

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-000586

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 03-Jan-2010

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

NCR #: ZPMC-0559

Type of problem:

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: West Tower
Procedural	Procedural	Description: West Tower Interior Splice Plate	

Reference Description: West Tower, Lift 2 to 3, Skin D Interior Splice Plate

Description of Non-Conformance:

During in-process Visual Testing (VT) of West Tower, Skin D, Interior Splice Plate WSD1-SPSA3-3, QA discovered base metal repairs performed without prior Engineer approval.



Applicable reference:

Caltrans Special Provision Section 8-3.01 - "The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also of the proposed repair procedures to correct them. For requests to perform repairs, the contractor shall include an engineering evaluation of the proposed repair."

ZPMC Welding Quality Control Plan, Section 9.2.1.2 - "Prior approval of the Engineer shall be obtained for repairs to base metal other than what was identified in Section 9.2.1.1 of this manual and the repair of all other cracks."

AWS D1.5-2002, Section 3.7.4 - "Prior approval of the Engineer shall be obtained for repairs to base metal."

Who discovered the problem: Nagalingam Pandaram Pillai

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Name of individual from Contractor notified: Chen Wen Liang

Time and method of notification: 1/3/2010, 9:45; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 1/3/2009, 14:00; E-mail

QC Inspector's Name: An Qing Xiang

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 Serge Sinevod, 139-1686-1597, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	ASMR
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Reviewed By:	Wahbeh,Mazen	SMR
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DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
 333 Burma Road
 Oakland CA 94607
 Tel: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	Date:	04-Jan-2010
Dear:	Mr. Charles Kanapicki	Contract No:	04-0120F4 04-SF-80-13.2 / 13.9
Attention:	Mr. Thomas Nilsson Project/Fabrication Manager	Job Name:	SAS Superstructure
Subject:	NCR No. ZPMC-0559	Document No:	05.03.06-000549

Reference Description: Unapproved Base Metal Repair/ West Tower Lift 2/3 Skin D/ Interior Splice plate

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: Tower **Lift:** N/A

Remarks:

During in-process Visual Testing (VT) of West Tower, Skin D, Interior Splice Plate WSD1-SPSA3-3, QA discovered base metal repairs performed without prior Engineer approval.

Caltrans Special Provision Section 8-3.01 - "The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also of the proposed repair procedures to correct them. For requests to perform repairs, the contractor shall include an engineering evaluation of the proposed repair."

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AWS D1.5-2002, Section 3.7.4 - "Prior approval of the Engineer shall be obtained for repairs to base metal."

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance, documenting that the repaired base metal / welding repair is in compliance with the contract requirements. Documentation provided for the Engineer's review of the acceptability of the weld repair shall at a minimum include the procedure utilized/WRR and the NDT results.

In addition to the material/workmanship non-conformance, address the failure by both Production and Quality Control in proceeding with base metal repair without prior approval from the Engineer. Provide documentation of the steps/actions taken by Production and Quality Control to prevent future occurrences.

Recent failures by Production and Quality Control to obtain prior approval from the Engineer for repairs not addressed in the WQCP have resulted in the issuance of NCR ZPMC-0548 and 0490 related to Tower and approximately 14 NCRs related to OBG.

The response for the resolution of this issue is requested within 7 days.

NCT

(Continued Page 2 of 2)

Transmitted by: Ken Lee Transportation Engineer

Attachments: ZPMC-0559

cc: Rick Morrow, Gary Pursell, Mark Woods, Scott Kennedy

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000549

Subject: NCR No. ZPMC-0559

Dated: 18-Jan-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000490 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has acknowledged this NCR and has attached the repair documents. ABF QCM has informed ZPMC QA that a CWR for these types of base metal repairs is required.

ZPMC has acknowledged this NCR and has attached the repair documents. The ABF QCM held a meeting with ZPMC QA/QC personnel and has discovered that ZPMC has a slight mis-understanding with the Special Provisions as they state Engineers approval is required for 3rd time repair of welds or base metal. This term was being interpreted to mean 3rd time base metal repairs require engineers approval. However, regardless of the interpretation, the first part of the sentence specifies " in addition to the provisions of AWS D1.5, 3.7.4 and 12.17. The ABF QCM has informed ZPMC QA that a CWR for these types of base metal repairs is required, not a WRR. ZPMC requests closure of this NCR.

Submitted by: Lawton, Steve

Attachment(s): ABF-NPR-000490R00;

Caltrans' comments:

Status: CLO

Date: 19-Jan-2010

The Department agrees that a CWR is required for this type of base metal repair instead of a WRR. The proposed resolution is acceptable and the Department concurs that Non-conformance ZPMC-0559 is closed.

Submitted by: Lee, Ken

Attachment(s):

Date: 19-Jan-2010



No. T-115

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-1-15

REGARDING: NCR-000586(ZPMC-0559)

We ZPMC acknowledged this situation.

According to the AWS D1.5 3.3.4.1 .ZPMC issued the WR and did the NDT about the repair area to make sure no problem on the repair area.

So ZPMC hope CT close this NCR.

ATTACHMENT:

NCR-000586(ZPMC-0559)

UT REPORT:T787-UT-2617

MT REPORT:T787-MT-7841

VISUAL WELD INSPECTION REPORT

WELDING REPAIR REPORT :T-WR2904

L: Xing

2010.1.15



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 04-Jan-2010

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: 05.03.06-000549

Subject: NCR No. ZPMC-0559

Reference Description: Unapproved Base Metal Repair/ West Tower Lift 2/3 Skin D/ Interior Splice plate

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Material Location: Tower **Lift:** N/A

Remarks:

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Action Required and/or Action Taken:

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(Continued Page 2 of 2)

Transmitted by: Ken Lee Transportation Engineer

Attachments: ZPMC-0559

cc: Rick Morrow, Gary Pursell, Mark Woods, Scott Kennedy

File: 05.03.06

DEPARTMENT OF TRANSPORTATION
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, PRC

Report No: NCR-000586

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 03-Jan-2010

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

NCR #: ZPMC-0559

Type of problem:

Welding Concrete Other

Welding Curing Procedural **Bridge No:** 34-0006

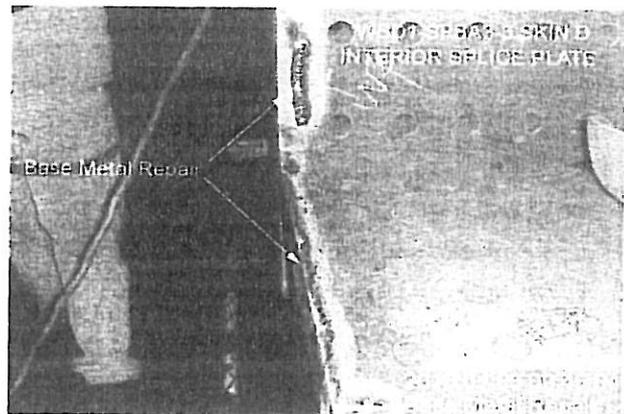
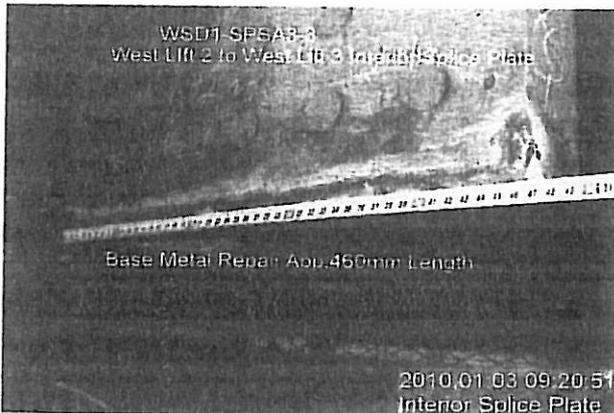
Joint fit-up Coating Other **Component:** West Tower

Procedural Procedural **Description:** West Tower Interior Splice Plate

Reference Description: West Tower, Lift 2 to 3, Skin D Interior Splice Plate

Description of Non-Conformance:

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Who discovered the problem: Nagalingam Pandaram Pillai

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Name of individual from Contractor notified: Chen Wen Liang

Time and method of notification: 1/3/2010, 9:45; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 1/3/2009, 14:00; E-mail

QC Inspector's Name: An Qing Xiang

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 Serge Sinevod, 139-1686-1597, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod, Serge

ASMR

Reviewed By: Wahbeh, Mazen

SMR



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 T787-UT-2617 DATE 2010.01.04 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: CONNECTING PLATE DRAWING NO.: SPSA3-3 SPSA3-图号 63 CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 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
 FCAW NA Dec. 28ST, 2010

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-345-T2-Z 70mm

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	45°	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
SPSA3-3		70				34									ACC.	100%
		45				33									ACC.	100%
		0	C			20									ACC.	100%
SPSA3-63		70				34									ACC.	100%
		45				33									ACC.	100%
		0	C			20									ACC.	100%

BASE METAL PER T-WR2904.2929

BLANK

EXAMINED BY 主探
M. Fong Sheng 10.01.04.
 LEVEL - II SIGN / DATE

REVIEWED BY 审核
Joe Kai Hong 10.01.04
 LEVEL - II SIGN / DATE

质量经理 / QCM
h. fong
 签字 SIGN / 日期 DATE 10.1.15

用户 CUSTOMER
 签字 SIGN / 日期 DATE



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	SPSA3-3	报告编号 Report No.	T-WR2904
合同号 Contract No.:	04-0120F4	部件名称 Items Name	西二三吊内部连接板 2 nd 3 rd lifting inner connect plate	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

缺陷描述

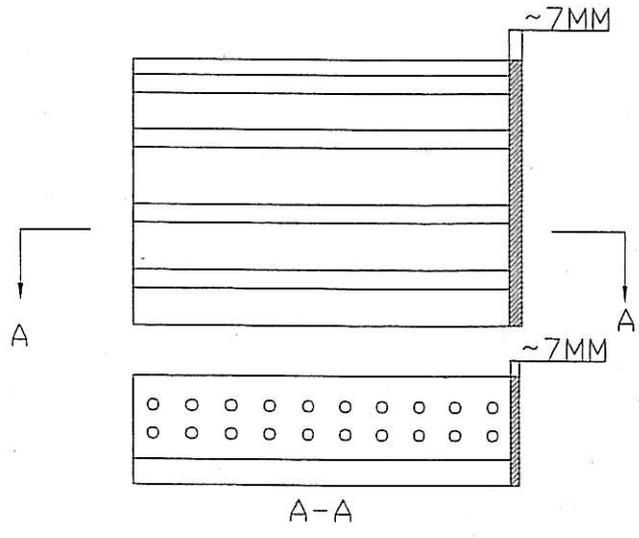
Description of welding discontinuity:

西二三吊栓接段内部连接板SPSA3-3端部孔边距与工艺要求不符，需要进行堆焊约7MM，如图：
After inspection west tower 2nd 3rd lifting bolt segment connect plate SA3-3 hole distance, it can't meet technology requirement, it needed to build up 7mm, see draft.

An Qingxiang
检验员 (Inspector) : An Qingxiang 日期(Date) : 09.12.23

焊缝返修位置示意图：

Draft of welding discontinuity:



注：阴影处为需修补区域。Remark: repair area in shadow.

产生原因:

Caused:

焊接变形和制作误差。

Weld distortion and fabricate error.

车间负责人(Foreman): *Wifei* 日期(Date): *09.12.25*

处理意见

Disposition :

1. QC 须监控打磨和焊接过程
2. 对需堆焊部分进行打磨
3. VT 检测以确保缺陷被清除
4. 按批准后焊接工艺规程 WPS 要求进行预热和控制道间温度, 进行堆焊, 略高于理论 2~3mm
5. 施焊完毕后将施焊位置打磨平整
6. 对返修区域进行 VT, MT 和 UT 检测.

1. QC shall monitor gouging/grinding/welding
2. Grind the building-up area
3. Verify that defects have been removed with VT
4. Preheat and weld passes temperature according to the approved WPS, it should be 2-3mm than the theory size
5. Grind the weld area smoothly after repairin
6. Perform VT, MT, & UT to repaired area.

工艺: *Li Chunping*
Technical engineer
09.12.25

审核: *[Signature]*
Approved by

日期
Date *01.15*



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.	SPSA3-3	报告编号 Report No.	T-WR2904
合同号 Contract No.:	04-0120F4	部件名称 Items Name	西二三吊内部连接板 2 nd 3 rd lifting inner connect plate	NDT报告编号 Report No. of NDT	NA
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction 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.

车间负责人(Foreman):

Li Jiefen

日期(Date): 09.12.25

参照的WPS编号 Repair WPS No.	WPS-345-FCAW-1 G(1F)- Repair WPS-345-FCAW-2 G(2F)- Repair WPS-345-SMAW-1 G(1F)-Repair WPS-345-SMAW-2 G(2F)- Repair	工艺员 technologist	Li Chumping 09.12.25
返修(碳刨)前预热温度 Preheat temperature before gouging	NA	返修的缺陷 Description of discontinuity	打磨
焊前处理检查 Inspection before welding	Am	焊前预热温度 Preheat temperature before welding	180
最大碳刨深度 Max. depth of gouging	NA	碳刨总长 Total length of gouging	NA
焊工 welder	221795	焊接类型 welding type	FCAW
焊接电流 Current	312/217	焊接电压 Voltage	31.6/26.1
		焊接位置 position	367.25
		焊接速度 Speed	307/170
返修后检查 Inspection After repairing:			
外观检查 VT result	Am	检验员 Inspector	Am 07120651
		日期 Date	10.01.03
NDT复检 NDT result	Acc	探伤员 NDT person	Dai Gengsheng
		日期 Date	10.21.04
见证: Witness/Review:			10.21.04
备注: Remark:			

#R787-QCP-900

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, PRC**Report No:** NCS-000476**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:****Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0559**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: 03-Jan-2010**Description of Non-Conformance:**

During in-process Visual Testing (VT) of West Tower, Skin D, Interior Splice Plate WSD1-SPSA3-3, QA discovered base metal repairs performed without prior Engineer approval.

Contractor's proposal to correct the problem:

Verify soundness of repair, educate staff.

Corrective action taken:

Documentation for the base metal repair and NDT verification was provided (T-WR2904, T787-UT-2617 and T787-MT-7841). The ABF QCM informed ZPMC QA of the CWR requirements pertaining to base metal repairs.

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 Skyler Guest, 15000422360, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer