

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

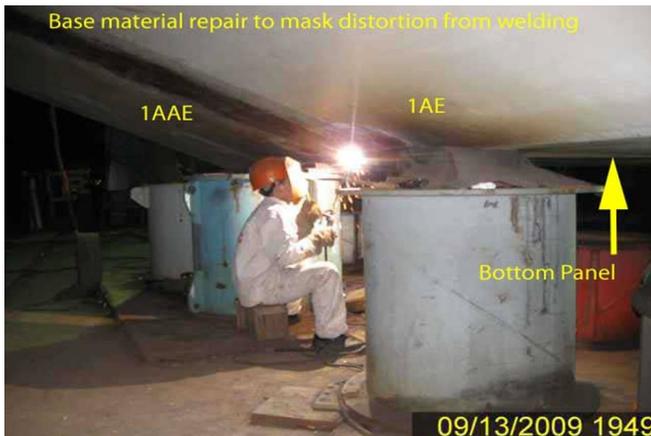
Quality Assurance and Source Inspection



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-000435**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 13-Sep-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0409**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** OBG Segment 1AAE Bottom Panel**Procedural****Procedural****Description:****Reference Description:** Unapproved base metal repair to correct distortion at 1AAE Bottom Panel**Description of Non-Conformance:**

During random visual observations, this Quality Control Inspector observed ZMPC personnel performing Shielded Metal Arc Welding on the outer surface of OBG segment 1AAE near Panel point 8. The contractor performed un-approved base metal repair to correct panel distortion or deformation. The welding occurred at the bottom and side panel adjacent to transverse weld splice between 1AAE and 1AE near the bike path side. The welder presented document ZPMC welding repair report B-WR7494 for this procedure.

**Applicable reference:**

AWS D1.5 (02) Section 3.7.3 – “Members distorted by welding shall be straightened by mechanical means or by carefully supervised applications of a limited amount of localized heat as approved by the Engineer.”

Who discovered the problem: Larry Viars**Name of individual from Contractor notified:** Kevin Chen**Time and method of notification:** 0900 hours, verbal**Name of Caltrans Engineer notified:** Bill Howe

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Time and method of notification: 1000 hours, verbal

QC Inspector's Name: Zhao Shuang Bao

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By:	Tsang, Eric	SMR
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Reviewed By:	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: 02-Oct-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: 05.03.06-000400

Subject: NCR No. ZPMC-0409

Reference Description: Unapproved base metal repair to correct distortion at IAAE Bottom Panel

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:** 01

Remarks:

During random visual observations, this Quality Control Inspector observed ZMPC personnel performing Shielded Metal Arc Welding on the outer surface of OBG segment IAAE near Panel point 8. The contractor performed un-approved base metal repair to correct panel distortion or deformation. The welding occurred at the bottom and side panel adjacent to transverse weld splice between IAAE and IAE near the bike path side. The welder presented document ZPMC welding repair report B-WR7494 for this procedure. Please see the attached NCR No. ZPMC-409 for details.

Action Required and/or Action Taken:

Propose a resolution for the identified recurring non-conformance which constitutes a systematic problem on both materials/workmanship and quality control issues with revised procedures to remedy the defected work and to prevent future occurrences. A response for the resolution of this issue is expected within 14 days.

Transmitted by: Ching Chao

Attachments: ZPMC-0409

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

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000400

Subject: NCR No. ZPMC-0409

Dated: 16-Oct-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000379 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC acknowledges that Base metal repairs require Engineer approval. ZPMC will submit NDT documentation showing that the base metal was not adversely affected by the repair.

ZPMC acknowledges that Base metal repairs require Engineer approval. ZPMC will submit NDT documentation showing that the base metal was not adversely affected by the repair. These documents will be submitted at a later date. Once documents are submitted ZPMC will request closure. Currently, ZPMC requests that this non conformance proposed resolution be approved, with action pending.

Submitted by:

Attachment(s): ABF-NPR-000379R00

Caltrans' comments:

Status: AAP

Date: 29-Oct-2009

The contractor's proposed resolution is accepted with actions pending to close the NCR.

Submitted by: Chao, Ching

Date: 29-Oct-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000400

Subject: NCR No. ZPMC-0409

Dated: 19-Nov-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000379 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is providing the weld repair report, and NDT documentation which shows the repair was acceptable. ZPMC requests closure of this NCR.

ZPMC acknowledges that base metal repairs require Engineer approval. ZPMC has discussed this non conformance with the welder and CWI involved so they understand that base metal repairs must have a CWR. ZPMC is providing the weld repair report, and NDT documentation which shows the repair was acceptable. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000379R01;

Caltrans' comments:

Status: CLO

Date: 30-Nov-2009

The documentation submitted has been reviewed by the Engineer and is considered sufficient to close the NCR.

Submitted by: Chao, Ching

Date: 30-Nov-2009

Attachment(s):



No. B-492

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-11-18

REGARDING: NCR-000435 (ZPMC-0409)

With this letter of response, ZPMC requests closure for Caltrans NCR-000435 (ZPMC-0409). We agree what describe in the non-conformance report. And have trained the welder and CWI for this issue, the base metal weld repair especially to correct the flatness or misalign, should be submitted the documentation for the engineer approval, that's not similar with the beveling of the joint gap. And we have got a few NCR for the same issue, we should improve in the future fabrication with the quality control.

By the way we prepared one weld repair report and perform the VT/MT to confirm the weld repair has been complete and accepted with the NDT method.

so base on the above explanation, ZPMC applies to close the caltrans's report NCR-000435 (ZPMC-0409).

Please reference attached document for acceptance and closure the NCR-000435 (ZPMC-0409).

ATTACHMENT:

NCR-000435 (ZPMC-0409)

ZPMC internal NCR

The welding repair report

The acceptable VT/MT reports

Zhao Shuangyan

2009. 11. 18



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-276 (NCR-000435)
Item: Missed MT Indications 名称描述: MT 漏检	Item Number: 件号: N/A	Drawing: 图号: N/A
Location: OBG 外场 1E 箱体 位置: OBG Trial Assembly Yard 1E		Date: 日期: 2009-10-20
Description of Nonconformance: 不符合项状态描述: During random visual observations, the QC inspector observed ZPMC personnel performing SMAW on the outer surface of OBG 1AAE segment near PP8. The contractor performed un-approved base metal repair to correct panel distortion or deformation. The welding occurred at the bottom and side panel adjacent to transverse weld splice between 1AAE and 1AE near the bike path side. The welder presented document ZPMC welding repair report B-WR7494 for this procedure. 在随机的目视检查中发现 ZPMC 在对箱体 1AAE 靠近 PP8 位置的外表面进行手工焊接。此处位置的针对板单元变形而进行的母材返修是未经批准的。此焊接位于自行车道侧的底板于斜底板拐角处靠近 1AAE 和 1AE 的横向拼缝。ZPMC 提供了 一份 返修报告, 编号: B-WR7494.		
Work By: 施工方: Zhuang Chang <input type="checkbox"/> Drawing Error 图纸错误	Prepared by: 准备: <i>Jun</i> <input type="checkbox"/> Material Defect 材料缺陷	Reviewed by QCE: 质量工程师批准: <i>Luyanshua</i> <input checked="" type="checkbox"/> Fabrication Error 制作错误 <input type="checkbox"/> Other 其他原因
Disposition: 处理措施:	<input type="checkbox"/> Use as is 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: 在对箱体 1AAE 和 1AE 横向拼缝处进行母材返修是未经批准的。 <i>Repair box 1AAE and 1AE transverse splice before approved by engineer.</i>		
Prevention of Re-occurrence: 预防措施: <i>加强监督和检查. Enhance supervision and inspection.</i> Approved by/批准: <i>Gao Jun 09.10.22</i>		
Technical Justification for Use-As-Is/Repair: 回用或返修的技术依据:		<input type="checkbox"/> Attachment 附件 <input type="checkbox"/> Non-attachment 无附件
Reviewed /批准: _____		
Verification: 确认:	<input type="checkbox"/> Acceptable 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 - 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: 02-Oct-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: 05.03.06-000400

Subject: NCR No. ZPMC-0409

Reference Description: Unapproved base metal repair to correct distortion at 1AAE Bottom Panel

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: 01

Remarks:

During random visual observations, this Quality Control Inspector observed ZMPC personnel performing Shielded Metal Arc Welding on the outer surface of OBG segment 1AAE near Panel point 8. The contractor performed un-approved base metal repair to correct panel distortion or deformation. The welding occurred at the bottom and side panel adjacent to transverse weld splice between 1AAE and 1AE near the bike path side. The welder presented document ZPMC welding repair report B-WR7494 for this procedure. Please see the attached NCR No. ZPMC-409 for details.

Action Required and/or Action Taken:

Propose a resolution for the identified recurring non-conformance which constitutes a systematic problem on both materials/workmanship and quality control issues with revised procedures to remedy the defected work and to prevent future occurrences. A response for the resolution of this issue is expected within 14 days.

Transmitted by: Ching Chao

Attachments: ZPMC-0409

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

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Quality Assurance and Source Inspection

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(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-000435

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 13-Sep-2009

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

NCR #: ZPMC-0409

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural Description:

Bridge No: 34-0006

Component: OBG Segment 1AAE Bottom Panel

Reference Description: Unapproved base metal repair to correct distortion at 1AAE Bottom Panel

Description of Non-Conformance:

During random visual observations, this Quality Control Inspector observed ZMPC personnel performing Shielded Metal Arc Welding on the outer surface of OBG segment 1AAE near Panel point 8. The contractor performed un-approved base metal repair to correct panel distortion or deformation. The welding occurred at the bottom and side panel adjacent to transverse weld splice between 1AAE and 1AE near the bike path side. The welder presented document ZPMC welding repair report B-WR7494 for this procedure.



Applicable reference:

AWS D1.5 (02) Section 3.7.3 – "Members distorted by welding shall be straightened by mechanical means or by carefully supervised applications of a limited amount of localized heat as approved by the Engineer."

Who discovered the problem: Larry Viars

Name of individual from Contractor notified: Kevin Chen

Time and method of notification: 0900 hours, verbal

Name of Caltrans Engineer notified: Bill Howe

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Time and method of notification: 1000 hours, verbal

QC Inspector's Name: Zhao Shuang Bao

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By: Tsang, Eric

SMR

Reviewed By: Wahbeh, Mazen

SMR



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.:	OBE1	报告编号 Report No.:	B-WR7494
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	1AAE底板 1AAE bottom plate	NDT 报告编号 NDT Report No.:	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

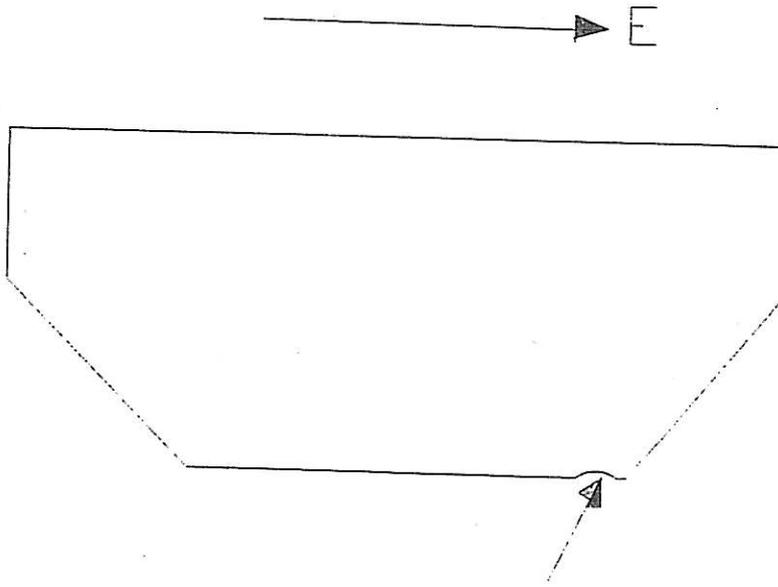
检查发现1AAE南侧底板有一处长度200mm, 宽度200mm的范围平整度超标, 需堆焊, 请帮忙解决。具体如下图所示:

After inspection: the flatness exceeded requirement at 1AAE south side, 200mm in length, 200mm in wide, it needed to build up, and the detail sees the following draft.

检验员 (Inspector): *Zhang Hai tao* 日期 (Date): 2009.09.12

焊缝返修位置示意图:

Draft of Welding Discontinuity:



注: 堆焊处

Remark: repair position

产生原因:

Cause:

1. 焊接变形和制作误差。
1. Weld distortion and fabricate error.

车间负责人 (Foreman): Gao Jun 日期 (Date): 07.09.13

处理意见

Disposition :

1. 准备一个正确的接头型式, 具体参照相应的返修WPS ;
 2. 将修补区域打磨光滑, 开始和结束的接头交错布置 ;
 3. 对修补区域进行VT与MT检测 ;
 4. 根据批准的返修焊接工艺规程 (WPS) 进行预热及焊接 ;
 5. 将修补区域打磨与母材或相邻焊缝平齐 ;
 6. 对修补区域作100%VT与MT检测 ;
-
1. Prepare excavation according to the approved repair WPS.
 2. Grind the repaired area to a smooth and shiny finish, with tapered ends, to ensure staggered starts and stops.
 3. VT and MT the repair area.
 4. Preheat and weld according to the relevant repair WPS.
 5. Grind the repaired area flush with base metal or the adjacent weld.
 6. Perform VT and MT over 100% of the repair area.

工艺: Xu Dongkai
Technical Engineer:

07.09.13

审核:
Approved By: [Signature]

日期:
Date:

[Signature]



焊缝返修报告

版本
Rev. No.:

Welding Repair Report

0

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	OBE1	报告编号 Report No.:	B-WR7494
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	1AAE底板 1AAE bottom plate	NDT 报告编号 NDT Report No.:	NA
项目编号 Project No.:	ZP06-787				

纠正措施:**Corrective Action to Prevent Re-occurrence:**

加强制作过程中的监控, 减少误差。

Enhance supervision in process of fabrication to reduce error.

负责人 (Foreman): Gao Jun

日期 (Date): 09.09.13

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-4 G(4F)-Repair <i>Fix</i>	工艺员 Technologist:	Xu Dongkai 09.09.13
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:	N/A	返修的缺陷 Description of Discontinuity:	Flatness over the requirement 平整度超标
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	86°C
最大碳刨深度 Max. Depth of Gouge:	N/A	碳刨总长 Total Length of Gouge:	N/A
焊工 Welder:	045196	焊接类型 Welding Type:	SMAW
焊接电流 Current:	150	焊接电压 Voltage:	25
		焊接位置 Position:	4E
		焊接速度 Speed:	130

**返修后检查
Inspection After Repair:**

外观检查 VT Result:	Acc	检验员 Inspector:	Li Jia	日期 Date:	09-09-11
NDT复检 NDT Result:	m7: Acc	探伤员 NDT Person:	Wang Aicheng	日期 Date:	09.09.16

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-14119		DATE日期 2009.09.26		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: OBE1 OBG BOTTOM PLATE			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 ST , 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-345F2-X 35mm			
WELDING PROCESS 焊接方法	NA	TYPE OF JOINT 焊缝类型	NA			
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			
OBE1				ACC.		Base metal per B-WR7494
BLANK						
EXAMINED BY 主探 Ding Acheng <i>Ding Acheng</i> 09.09.26			REVIEWED BY 审核 <i>Xin Gang Sheng</i> 09.09.26			
LEVEL - II SIGN 签名 / DATE日期			LEVEL-II SIGN / DATE日期			
质量经理 / QCM <i>Lujianhua</i> 9.26.			用户CUSTOMER <i>9</i>			
签字 SIGN / 日期 DATE			签字 SIGN / 日期 DATE			

DEPARTMENT OF TRANSPORTATION

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Quality Assurance and Source Inspection



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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-000391**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Dec-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0409**Type of problem:**

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

Date the Non-Conformance Report was written: 13-Sep-2009**Description of Non-Conformance:**

During random visual observations, this Quality Control Inspector observed ZMPC personnel performing Shielded Metal Arc Welding on the outer surface of OBG segment 1AAE near Panel point 8. The contractor performed un-approved base metal repair to correct panel distortion or deformation. The welding occurred at the bottom and side panel adjacent to transverse weld splice between 1AAE and 1AE near the bike path side. The welder presented document ZPMC welding repair report B-WR7494 for this procedure.

Contractor's proposal to correct the problem:

ZPMC acknowledges that base metal repairs require Engineer approval. ZPMC has discussed this non conformance with the welder and CWI involved so they understand that base metal repairs must have a CWR. ZPMC is providing the weld repair report, and NDT documentation which shows the repair was acceptable.

Corrective action taken:

ZPMC has performed the repair and provided the MT report B787-MT-14119 for the acceptance of this base metal repair.

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: Tsang, Eric

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer