

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-000710**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 15-Apr-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0677**Type of problem:**

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

Reference Description: Welding Without Approved WPS, Insufficient QC Coverage**Description of Non-Conformance:**

During Quality Assurance (QA) random in-process observations of the fabrication of Tower skirt connection angles Caltrans QA discovered the following:

- ZPMC Personnel performing plug welded restoration of the material with mis-located drilled bolt holes without approved repair Weld Procedure Specification (WPS).
- ZPMC Certified Welding Inspector (CWI)/Quality Control Inspector (QC) were not observed as being present during the welding process from 10:00 to 11:00 hours.
- The welding was being performed by using Flux Cored Arc Welding (FCAW) process.
- The members are identified as Tower skirt connection angles.
- Total number of skirt angles repaired: 22 No's.
- These members are located in Bay #8.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5:2002, Sec. 1.9: "All production welding shall be performed in conformance with the provision of an approved Welding Procedure Specification (WPS)..."

AWS D1.5 2002, Sec. 3.7.7.1: "Base metal not subjected to dynamic tensile stress may be restored by welding, provided the Contractor prepares and follows a repair WPS. The repair weld soundness shall be verified by UT or RT as approved by the Engineer."

Caltrans Special Provision Section 8-3.01: "QC inspections shall be provided to ensure continuous inspection when any welding is being performed. Continuous inspection, as a minimum, shall include (1) having QC Inspectors continually present on the shop floor or project site when any welding operation is being performed, and (2) having a QC Inspector within such close proximity of all welders or operators so that inspections by the QC Inspector of each operation, at each welding location, shall not lapse for a period exceeding 30 minutes."

Who discovered the problem: Surendra Prabhu

Name of individual from Contractor notified: Peter Ferguson

Time and method of notification: 1600 Hours, 04/15/2010, Verbal

Name of Caltrans Engineer notified: Ken Lee

Time and method of notification: 1400 Hours, 04/16/2010, Verbal

QC Inspector's Name: Ken Zhang

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

Inspected By: Guest, Skyler

SMR

Reviewed By: Wahbeh, Mazen

SMR



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: 18-Apr-2010

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

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Subject: NCR No. ZPMC-0677

Job Name: SAS Superstructure
Document No: 05.03.06-000667

Reference Description: Welding Without Approved WPS, Insufficient QC Coverage/ Towe / Tower Skirt

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 Quality Assurance (QA) random in-process observations of the fabrication of Tower skirt connection angles Caltrans QA discovered the following:

- ZPMC Personnel performing plug welded restoration of the material with mis-located drilled bolt holes without approved repair Weld Procedure Specification (WPS).
- ZPMC Certified Welding Inspector (CWI)/Quality Control Inspector (QC) were not observed as being present during the welding process from 10:00 to 11:00 hours.
- The welding was being performed by using Flux Cored Arc Welding (FCAW) process.
- The members are identified as Tower skirt connection angles.
- Total number of skirt angles repaired: 22 ea.
- These members are located in Bay #8.

AWSD D1.5:2002, Sec. 1.9: "All production welding shall be performed in conformance with the provision of an approved Welding Procedure Specification (WPS)..."

AWS D1.5 2002, Sec. 3.7.7.1: "Base metal not subjected to dynamic tensile stress may be restored by welding, provided the Contractor prepares and follows a repair WPS. The repair weld soundness shall be verified by UT or RT as approved by the Engineer."

Caltrans Special Provision Section 8-3.01: "QC inspections shall be provided to ensure continuous inspection when any welding is being performed. Continuous inspection, as a minimum, shall include (1) having QC Inspectors continually present on the shop floor or project site when any welding operation is being performed, and (2) having a QC Inspector within such close proximity of all welders or operators so that inspections by the QC Inspector of each operation, at each welding location, shall not lapse for a period exceeding 30 minutes."

Action Required and/or Action Taken:

NCT

(Continued Page 2 of 2)

Propose a resolution for the identified non-conformance, documenting that the plug welded restorations are in compliance with the contract requirements. Documentation provided for the Engineer's review of the acceptability of the weld repairs shall at a minimum include the procedure utilized and the NDT results.

In addition to the material/workmanship non-conformance, address the failure by both Production and Quality Control in proceeding with work without proper WPS. Provide documentation of the steps/actions taken by Production and Quality Control to prevent future occurrences.

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

Transmitted by: Ken Lee Transportation Engineer

Attachments: ZPMC-0677

cc: Rick Morrow, Gary Pursell, Mark Woods

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000667

Subject: NCR No. ZPMC-0677

Dated: 11-Jun-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000693 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired the areas in question and is providing the NDT after to show it is acceptable. Based on this ZPMC requests closure of this NCR.

ZPMC has repaired the areas in question and is providing the NDT after to show it is acceptable. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000693R00;

Caltrans' comments:

Status: REJ

Date: 14-Jun-2010

The proposed resolution is rejected. The attachment is in reference to NCR No. ZPMC-0608 instead of ZPMC-0677. Please submit the applicable welding repair procedure utilized as well as the NDT results for review and approval.

Submitted by: Rizzardo, Gina

Date: 14-Jun-2010

Attachment(s):



No. T-140

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-6-11

REGARDING: NCR-000635(ZPMC-0608)

ZPMC received NCR-000635(ZPMC-0608), it mentioned that CT inspector discovered free hand thermal cutting were carried out on edges of the strut towards South Tower side without Engineer's approval, this strut is ND1-A468-33M-1.

ZPMC has taken action to repair these areas by buttering, and hole edge distance can also be satisfied. Now this strut has been green tagged.

Here attached CWR and relative NDT report to show all these new member sound well.

And ZPMC hope CT could take a review and close this NCR.

ATTACHMENT:

NCR-000710(ZPMC-0677)

T787-MT-9221

T787-UT-2952

T-CWR628

zhao jianang
2010-6-11



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: 17-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: 05.03.06-000595

Subject: NCR No. ZPMC-0608

Reference Description: Free hand thermal cutting without Engineer's Approval/ Tower/ Strut

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 the random Quality Assurance(QA) in process verification of Tower strut, the Caltran Quality Assurance (QA) Inspector observed the following issues:

- Free hand thermal cutting was carried out on edges of the strut plate towards South Shaft side without Engineer's approval.
- The strut is identified as ND1-A468-33M-1 at elevation level 33M.
- The thermal cut area is measured approximately 1010 mm.
- The material is designated as Seismic Performance Critical Member (SPCM).
- The member is located at Tower assembly area (Jetty Area).

AWS D1.5 (02) Section 3.2.3: "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer."

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance, documenting that the affected plate edges have been brought in compliance with the contract requirements.

In addition, to the material/workmanship non-conformance, propose a resolution for the identified non-conformance that addresses the failure of Quality Control to identify the deficiency.

Provide documentation of the steps/actions taken by the Quality Control Manager with regard to both Production and Quality Control to prevent future occurrences.

Transmitted by: Ken Lee Transportation Engineer

02.02.15.04
NCT 05.03.06-000595, NCT

Received
NCT-000595 19 Jan 10 Page 1 of 2

NCT

(Continued Page 2 of 2)

Attachments: ZPMC-0608

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

File: 05.03.06

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection

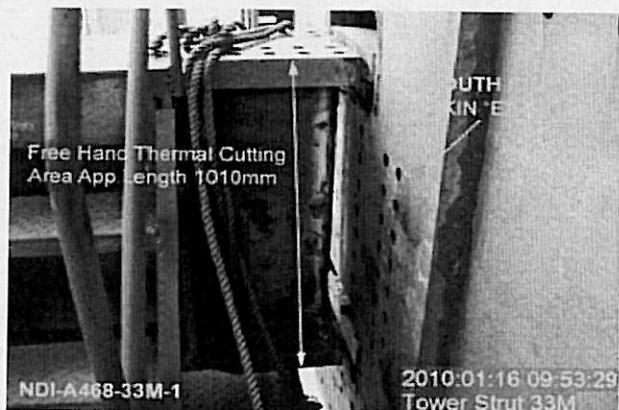
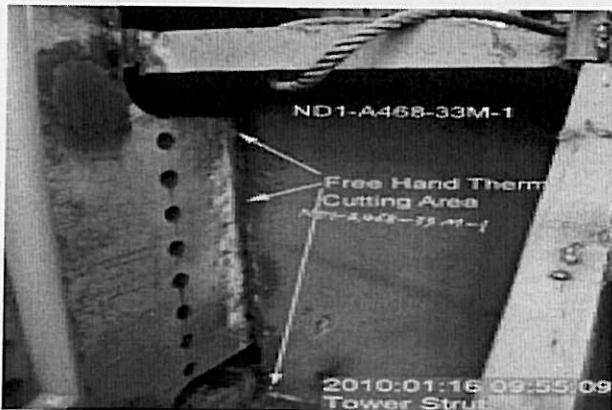


Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: 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-000635**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 16-Jan-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0608**Type of problem:**Welding Concrete Other Welding Curing Procedural **Bridge No:** 34-0006Joint fit-up Coating Other **Component:** Tower StrutProcedural Procedural Description:**Reference Description:** Free hand thermal cutting on tower strut without Engineer's approval, South Tower Side**Description of Non-Conformance:**

During the random Quality Assurance(QA) in process verification of Tower strut, this QA Inspector observed the following issues:

- Free hand thermal cutting were carried out on edges of the strut plate towards South Tower side without Engineer's approval.
- The strut is identified as ND1-A468-33M-1 at elevation level 33M.
- The thermal cut area is measured approximately 1010 mm.
- The material is designated as Seismic Performance Critical Member (SPCM).
- The member is located at Tower assembly area (Jetty Area).

**Applicable reference:**

AWS D1.5 (02) Section 3.2.3: "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer."

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

ABF Free Hand Flame Cutting Procedure 2.1: This procedure outlines the technique and process for flame cutting of material 25mm in thickness and up to 300mm in length when mechanical guides are not available.

Who discovered the problem: Nagalingam Pandaram Pillai / Shailesh Gaikwad

Name of individual from Contractor notified: Bi De Wei

Time and method of notification: 10:55 Hrs, 01/16/10, Verbal

Name of Caltrans Engineer notified: Ken Lee

Time and method of notification: 00:00 Hrs, 01/17/10, Email

QC Inspector's Name: Zhao Chen Sun

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: Ng,Michael

QA Inspector

Reviewed By: Wahbeh,Mazen

SMR



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 T787-UT-2952 DATE 2010.06.03 PAGE 1 OF 2 Revision No: 0

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

ITEMS NAME: FIRST LIFTING TOWER(N) DRAWING NO.: ND1-A468 CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 图号 加州工程编号

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

WELDING PROCESS 焊接方法 JOINT TYPE 焊缝类型 CALIBRATION DUE DATE 仪器校正有效期
 SMAW T-JOINT 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 IIV BLOCK TYPE II C.M.C A709SL-Gr485 75/60mm

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	60	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 a	Reference Level b	Attenuation Factor c	Indication Rating d	LOCATION OF DISCONTINUITY 不连续位置(mm)						
									Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From X 距X	From Y 距Y		
ND1-A468-23M-1-1A/B		70				34								ACC.	100%
		60				33								ACC.	100%
		0	C			20								ACC.	100%
ND1-A468-23M-1-3A/B		70				34								ACC.	100%
		60				33								ACC.	100%
		0	C			20								ACC.	100%
ND1-A468-28M-1-1A/B		70				34								ACC.	100%
		60				33								ACC.	100%

EXAMINED BY 主探 <i>Da. Gary Sheng 2010.06.03</i> LEVEL - II SIGN / DATE	REVIEWED BY 审核 <i>Da. Gary Sheng 2010.06.03</i> LEVEL - II SIGN / DATE
质量经理 / QCM _____ 签字 SIGN / 日期 DATE	用户 CUSTOMER _____ 签字 SIGN / 日期 DATE



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 T787-UT-2952

DATE 2010.06.03

PAGE 2 OF 2

Revision No: 0

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
		0	C			20									ACC.	100%
ND1-A468-28M-1-3A/B		70				34									ACC.	100%
		60				33									ACC.	100%
		0	C			20									ACC.	100%
ND1-A468-33M-1-1A/B		70				34									ACC.	100%
		60				33									ACC.	100%
		0	C			20									ACC.	100%
ND1-A468-33M-1-3A/B		70				34									ACC.	100%
		60				33									ACC.	100%
		0	C			20									ACC.	100%

AFTER T-CWR626-628

BLANK

EXAMINED BY主探

Don Gemy Sheng 2010.06.03

LEVEL - II SIGN / DATE

REVIEWED BY审核

Xu Ranyang 2010.06.03

LEVEL - II SIGN / DATE

质量经理 / QCM

用户CUSTOMER

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-9221 DATE日期 2010.06.02 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: ND1-A468
1st lifting strut E 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. 28ST, 2010

EQUIPMENT 设备: MT YOKE MANUFACTURER 制造商: PARKER MODEL NO. 样式编号: B310S SERIAL NO. 连续编号: 5620 5395 5617

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: A709SL-Gr485
75/60mm

WELDING PROCESS 焊接方法: SMAW 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			
ND1-A468-23M-1-1A/B				ACC.		after repaired
ND1-A468-23M-1-3A/B				ACC.		after repaired
ND1-A468-28M-1-1A/B				ACC.		after repaired
ND1-A468-28M-1-3A/B				ACC.		after repaired
ND1-A468-33M-1-1A/B				ACC.		after repaired
ND1-A468-33M-1-3A/B				ACC.		after repaired

AFTER T-CWR626-628

BLANK

EXAMINED BY主探: Cai Xinxin REVIEWED BY 审核: Xu Bing
LEVEL - II SIGN 签名 / DATE日期: 2010.06.02 LEVEL-II SIGN / DATE日期: 2010.06.02
质量经理 / QCM: _____ 用户CUSTOMER: _____
签字 SIGN / 日期 DATE: _____ 签字 SIGN / 日期 DATE: _____



关键焊缝返修报告

Critical Welding Repair Report (CWR)

版本
Rev. No.:

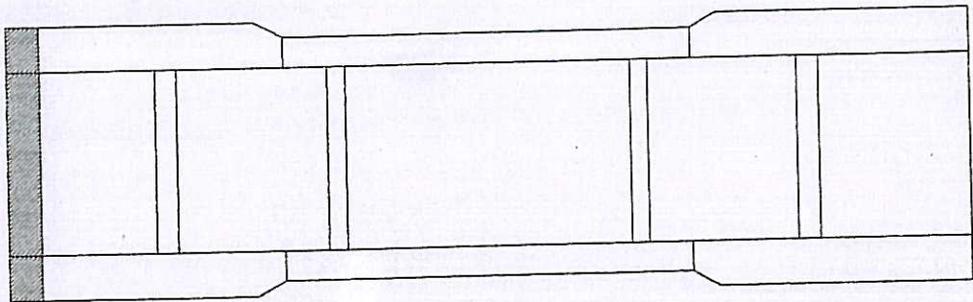
0

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	ND1-A468-33M-1	报告编号 Report No.:	T-CWR628
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	联系梁 Strut plate	NDT报告编号 NDT Report No.:	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:
Description of welding discontinuity:
 南塔E面33米联系梁总拼时由于塔柱之间干涉, 对联系梁端部进行修割, 割除部分约5-13毫米, 现在要求堆焊处理, 堆焊长度约5-13毫米。具体如下图所示:
 During splice South tower Skin E 33m strut plate and tower, trim strut plate 5-13mm, and needed to build up 5-13mm, the detail sees the following draft.

检验员 (Inspector): *Li Jun* 日期 (Date): 10.05.20
 LIJUN

焊缝返修位置示意图:
Draft of Welding Discontinuity:



注: 阴影部分为堆焊区域
 Remark: repair area in shadow.

APPROVED
 APPROVED AS NOTED
 RETURNED FOR CORRECTION
Pursuant to Section 8-1.02
 of the Standard Specifications
 State of California
 DEPARTMENT OF TRANSPORTATION
 Division of Engineering Services
 Office of Structure Construction
Order 5/21/10
Structure Representative Date

生原因:

Cause:

焊接变形和制作误差.

Weld distortion and fabricate error.

车间负责人 (Foreman):

Lu Yefei

日期 (Date):

10.05.21

处理意见

Disposition :

1. QC/CWI shall monitor and direct all grinding and welding during the repair procedure.
2. Grind the repair area smooth
3. Verify that no defects are present by VT and MT prior to welding
4. Apply backing bar and weld
5. Preheat and maintain interpass temperature control according to the approved WPS
6. QC shall ensure all slag has been removed prior the deposition of next pass
7. The weld size should be greater than theoretical size by about 2 to 3mm.
8. Remove backing bar and grind the weld area smooth after buttering
9. Perform VT, MT and UT inspection on the repaired area

1. QC 和 CWI 应当监督和指导整个返修过程中的打磨和焊接工作
2. 将返修区域打磨顺滑
3. 在焊接前进行 VT、MT 确保没有表面缺陷
4. 使用垫板并按批准的 WPS 进行焊接
5. 根据批准的 WPS 进行焊接前预热和道间温度控制
6. QC 应当确保在施焊下一道焊层前所有焊渣已被清理干净
7. 确保焊后尺寸比所需理论尺寸大 2~3mm
8. 去除垫板并将堆焊区域打磨顺滑
9. 对修补区域进行 VT、MT 和 UT 检查

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] 5/21/10
 Structure Representative Date

工艺:
Technical Engineer:

[Signature]

审核:
Approved By:

[Signature]

日期:

Date: 10.05.21



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.:	ND1-A468-33M-1	报告编号 Report No.:	T-CWR628
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	联系梁 Strut 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.

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

Wu 5/21/10
Structure Representative Date

车间负责人 (Foreman):

Lu Xefei

日期 (Date):

10.05.21

参照的WPS编号 Repair WPS No.:	WPS-485-SMAW-1G(1F)- Repair-1 WPS-485-SMAW-2G(2F)- Repair-1 WPS-485-SMAW-3G(3F)- Repair-1 WPS-485-SMAW-4G(4F)- Repair-1	工艺员 Technologist:	<i>Zhang Zhenyuan</i> 10.05.21
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返修(碳刨)前预热温度 Preheat Temperature Before Gouging:		返修的缺陷 Description of Discontinuity:	
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焊前处理检查 Inspection Before Welding:		焊前预热温度 Preheat Temperature Before Welding:	
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最大碳刨深度 Max. Depth of Gouge:		碳刨总长 Total Length of Gouge:	
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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:	
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NDT复检 NDT Result:		探伤员 NDT Person:		日期 Date:	
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见证:
Witness/Review:

备注:
Remark:

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000667

Subject: NCR No. ZPMC-0677

Dated: 28-Jun-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000693 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: The pieces mentioned in this NCR have been rejected by ZPMC and new pieces have been fabricated.

The pieces mentioned in this NCR have been rejected by ZPMC and new pieces have been fabricated. ZPMC issued an internal NCR and determined that better oversight on the QC's part is needed. This topic was recently discussed between ABF and ZPMC's QA manager and ZPMC assured ABFJV that he would address issue like this with his staff to improve their performance. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000693R01;

Caltrans' comments:

Status: CLO

Date: 28-Jun-2010

This resolution is acceptable and the Department concurs that Non-Conformance ZPMC-0677 is closed.

Submitted by: Rizzardo, Gina

Attachment(s):

Date: 28-Jun-2010



No. T-138

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-6-28

REGARDING: NCR-000710(ZPMC-0677)

ZPMC received NCR-000710(ZPMC-0677), it mentioned that CT inspector discovered ZPMC personal performing plug welded restoration of the material with mis-located drilled bolt holes without approved repair WPS.

ZPMC acknowledged the problem, and, re-fabricated all the angle steel finally, 22 pieces in all.

Hope CT could close this NCR.

ATTACHMENT:

NCR-000710(ZPMC-0677)

Zhao jia neng
2010-6-28

NCT

(Continued Page 2 of 2)

Propose a resolution for the identified non-conformance, documenting that the plug welded restorations are in compliance with the contract requirements. Documentation provided for the Engineer's review of the acceptability of the weld repairs shall at a minimum include the procedure utilized and the NDT results.

In addition to the material/workmanship non-conformance, address the failure by both Production and Quality Control in proceeding with work without proper WPS. Provide documentation of the steps/actions taken by Production and Quality Control to prevent future occurrences.

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

Transmitted by: Ken Lee Transportation Engineer

Attachments: ZPMC-0677

cc: Rick Morrow, Gary Pursell, Mark Woods

File: 05.03.06



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: 18-Apr-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: 05.03.06-000667

Subject: NCR No. ZPMC-0677

Reference Description: Welding Without Approved WPS, Insufficient QC Coverage/ Tower / Tower Skirt

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 Quality Assurance (QA) random in-process observations of the fabrication of Tower skirt connection angles Caltrans QA discovered the following:

- ZPMC Personnel performing plug welded restoration of the material with mis-located drilled bolt holes without approved repair Weld Procedure Specification (WPS).
- ZPMC Certified Welding Inspector (CWI)/Quality Control Inspector (QC) were not observed as being present during the welding process from 10:00 to 11:00 hours.
- The welding was being performed by using Flux Cored Arc Welding (FCAW) process.
- The members are identified as Tower skirt connection angles.
- Total number of skirt angles repaired: 22 ea.
- These members are located in Bay #8.

AWSD D1.5:2002, Sec. 1.9: "All production welding shall be performed in conformance with the provision of an approved Welding Procedure Specification (WPS)..."

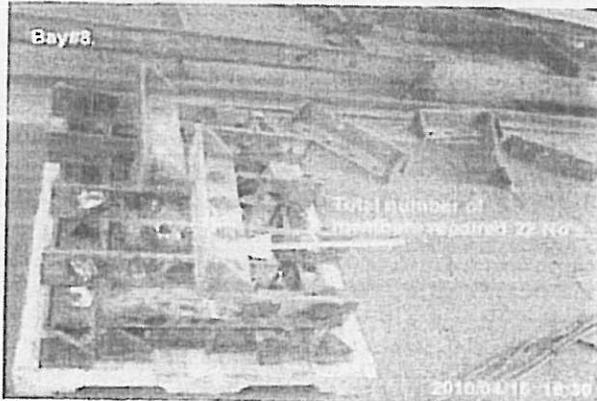
AWS D1.5 2002, Sec. 3.7.7.1: "Base metal not subjected to dynamic tensile stress may be restored by welding, provided the Contractor prepares and follows a repair WPS. The repair weld soundness shall be verified by UT or RT as approved by the Engineer."

Caltrans Special Provision Section 8-3.01: "QC inspections shall be provided to ensure continuous inspection when any welding is being performed. Continuous inspection, as a minimum, shall include (1) having QC Inspectors continually present on the shop floor or project site when any welding operation is being performed, and (2) having a QC Inspector within such close proximity of all welders or operators so that inspections by the QC Inspector of each operation, at each welding location, shall not lapse for a period exceeding 30 minutes."

Action Required and/or Action Taken:

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5:2002, Sec. 1.9: "All production welding shall be performed in conformance with the provision of an approved Welding Procedure Specification (WPS)..."

AWS D1.5 2002, Sec. 3.7.7.1: "Base metal not subjected to dynamic tensile stress may be restored by welding, provided the Contractor prepares and follows a repair WPS. The repair weld soundness shall be verified by UT or RT as approved by the Engineer."

Caltrans Special Provision Section 8-3.01: "QC inspections shall be provided to ensure continuous inspection when any welding is being performed. Continuous inspection, as a minimum, shall include (1) having QC Inspectors continually present on the shop floor or project site when any welding operation is being performed, and (2) having a QC Inspector within such close proximity of all welders or operators so that inspections by the QC Inspector of each operation, at each welding location, shall not lapse for a period exceeding 30 minutes."

Who discovered the problem: Surendra Prabhu

Name of individual from Contractor notified: Peter Ferguson

Time and method of notification: 1600 Hours, 04/15/2010, Verbal

Name of Caltrans Engineer notified: Ken Lee

Time and method of notification: 1400 Hours, 04/16/2010, Verbal

QC Inspector's Name: Ken Zhang

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

Inspected By: Guest, Skyler

SMR

Reviewed By: Wahbeh, Mazen

SMR

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-000710

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 15-Apr-2010

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

NCR #: ZPMC-0677

Type of problem:

Welding Concrete Other Welding Curing Procedural Joint fit-up Coating Other Procedural Procedural Description:

Bridge No: 34-0006

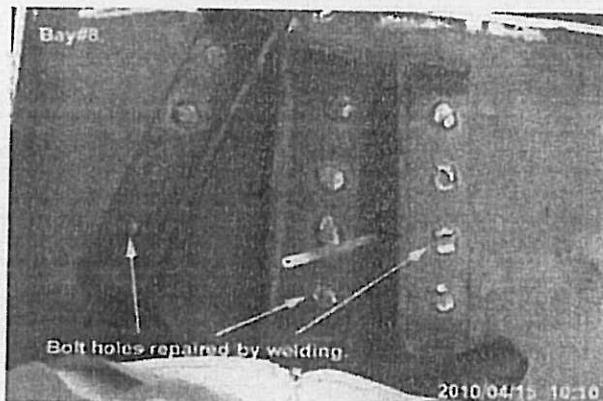
Component: Tower

Reference Description: Welding Without Approved WPS, Insufficient QC Coverage

Description of Non-Conformance:

During Quality Assurance (QA) random in-process observations of the fabrication of Tower skirt connection angles Caltrans QA discovered the following:

- ZPMC Personnel performing plug welded restoration of the material with mis-located drilled bolt holes without approved repair Weld Procedure Specification (WPS).
- ZPMC Certified Welding Inspector (CWI)/Quality Control Inspector (QC) were not observed as being present during the welding process from 10:00 to 11:00 hours.
- The welding was being performed by using Flux Cored Arc Welding (FCAW) process.
- The members are identified as Tower skirt connection angles.
- Total number of skirt angles repaired: 22 No's.
- These members are located in Bay #8.



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-000848**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 28-Jun-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0677**Type of problem:**

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

Date the Non-Conformance Report was written: 15-Apr-2010**Description of Non-Conformance:**

During Quality Assurance (QA) random in-process observations of the fabrication of Tower skirt connection angles Caltrans QA discovered the following:

- ZPMC Personnel performing plug welded restoration of the material with mis-located drilled bolt holes without approved repair Weld Procedure Specification (WPS).
- ZPMC Certified Welding Inspector (CWI)/Quality Control Inspector (QC) were not observed as being present during the welding process from 10:00 to 11:00 hours.
- The welding was being performed by using Flux Cored Arc Welding (FCAW) process.
- The members are identified as Tower skirt connection angles.
- Total number of skirt angles repaired: 22 No's.
- These members are located in Bay #8.

Contractor's proposal to correct the problem:

Contractor will fabricate new pieces of connection angles to replace the mis-drilled connection angles. Contractor will issue an internal NCR to the QC. Contractors will address issue with their staff to improve the performance.

Corrective action taken:

Contractor fabricated new pieces of connection angle to replace the mis-drilled components. Internal NCR issued to the QC and the issue has been addressed with the staff concerned.

Did corrective action require Engineer's approval? Yes No**If so, name of Engineer providing approval:****Date:****Is Engineer's approval attached?**

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(*Continued Page 2 of 2*)

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 Wahbeh, Mazen 818-292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Ng,Michael

Quality Assurance Inspector

Reviewed By: Devey,Jim

QA Reviewer
