR or WRR No.:

#R787-QCP-603

After cover pass

After HSR No.: HSR1(B)-6786

Others

"√" is no defects. "X" is defects. "NA" is not applicable.





**Visual Weld Inspection Report**  
**焊缝目视检查报告**

Caltrans Contract No. 加州合同编号		04-0120F4		Girder/ 梁: Tower/ 塔:		OBG Plate Panel Splice		周数	84				
Project No.: 项目名称		San Francisco Oakland Bay Bridge 旧金山海湾大桥		Quality Control Representative: 质检代表:		[Signature]		日期	2009.06.13				
Project No.: 项目编号:		ZP06-787		CWI: 检验员:		[Signature]							
Quality Assurance Manager ~ Approval 质量控制经理:		[Signature]		Quality Assurance Manager ~ Approval 质量控制经理:		[Signature]							
Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 修后接受或拒收
SEG020C-001	044772	2G+4G	SUPERCORED 71H ( $\phi$ 1.4)/THJ506FE- 1( $\phi$ 4.0)	√	√	√	√	√	√	√	ACC	NA	NA
<input type="checkbox"/> After root weld <input type="checkbox"/> After CWR or WRR No. : #R787-QCP-603 <input type="checkbox"/> After cover pass <input checked="" type="checkbox"/> After HSR No. : HSR1(B)-6786 <input type="checkbox"/> Others													

"√" is no defects. "X" is defects. "NA" is not applicable.



# REPORT OF MAGNETIC PARTICLE EXAMINATION

## 磁粉检测报告

REPORT NO. 报告编号 B787-MT-12193		DATE日期 2009.07.06	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: OBE4 OBG LONGITUDINAL		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> , 2009	
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-345 14/20/30 mm	
WELDING PROCESS 焊接方法	FCAW	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			
SEG020C-007						*
SEG020C-008				ACC.		100%MT
SEG020C-001						*
SEG020C-016				ACC.		100%MT
SEG018C-025						*
SEG018C-026				ACC.		100%MT

### AFTER HSR1 (B) - 6786

\* SEG020C-008、SEG020C-016、SEG018C-026 were MT inspection and ACC, which is the result of required 15% MT.  
 \* SEG020C-008、SEG020C-016、SEG018C-026 焊缝经MT检测合格, 累积检测长度已经达到了此批要求的15%检测长度。

### BLANK


EXAMINED BY主操 Jin Jianting Jin Jianting 09.07.06 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Cai Xin Xin 09.07.06 LEVEL-II SIGN / DATE日期
质量经理 / QCM	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000265

**Subject:** NCR No. ZPMC-0276

**Dated:** 24-Aug-2009

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000269 **Rev:** 02

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC has now included the reports not included in the last NPR. ZPMC requests closure of this NCR.  
ZPMC has now included the reports not included in the last NPR. ZPMC requests closure of this NCR.

**Submitted by:**

**Attachment(s):** ABF-NPR-000269R02;

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**Caltrans' comments:**

**Status:** CLO

**Date:** 26-Aug-2009

The proposed resolution is acceptable. The inspection documents (MT reports for welds SEG020C-001 and SE G020C-007) requested in Rev 1 of NPR-0269 have been provided. The Department concurs that Non-Conformance ZPMC-0276 is closed.

**Submitted by:** Wright, Doug

**Date:** 26-Aug-2009

**Attachment(s):**



No. B-456

## LETTER OF RESPONSE

**TO: American Bridge/Flour**

**DATE: 2009-8-20**

**REGARDING: NCR-000302 (ZPMC-276)**

With this letter of response, ZPMC requests closure for Caltrans **NCR-000302 (ZPMC-276)**. Per the NCR proposed resolution comments from the caltrans, we provide the acceptable MT for the welds SEG020-001 and SEG020C-007 for the engineer revision and closing out the NCR.

so base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report **NCR-000302 (ZPMC-276)**.

Please reference attached document for acceptance and closure the **NCR-000302 (ZPMC-276)**.

**ATTACHMENT:**

**NCR-000302 (ZPMC-276)**

**The final MT inspection reports**

*Zhao Shuangbao*

*2009. 8. 20*

**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-000302

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

**Date:** 11-Jun-2009

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

**NCR #:** ZPMC-0276

**Type of problem:**

Welding  Concrete  Other

Welding  Curing  Procedural

Joint fit-up  Coating  Other

Procedural  Procedural  Description:

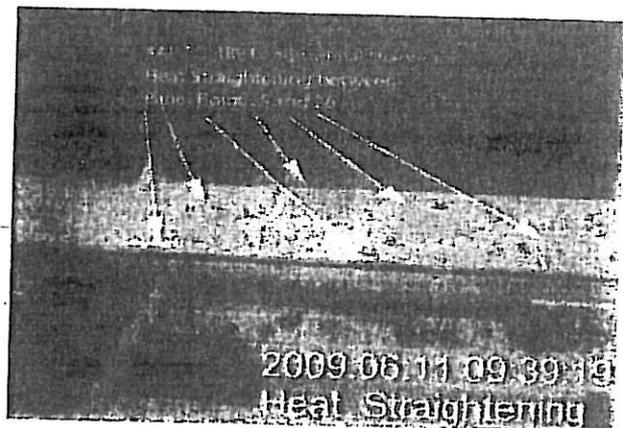
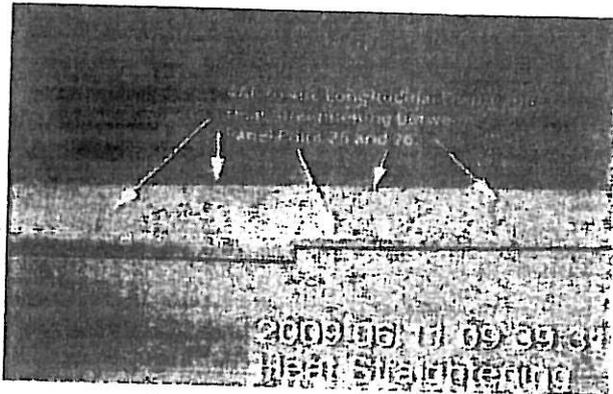
**Bridge No:** 34-0006

**Component:** OBG Segment 4AE

**Reference Description:** Unapproved Heat Straightening, Segment 4AE

**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed deflection and distortion in the longitudinal diaphragms (LD)s located at the 4AE/4BE segment splice (between PP25 and PP26). Heat straightening was being performed on LD008-001 (Segment 4AE) for the second time without an approved heat straightening report and without the Engineer's approval.



**Applicable reference:**

AWS D1.5 2002 Section 3.7.3: "Members distorted by welding shall be straightened by mechanical means or by carefully supervised application of a limited amount of localized heat as approved by the Engineer."

Special Provisions 8-3-01 Welding Quality Control: "The Engineer shall be notified immediately when weld distortion occurs that cannot be corrected using the standard procedures for heat straightening submitted in the WQCP. Request to heat straighten shall be in writing and include.

- 1) Sketches of each distortion member showing the dimensions, length of weld, out of tolerance values, and locations where heat will be applied.





**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-000357**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 30-Nov-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0276**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>Description:</b>	

**Date the Non-Conformance Report was written:** 11-Jun-2009**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed deflection and distortion in the longitudinal diaphragms (LD)s located at the 4AE/4BE segment splice (between PP25 and PP26). Heat straightening was being performed on LD008-001 (Segment 4AE) for the second time without an approved heat straightening report and without the Engineer's approval.

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

Perform required NDT on welds affected by the heat straightening procedures.

**Corrective action taken:**

ZPMC provided adequate documentation verifying that the welds were inspected and are in conformance with the Contract specifications.

**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