

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

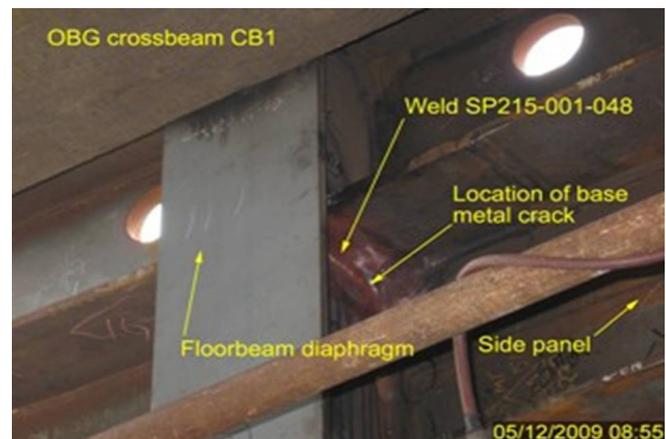
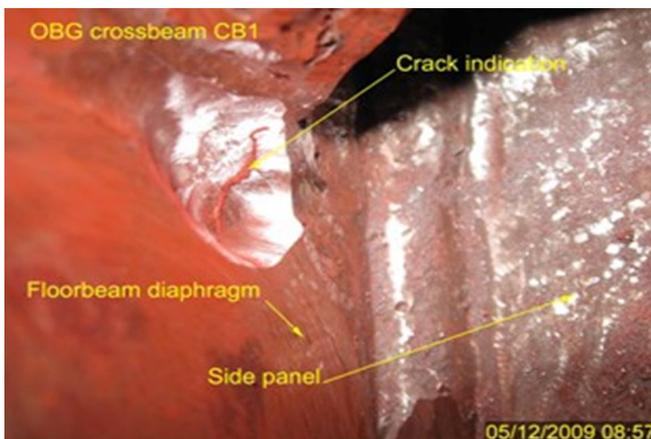
Quality Assurance and Source Inspection



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

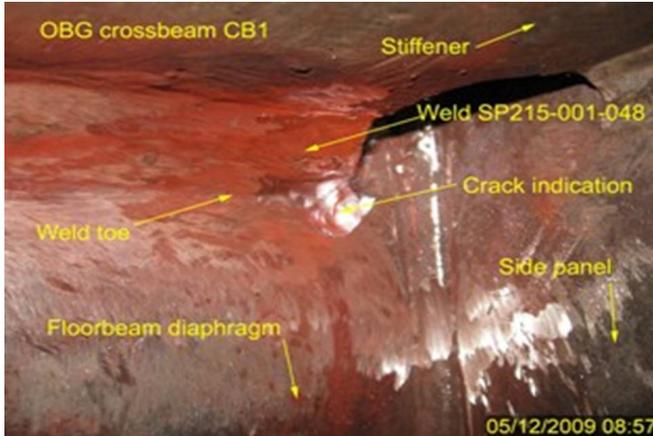
Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCR-000266**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:****Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0240**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** OBG Crossbeam CB1**Procedural****Procedural****Description:****Reference Description:** Critical Weld Repair Performed Without the Engineer's Approval, CB1**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed that the Contractor has performed base metal repair of a linear indication without an approved repair procedure. The Complete Joint Penetration (CJP) weld (SP215-001-048, Crossbeam CB1) in the area of this repair has previously been repaired three times; one time for two toe indications discovered visually on 5/6/09 and two additional times after ZPMC Quality Control (QC) Ultrasonic Testing (UT) technicians rejected the repaired area of the weld. A CWR was provided to the Engineer after the work had already been performed.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5 (2002) Paragraph 3.7.4: "Prior approval of the Engineer shall be obtained for repairs to base metal, repair of major or delayed cracks,"

Who discovered the problem: Steve Hall

Name of individual from Contractor notified: Noe Pasiola

Time and method of notification: 5/12/09, 17:00, Email

Name of Caltrans Engineer notified: Ching Chao, Stanley Ku

Time and method of notification: 5/13/09, 18:00, Email

QC Inspector's Name: Shen Xuejun

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 Eric Tsang, +(86) 1500.042.2372, 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
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: 15-May-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: 05.03.06-000231

Subject: NCR No. ZPMC-0240

Reference Description: Critical Weld Repair Performed Without the Engineer's Approval, CB1

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:**

Remarks:

Caltrans Quality Assurance (QA) Inspector observed that the Contractor has performed base metal repair of a linear indication without an approved repair procedure. The Complete Joint Penetration (CJP) weld (SP215-001-048, Crossbeam CB1) in the area of this repair has previously been repaired three times; one time for two toe indications discovered visually on 5/6/09 and two additional times after ZPMC Quality Control (QC) Ultrasonic Testing (UT) technicians rejected the repaired area of the weld. A CWR was provided to the Engineer after the work had already been performed.

Action Required and/or Action Taken:

Please propose a resolution for the identified non-conformance to prevent future occurrences.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0240

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Brian Boal, Doug Coe, Jason Tom, Doug Wright, 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: 05.03.06-000231

Subject: NCR No. ZPMC-0240

Dated: 27-May-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000235 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ABF has notified ZPMC to document repairs and obtain the necessary approval prior to repairs being commenced. ZPMC QA has notified their QC and Production staff.

ABF has notified ZPMC to document repairs and obtain the necessary approval prior to repairs being commenced. ZPMC QA has notified their QC and Production staff. ZPMC will submit the CVVR and all applicable inspection documentation at a later date.

Submitted by:

Attachment(s): ABF-NPR-000235R00

Caltrans' comments:

Status: AAP

Date: 09-Jun-2009

The response is acceptable, but the Non-Conformance is not closed.

Please provide documentation of the weld repairs that were performed and that the repairs were acceptable. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0240 at that time.

Submitted by: Wright, Doug

Date: 09-Jun-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000231

Subject: NCR No. ZPMC-0240

Dated: 27-Jul-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000235 **Rev:** 01

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-000235R01;

Caltrans' comments:

Status: REJ

Date: 18-Aug-2009

The proposed resolution is not acceptable. The Department's records indicate that some areas of this weld still contain indications.

Please submit a revised Critical Weld Repair (CWR) report, and acceptable MT and UT reports after the repair. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0240 at that time.

Submitted by: Wright, Doug

Date: 18-Aug-2009

Attachment(s):



No. B-416

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-7-23

REGARDING: NCR-000266 (ZPMC-0240)

With this letter of response, ZPMC requests closure for Caltrans NCR-000266 (ZPMC-0240). Per the comments of the NPR from caltrans that "please provide documentation of the weld repairs that were performed and that the repairs were acceptable", we submit the letter with the attached report to support the good quality of the corresponding structures and complete with the NDT inspection.

So base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report NCR-000266 (ZPMC-0240).

Please reference attached documentation for acceptance and closure the NCR-000266 (ZPMC-0240).

ATTACHMENT:

NCR-000266 (ZPMC-0240)

ZPMC internal NCR

The closed critical welding repair report

The final VT/UT/MT report

zhao shuangbao

2009. 7. 23



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-152 (ZPMC-240)	
Item: Critical weld repair performed without the engineer's approval 名称描述: CWR 未经工程师批准就返修	Item Number: 件号: OBG CB1	Drawing: 图号: CB203	
Location: OBG CB1 位置:		Date: 2009-05-20 日期:	

Description of Nonconformance:

Caltrans Quality Assurance (QA) Inspector observed that the Contractor has performed base metal repair of a linear indication without an approved repair procedure. The Complete Joint Penetration (CJP) weld (SP215-001-048, Crossbeam CB1) in the area of this repair has previously been repaired three times; one time for two toe indications discovered visually on 5/6/09 and two additional times after ZPMC Quality Control (QC) Ultrasonic Testing (UT) technicians rejected the repaired area of the weld. A CWR was provided to the Engineer after the work had already been performed.

CB1 箱体内, CT 检验员发现 ZPMC 在未经工程师批准的情况下就对有缺陷的母材区域进行返修。返修区域包含 CJP 焊缝 (SP215-001-048), 此焊缝之前已经有过 3 次返修。第一次是在 09 年 5 月 6 日发现两个焊趾位置缺陷, 另外两个是 ZPMC 的 UT 检验员焊缝 UT 拒收后的返修。返修结束后 ZPMC 才提交 CWR 给工程师。

Work By: 施工方: Tian jinchan
Prepared by: Shen Xujun 准备: 2009.5.20
Reviewed by QCE: Zhang Shuangjun 质量工程师批准: 5-20

Drawing Error 图纸错误
 Material Defect 材料缺陷
 Fabrication Error 制作错误
 Other 其他原因

Disposition: Use as is 回用 Repair 返修 Reject 拒收

Recommendation:
建议:

Prepared by: _____ 准备
Approved by QCA: _____ 质量经理批准

Reason for Nonconformance:
不符合原因: ① First and second repair for UT rej. and after UT accept and perform
② 第一次、二次是 UT 检测不合格返修, 第三次 UT 合格检测合格后, MT 检测不合格, MT 检测处穿越孔位置, 属于第一次返修, 在处理裂纹时, ZPMC 现场 MT. The indications were at weld through hole and...

QC和QA者在现场,并对返修点报验,加州斯蒂斯也在现场, QC,QA 监控作业情况. inspected the repair and witness by Caltrans

①. 施工时间紧张, CWR审批时间较长, 易等2
Prevention of Re-occurrence: ② fabricate time short and review time long for CWR

预防措施:

- ① 对焊缝裂纹处理干净, 1) Remove cracks completely;
- ② 预热后焊接, 焊后并保温, 2) Weld after preheat and postheat;
- ③ 加强施工方管理, 不允许出现无作业后递交报告(CWR)
- 3) Enhance management work team to forbid work without approved CWR

Approved by/批准: Hu Yu Zhang

Technical Justification for Use-As-Is/Repair: Attachment Non-attachment
回用或返修的技术依据: 附件 无附件

加3号轨现场监控, 杜绝类似的问题再次发生
Enhance supervision on-site.

Reviewed /批准: Tang Yanfeng

Verification: Acceptable Unacceptable
确认: 可接受 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 #: 04-0120F4
 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-000266

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date:

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

NCR #: ZPMC-0240

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural Description:

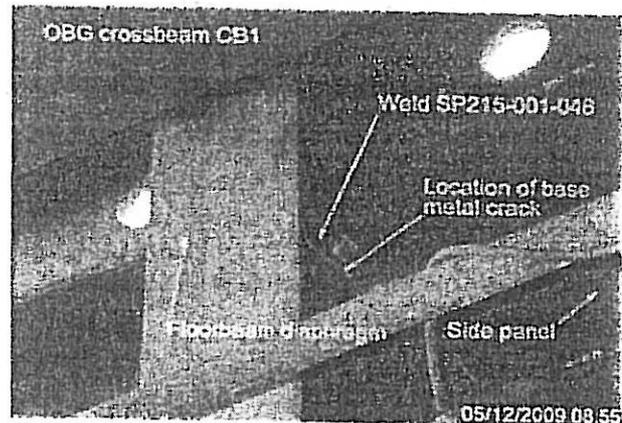
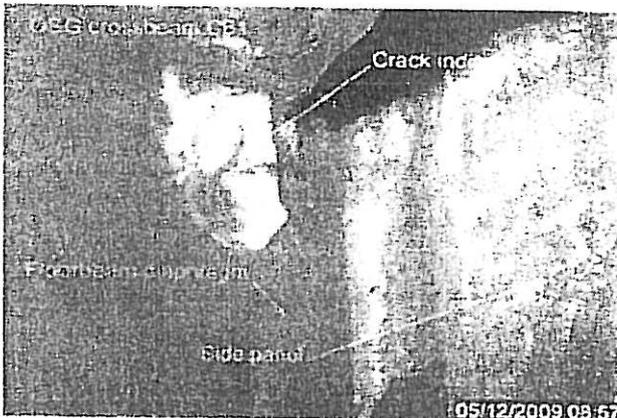
Bridge No: 34-0006

Component: OBG Crossbeam CB1

Reference Description: Critical Weld Repair Performed Without the Engineer's Approval, CB1

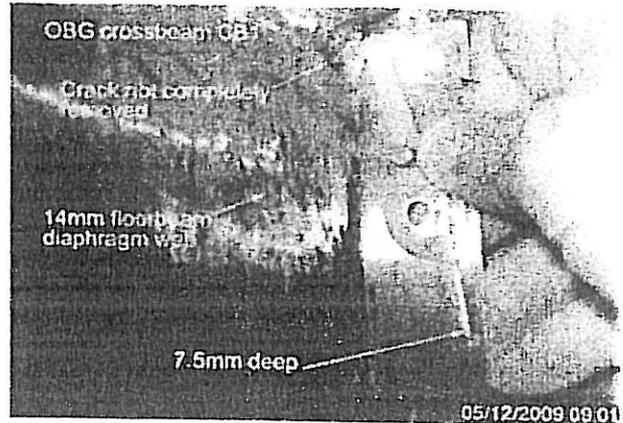
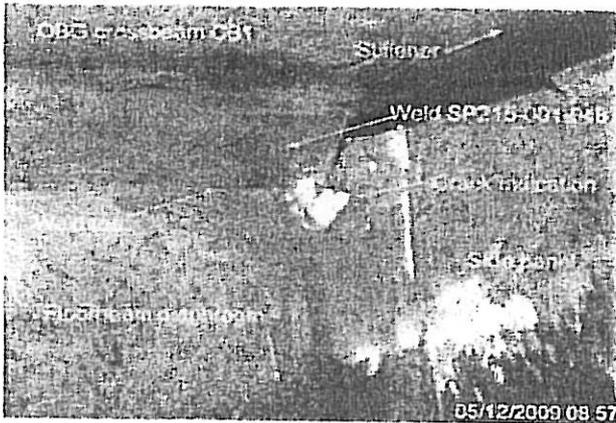
Description of Non-Conformance:

Caltrans Quality Assurance (QA) Inspector observed that the Contractor has performed base metal repair of a linear indication without an approved repair procedure. The Complete Joint Penetration (CJP) weld (SP215-001-048, Crossbeam CB1) in the area of this repair has previously been repaired three times; one time for two toe indications discovered visually on 5/6/09 and two additional times after ZPMC Quality Control (QC) Ultrasonic Testing (UT) technicians rejected the repaired area of the weld. A CWR was provided to the Engineer after the work had already been performed.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



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AWS D1.5 (2002) Paragraph 3.7.4: "Prior approval of the Engineer shall be obtained for repairs to base metal, repair of major or delayed cracks,"

Who discovered the problem: Steve Hall

Name of individual from Contractor notified: Noe Pasiola

Time and method of notification: 5/12/09, 17:00, Email

Name of Caltrans Engineer notified: Ching Chao, Stanley Ku

Time and method of notification: 5/13/09, 18:00, Email

QC Inspector's Name: Shen Xuejun

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 Eric Tsang, +(86) 1500.042.2372, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

SMR

Reviewed By: Wahbeh, Mazen

SMR



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.:	CB1	报告编号 Report No.:	B-CWR509
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG CROSS BEAMS	NDT 报告编号 NDT Report No.:	B787-UT-6536R1
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

A Rejectable indication was found by Ultrasonic Inspection for a **SECOND** repair. *third*

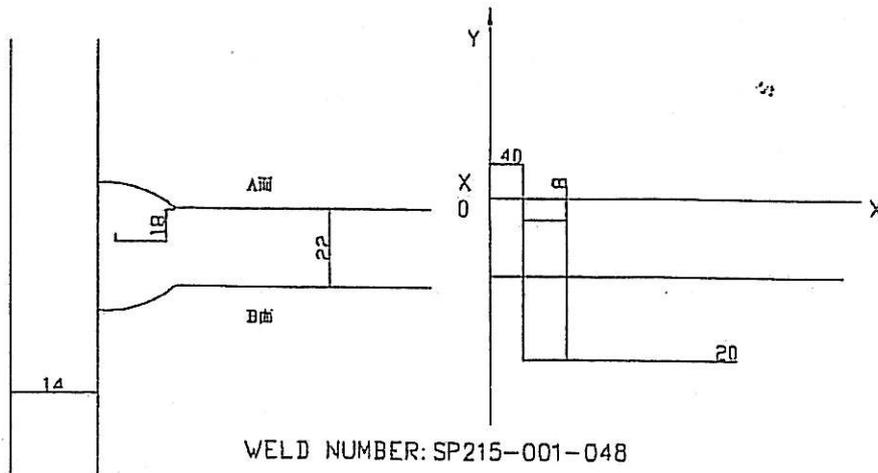
(UT二次缺陷) SP215-001-048

Welder ID No. (焊工编号): 216667 Position:(位置): 4G

检验员 (Inspector): *Ma Jilong* 日期 (Date): 2009.05.11

焊缝返修位置示意图:

Draft of Welding Discontinuity:



WELD NUMBER: SP215-001-048

This document is APPROVED *as noted*
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 6-1.02 of the
Standard Specifications
Initial *FW* Date: *5/11/09*

产生原因:

Cause:

1. 焊工在第一次反面消跟时, 没有注意, 导致焊接缺陷没有全部去除;

2. 在焊返修前, QC没有确认所有的焊接缺陷已经去除。

1. The welder was not observant during the first backgouging operation resulting in the Indications not being completely removed.

2. QC did not verify the indications had been removed prior to re-welding.

车间负责人 (Foreman):

Hu Yuzhang

日期 (Date):

09.05.11

处理意见

Disposition :

1. 在整个的返修过程中, QC和Leader CWI必须在现场监控所有的碳刨, 打磨和焊接操作;

2. 在返修时, QC必须有有效的CWR, 以保证返修按照要求进行;

3. 如果碳刨, 按照返修的WPS进行预热;

4. 从A面采用碳刨或打磨的方法去除焊缝缺陷;

5. 准备一个正确得接头型式, 具体参照相应的返修WPS;

6. 将缺陷区域打磨平滑;

7. 采用MT和VT检测方法保证缺陷完全被消除;

8. 预热及焊接要求参照已批准的返修WPS执行;

9. 返修后,VT,MT,UT检测焊缝;

10. 将焊缝打磨与相邻焊缝平齐;

11. 根据批准的车间图纸检查焊缝;

1. QC and a Lead CWI shall be present and monitor all gouging, grinding and welding operations during this repair.

2. QC shall have a copy of the CWR available to ensure the repair is per the disposition requirements.

3. If gouging is performed, preheat per the repair WPS minimum requirements.

4. Gouge and/or grind to remove all the defects from the Face A.

5. Prepare the repair joint according to the relevant repair WPS.

6. Grind area smooth to a shiny finish.

7. Perform VT and MT to ensure the defects have been removed.

8. Preheat and weld according to the relevant repair WPS.

9. Perform VT, MT and UT to the repair areas.

10. Grind the weld flush with the adjacent weld.

11. Check the weld according to the working drawings.

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial *fw* Date: 5/12/09

工艺:

Technical Engineer:

Nin Tiefang

审核:

Approved By:

Li Jianhua
for Chenbin

日期:

Date: 09.05.11

		<h2 style="margin: 0;">关键焊缝返修报告</h2> <h3 style="margin: 0;">Critical Welding Repair Report (CWR)</h3>			版本 Rev. No.:
					0
项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	CB1	报告编号 Report No.:	B-CWR509
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG CROSS BEAMS	NDT 报告编号 NDT Report No.:	B787-UT-6536R1
项目编号 Project No.:	ZP06-787				
纠正措施: Corrective Action to Prevent Re-occurrence: <ol style="list-style-type: none"> 1. 返修前, QC必须VT和MT确认所有的缺陷已经去除; 2. 教导在烧熔透焊缝和焊道清理时, 焊工必须负责任; 3. QC指导碳刨工将所有的缺陷去除; 4. 关键焊缝返修时, 主要的QC负责人要在现场; <ol style="list-style-type: none"> 1. QC to verify VT and MT has been performed and all the defects have been removed prior to the repair. 2. QC to instruct the welder that it is his responsibility to produce sound welds and perform interpass cleaning. 3. QC to instruct the grinder all defects shall be removed. 4. Greater QC presence during critical welding operations. <p style="text-align: center;"> 车间负责人 (Foreman): <i>Hu Yu Zhang</i> 日期 (Date): <i>09. 5. 11</i> </p>					
参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-1G(1F)-FCM-Repair WPS-345-FCAW-1G(1F)-FCM-Repair WPS-345-SMAW-4G(4F)-FCM-Repair WPS-345-FCAW-4G(4F)-FCM-Repair		工艺员 Technologist:	<i>Niu Tiefang</i> <i>09. 5. 11</i>	
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:	75°C		返修的缺陷 Description of Discontinuity:	<i>slag</i>	
焊前处理检查 Inspection Before Welding:	All		焊前预热温度 Preheat Temperature Before Welding:	175°C	
最大碳刨深度 Max. Depth of Gouge:	10		碳刨总长 Total Length of Gouge:	45	
焊工 Welder:	<i>Zhang Duo</i> <i>216667</i>	焊接类型 Welding Type:	<i>SMAW</i>	焊接位置 Position:	4G
焊接电流 Current:	151	焊接电压 Voltage:	24.8	焊接速度 Speed:	113
返修后检查 Inspection After Repair:					
外观检查 VT Result:	All	检验员 Inspector:	<i>Zhujiay</i>	日期 Date:	2009. 05. 11
NDT复检 NDT Result:	All	探伤员 NDT Person:	<i>Ma Jitong</i>	日期 Date:	2009. 05. 11
见证: Witness/Review:					
This document is APPROVED State of California DEPARTMENT OF TRANSPORTATION Pursuant to Section 5-1.02 of the Standard Specifications					
备注: Remark:	<i>keep temperature time > 270°C / 1hr</i> <i>5/12/09</i>				

#R787-QCP-900



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

版本
Rev. No.:

1

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	CB1	报告编号 Report No.:	B-CWR502
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	扭曲横梁CB1 Cross beam C B1	NDT报告编号 Report No. of NDT	B787-MT-10681
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

在对SP215-001-048检测时,发现一处横向裂纹,长度15mm。

Welder ID No. (焊工编号): 216667 Position:(位置): 4G

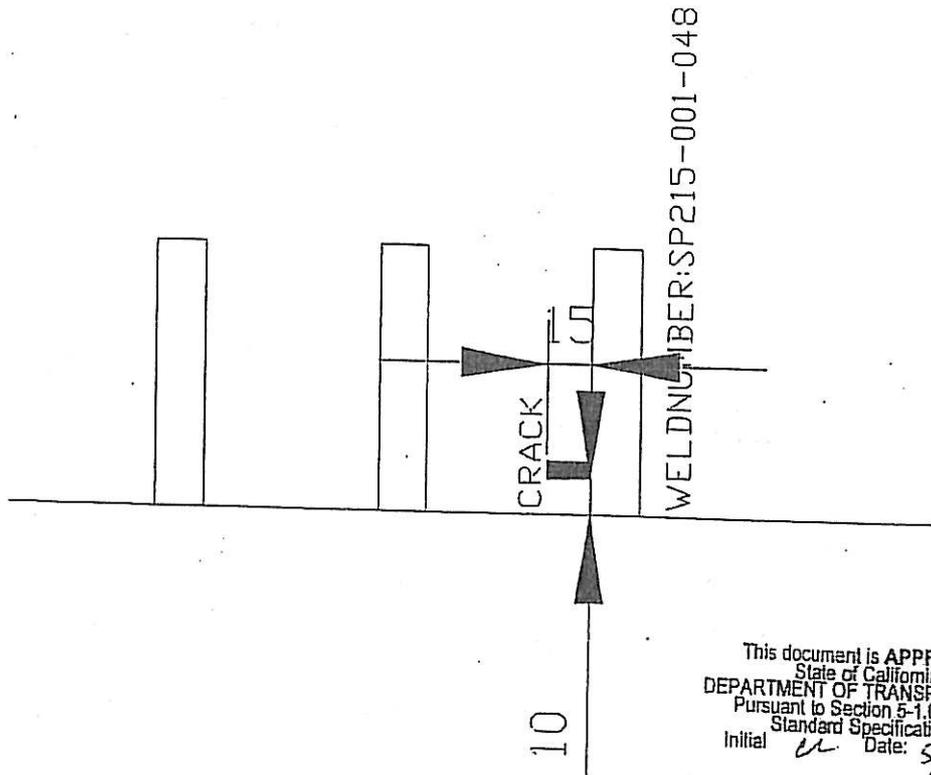
We found one transverse crack in SP215-001-048.

检验员 (Inspector): Cai Xinxin

日期 (Date): 2009-05-12

焊缝返修位置示意图:

Draft of Welding Discontinuity:



This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial W Date: 5/18/09

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;
2. 翻身碳刨清根后, 打磨不到位,。
1. Moisture wasn't completely removed during drying operation (preheating) or the area wasn't preheated sufficiently.
2. It didn't grind smoothly after backing gouging.

车间负责人 (Foreman):

Hu Yuzhang

日期 (Date):

05.05.11

处理意见

Disposition :

1. 这次返修时, QC到现场指导打磨, 焊接;
 2. QC指导返修, 以保证返修按照处理意见进行;
 3. 采用打磨的方式去除裂纹;
 4. 准备一个正确的接头型式, 具体参照相应的返修WPS;
 5. VT和MT检测确认返修区域没有裂纹;
 6. 根据批准的返修焊接工艺规程
 7. 预热温度应不小于100℃,
 8. 预热范围在修补区域周围不应小于150mm;
 9. 将修补区域打磨与母材或相邻焊缝平齐;
 10. 对修补区域做VT与MT检测。
1. QC shall be present and direct all grinding and welding operations during this repair.
 2. QC shall direct the repair to ensure the repair is per the disposition requirements.
 3. Remove the crack by means of grinding.
 4. Prepare excavation according to the approved repair WPS.
 5. Verify with VT and MT repair areas are crack free.
 6. Preheat and weld according to the approved repair WPS.
 7. Preheat prior to welding to a minimum temperature of 100°C
 8. The preheat area shall be a minimum of 150mm in all directions around the repair area.
 9. Grind the repaired area flush with base metal or the adjacent weld.
 10. Perform VT and MT of the repair areas.

工艺:

Technical Engineer:

Nimrefey

审核:

Approved By:

Lujianhua

for Chenbin.

日期:

Date:

05.05.12

This document is APPROVED
 State of California
 DEPARTMENT OF TRANSPORTATION
 Pursuant to Section 5-1.02 of the
 Standard Specifications

Initial

LL

Date:

5/18/09



关键焊缝返修报告

Critical Welding Repair Report (CWR)

版本
Rev. No.:

1

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	CB1	报告编号 Report No.:	B-CWR002
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	扭曲横梁CB1 Cross beam C B1	NDT报告编号 Report No. of NDT	B787-MT-10681
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。

2. 培训和教育打磨工, 提高打磨质量, 保证凹槽圆滑过度。

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

2. Train and educate grinder to improve grinder quality to ensure exaction transits smoothly.

车间负责人 (Foreman):

Hu Yuzhong

日期 (Date):

07.05.12

参照的WPS编号 Repair WPS No.:	WPS-SMAW-345-1G (1F)-Repair WPS-FCAW-345-1G (1F)-Repair-1 WPS-SMAW-345-4G (4F)-Repair	工艺员 Technologist:	Niu Tiejun 07.05.12
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:	Grind	返修的缺陷 Description of Discontinuity:	Crack
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	NA
最大碳刨深度 Max. Depth of Gouge:	7mm	碳刨总长 Total Length of Gouge:	30mm
焊工 Welder:	216667	焊接类型 Welding Type:	SMAW
焊接电流 Current:	151	焊接电压 Voltage:	25
		焊接位置 Position:	4G
		焊接速度 Speed:	113

返修后检查

Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	chenxi	日期 Date:	2009.05.18.
NDT复检 NDT Result:	MT Acc	探伤员 NDT Person:	Cai Xinxin	日期 Date:	07-05-18

见证:

Witness/Review:

备注:

Remark:

Keep temperature 281^o. 1h

#R787-QCP-900

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000231

Subject: NCR No. ZPMC-0240

Dated: 14-Sep-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000235 **Rev:** 02

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has provided the correct documentation per the NPR comments and now request closure of this NCR.
ZPMC has provided the correct documentation per the NPR comments and now request closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000235R02;

Caltrans' comments:

Status: REJ

Date: 24-Sep-2009

ZPMC submitted the following: CWR 509 for 3rd time repair along with appropriate follow-up NDT reports (VT, MT, UT). CWR 502 for 4th time repair along with VT and MT report, no UT.
Please provide UT Report for 4th Time Repair for acceptance.

Submitted by: Chao, Ching

Date: 24-Sep-2009

Attachment(s):



No. B-467

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-9-10

REGARDING: NCR-000266 (ZPMC-0240)

With this letter of response, ZPMC requests closure for Caltrans NCR-000266 (ZPMC-0240). Per the comments from the NPR, we are providing the revised CWR for the crack repair and acceptable MT report to cantrans engineer, please review again .

so base on the above explanation, ZPMC applies to close the caltrans's report NCR-000266 (ZPMC-0240).

Please reference attached document for acceptance and closure the NCR-000266 (ZPMC-0240).

ATTACHMENT:

NCR-000266 (ZPMC-0240)

The complete MT reports

zhaoshuangbo

2009.9.10

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
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island
Report No: NCR-000266
Date:
NCR #: ZPMC-0240

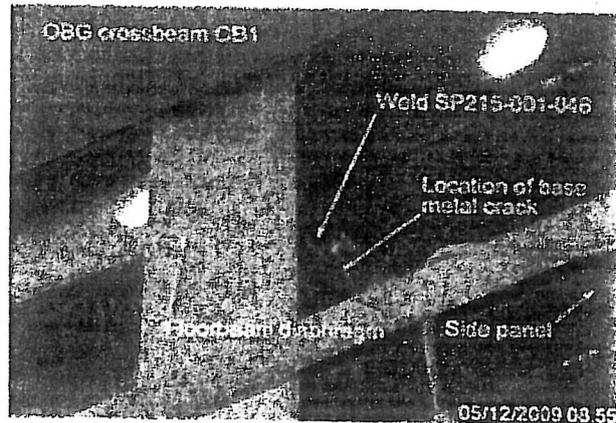
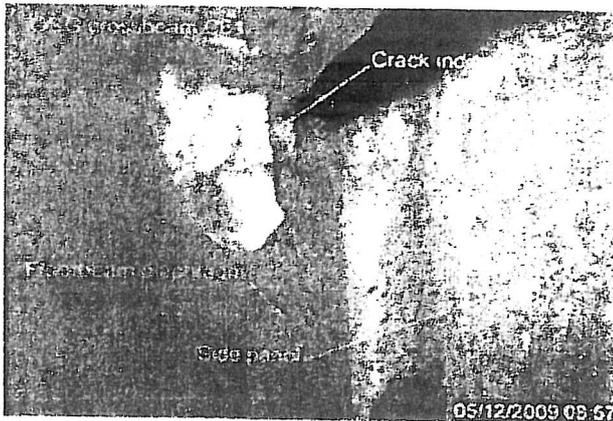
Type of problem:

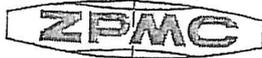
- Welding Concrete Other
 Welding Curing Procedural Bridge No: 34-0006
 Joint fit-up Coating Other Component: OBG Crossbeam CB1
 Procedural Procedural Description:

Reference Description: Critical Weld Repair Performed Without the Engineer's Approval, CB1

Description of Non-Conformance:

Caltrans Quality Assurance (QA) Inspector observed that the Contractor has performed base metal repair of a linear indication without an approved repair procedure. The Complete Joint Penetration (CJP) weld (SP215-001-048, Crossbeam CB1) in the area of this repair has previously been repaired three times; one time for two toe indications discovered visually on 5/6/09 and two additional times after ZPMC Quality Control (QC) Ultrasonic Testing (UT) technicians rejected the repaired area of the weld. A CWR was provided to the Engineer after the work had already been performed.





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.:	SP215	报告编号 Report No.:	B-CWR672
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG CROSS BEAM	NDT 报告编号 NDT Report No.:	B787-MT-13005
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

在对SP215-001-048检测时, 发现2处裂纹。1、L=15 L2=10mm;
Welder ID No. (焊工编号): 2#6667 Position:(位置): 2F
One crack found by use of MT on weld SP215-001-048

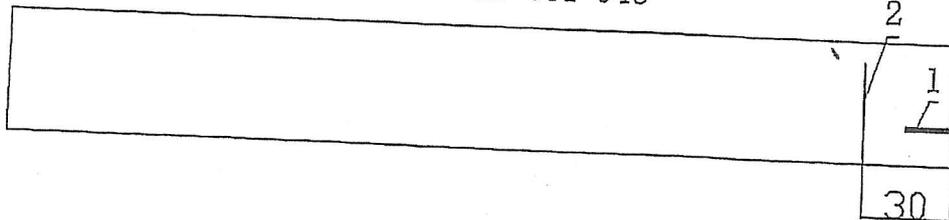
检验员 (Inspector): Sun Gong Chang

日期 (Date): 2009.08.18

焊缝返修位置示意图:

Draft of Welding Discontinuity:

WELD NUMBER: SP215-001-048



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

 Structure Representative Date 8-18-09

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):

Gay Jun 日期 (Date): 07.08.18

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] Date: 8-19-09
Structure Representative

处理意见

Disposition :

1. 这次返修时, QC和Leader CWI到现场对打磨, 焊接进行指导和监督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. 去除热影响区域上在各个方向上不小于25mm范围内的油漆;
 4. 采用打磨的方法去除裂纹, 打磨返修范围为沿缺陷焊缝每一端加50mm;
 5. 如果打磨时母材损伤, 则在返修前将损伤区域打磨干净。如果打磨时或打磨后根部间隙大于5mm, 提交CWR报告给加州工程师批准, 那么在这个位置的焊缝采用CJP焊缝, 并在打磨去除焊缝后对其及进行MT检测;
 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;
 8. 返修前, MT确认裂纹没有延伸到母材, 如果发现裂纹延伸到母材, 提交CWR给工程师批准;
 9. 按照批准的焊缝返修工艺规程(WPS)进行预热和焊接;
 10. 将修补区域打磨与母材或相邻焊缝平齐;
 11. 返修后进行100%VT和MT检测, 检测范围包括修补区域 (包括沿缺陷焊缝每一端加50mm) 的正反面焊缝, 其中对于CJP焊缝, NDT方法为UT和MT.
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 paint ≥ 25 mm in all direction of HAZ prior to MT.
 4. Remove cracks by grinding, repair area shall extend a minimum of 50mm beyond each end of single crack repairs;
 5. If base metal is damaged by grinding, the damaged area shall be ground clean prior to performing weld repair. If gap > 5 mm is found during or after grinding, a separate CWR to make the weld joint a CJP is required in that location, and perform MT after performing grinding the defects away.
 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;
 8. Perform MT on the weld metal adjacent to the repair area to ensure that crack did not propagate into base metal. If crack is discovered in base metal, approval of a separate CWR is required before continuing with repair work.
 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 100%VT and MT inspection to all repaired welds (along with an additional 50mm at each end of the weld repair) which include the near side and far side on the upper Perform UT and MT inspection to CJP weld.

工艺:

Technical Engineer:

Niu Tiejun

审核:

Approved By:

[Signature]
for Chenbin

日期:

Date:

07.08.18



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.:	SP215	报告编号 Report No.:	B-CWR672
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG CROSS BEAM	NDT 报告编号 NDT Report No.:	B787-MT-13005
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):

9.8.18

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2 G(2F)-Repair WPS-345-FCAW-2 G(2F)-Repair WPS-345-SMAW-3 G(3F)-Repair WPS-345-FCAW-3 G(3F)-Repair	工艺员 Technologist:	Niu Tiefang 9.8.18
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:	37°C (Grind)	返修的缺陷 Description of Discontinuity:	Crack
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	173°C
最大碳刨深度 Max. Depth of Gouge:	6mm	碳刨总长 Total Length of Gouge:	90mm
焊工 Welder:	216667	焊接类型 Welding Type:	SMAW
焊接电流 Current:	162	焊接电压 Voltage:	25
		焊接位置 Position:	4G
		焊接速度 Speed:	117

返修后检查

Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	Chenxi	日期 Date:	2009.08.20
NDT复检 NDT Result:	MT: Acc	探伤员 NDT Person:	Sunrongchang	日期 Date:	09.08.21

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-13005R1 DATE日期 2009.08.21 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: SP215 CROSS BEAM		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-345T2-X 14/22 mm
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			
SP215-001-048	1R1			ACC.		
	2R1			ACC.		
AFTER B-CWR672						
BLANK						

EXAMINED BY主探 Sun Gongchang <i>Sun Gongchang</i>	REVIEWED BY审核 <i>Wei</i>
LEVEL - II SIGN 签名 / DATE日期 <i>09.08.21</i>	LEVEL-II SIGN / DATE日期 <i>09.08.21</i>
质量经理 / QCM <i>Lu Zhe</i>	用户CUSTOMER
签字 SIGN / 日期 DATE <i>J. P. R. 20</i>	签字 SIGN / 日期 DATE



TRANSMITTAL LETTER

PROJECT: SAN FRANCISCO OAKLAND BAY BRIDGE

DATE: 07/23/2009

TO: ROSE MARY/ ABFJV QA DEPARTMENT

FROM: ZPMC QA DEPARTMENT

SUBJECT: CT NCR FOR CLOSURE

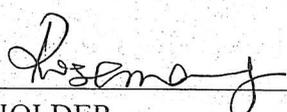
SUBMITTED FOR YOUR APPROVAL.

ENCLOSED WITH THIS TRANSMITTAL IS ONE

- (1) COPY OF LETTER OF RESPONSE WITH NO.B-416FOR CLOSURE.
- (2) COPY OF CT NCR-000266 (ZPMC-0240)
- (3) COPY OF THE ZPMC INTERNAL NCR
- (4) COPY OF THE CLOSED CRITICAL WELDING REPAIR REPORT
- (5) COPY OF THE FINAL VT/UT/MT REPORT

PLEASE SIGN THIS TRANSMITTAL AND RETURN TO ME.

ACKNOWLEDGEMENT:



 PLAN HOLDER

^{16:11}
 RECEIVED 23 JUL 2009

 DATE

 COMPANY

 PHONE NO.

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



No. B-416

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-7-23

REGARDING: NCR-000266 (ZPMC-0240)

With this letter of response, ZPMC requests closure for Caltrans NCR-000266 (ZPMC-0240). Per the comments of the NPR from caltrans that "please provide documentation of the weld repairs that were performed and that the repairs were acceptable", we submit the letter with the attached report to support the good quality of the corresponding structures and complete with the NDT inspection.

So base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report NCR-000266 (ZPMC-0240).

Please reference attached documentation for acceptance and closure the NCR-000266 (ZPMC-0240).

ATTACHMENT:

NCR-000266 (ZPMC-0240)

ZPMC internal NCR

The closed critical welding repair report

The final VT/UT/MT report

zhao shuangbao

2009. 7. 23



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-152 (ZPMC-240)

Item: Critical weld repair performed without the engineer's approval
名称描述: CWR 未经工程师批准就返修

Item Number:
件号: OBG CB1

Drawing:
图号: CB203

Location: OBG CB1
位置:

Date:
日期: 2009-05-20

Description of Nonconformance:

Caltrans Quality Assurance (QA) Inspector observed that the Contractor has performed base metal repair of a linear indication without an approved repair procedure. The Complete Joint Penetration (CJP) weld (SP215-001-048, Crossbeam CB1) in the area of this repair has previously been repaired three times; one time for two toe indications discovered visually on 5/6/09 and two additional times after ZPMC Quality Control (QC) Ultrasonic Testing (UT) technicians rejected the repaired area of the weld. A CWR was provided to the Engineer after the work had already been performed.

CB1 箱体内部, CT 检验员发现 ZPMC 在未经工程师批准的情况下就对有缺陷的母材区域进行返修。返修区域包含 CJP 焊缝 (SP215-001-048), 此焊缝之前已经有过 3 次返修。第一次是在 09 年 5 月 6 日发现两个焊趾位置缺陷, 另外两个是 ZPMC 的 UT 检验员焊缝 UT 拒收后的返修。返修结束后 ZPMC 才提交 CWR 给工程师。

Work By: Prepared by: *Shenhejun* Reviewed by QCE: *Shenhejun*
施工方: *Tianjinchan* 准备: *2009.5.20* 质量工程师批准: *5-20*
 Drawing Error Material Defect Fabrication Error Other
图纸错误 材料缺陷 制作错误 其他原因

Disposition: Use as is Repair Reject
处理措施: 回用 返修 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: ① First and second repair for UT rej. and after MT accept and perform
② 第一次、二次是 UT 检测不合格返修, 第三次 UT 合格检测合格后, MT 检测不合格 MT 合格检测处条越孔位置, 属于第一次返修, 在处理裂纹时, ZPMC 拒收
MT The indications were at weld through hole and ...

QC和QA者在现场,并对返修点报验,加州斯蒂芬也在现场. QC,QA 监控作业情况. inspected the repair and witness by Caltrans

①. 施工时间紧张, CWR审批时间较长, 易等2
Prevention of Re-occurrence: ① fabricate time short and review time long for CWR

预防措施:

- ① 对焊缝裂纹处理干净, 1) Remove cracks completely;
- ② 预热后焊接, 焊后并保温, 2) Weld after preheat and postheat;
- ③ 加强施工方管理, 不允许出现先作业后递交报告(CWR)
- 3) Enhance management work team to forbite work without approved CWR

Approved by/批准: Hu Yu Zhang

Technical Justification for Use-As-Is/Repair: Attachment Non-attachment
回用或返修的技术依据: 附件 无附件

加3号坑场监控, 杜绝类似的问题再次发生
Enhance supervision on-site.

Reviewed /批准: Terry Yan's

Verification: Acceptable Unacceptable
确认: 可接受 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 #: 04-0120F4

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-000266

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date:

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

NCR #: ZPMC-0240

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural Description:

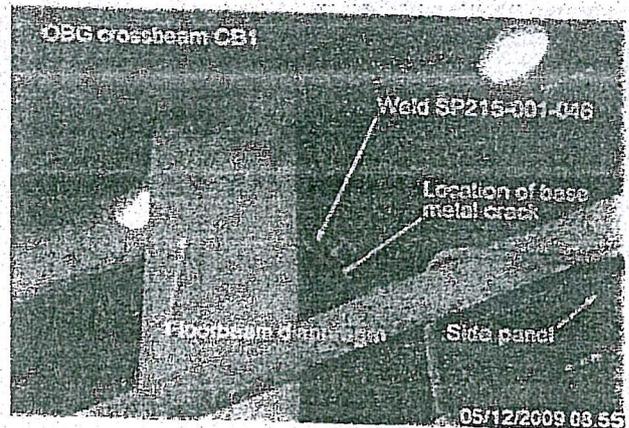
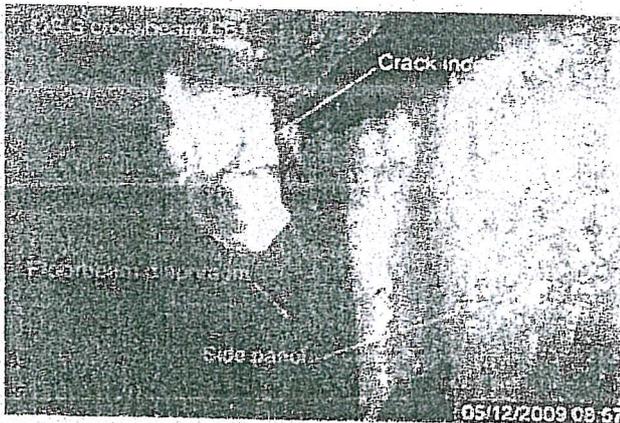
Bridge No: 34-0006

Component: OBG Crossbeam CB1

Reference Description: Critical Weld Repair Performed Without the Engineer's Approval, CB1

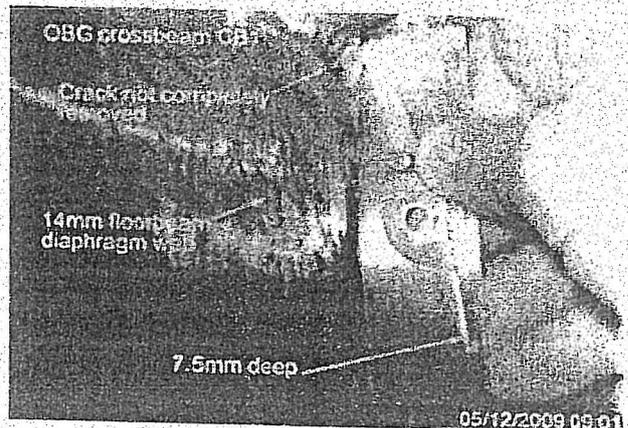
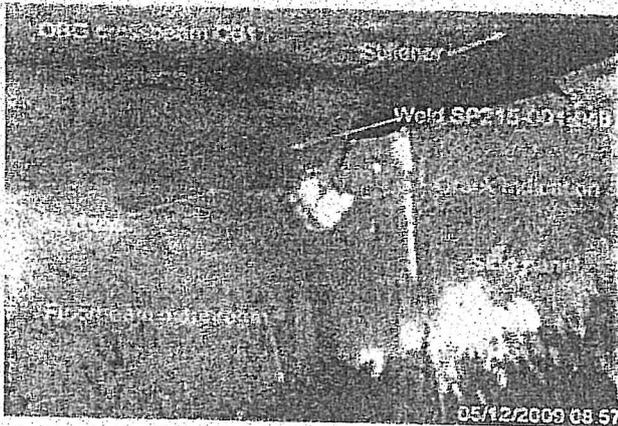
Description of Non-Conformance:

Caltrans Quality Assurance (QA) Inspector observed that the Contractor has performed base metal repair of a linear indication without an approved repair procedure. The Complete Joint Penetration (CJP) weld (SP215-001-048, Crossbeam CB1) in the area of this repair has previously been repaired three times; one time for two toe indications discovered visually on 5/6/09 and two additional times after ZPMC Quality Control (QC) Ultrasonic Testing (UT) technicians rejected the repaired area of the weld. A CWR was provided to the Engineer after the work had already been performed.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5 (2002) Paragraph 3.7.4: "Prior approval of the Engineer shall be obtained for repairs to base metal, repair of major or delayed cracks."

Who discovered the problem: Steve Hall

Name of individual from Contractor notified: Noe Pasiola

Time and method of notification: 5/12/09, 17:00, Email

Name of Caltrans Engineer notified: Ching Chao, Stanley Ku

Time and method of notification: 5/13/09, 18:00, Email

QC Inspector's Name: Shen Xuejun

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 Eric Tsang, +(86) 1500.042.2372, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

SMR

Reviewed By: Wahbeh, Mazen

SMR



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.:	CB1	报告编号 Report No.:	B-CWR509
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG CROSS BEAMS	NDT 报告编号 NDT Report No.:	B787-UT-6536R1
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

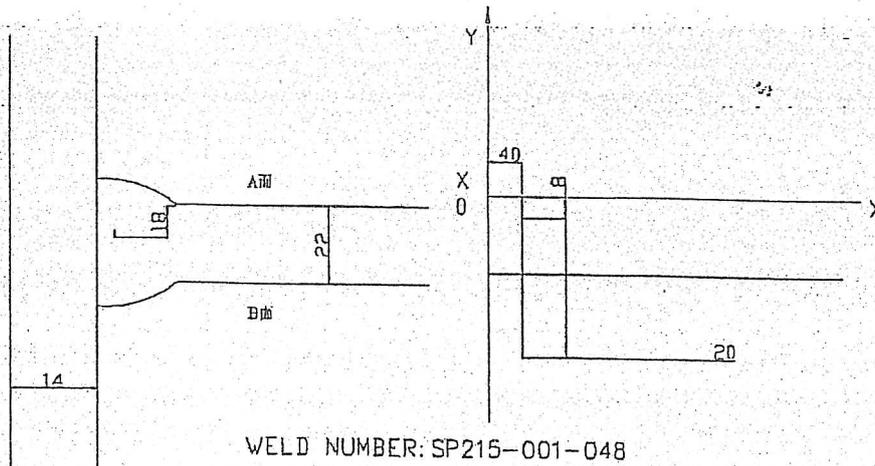
A Rejectable indication was found by Ultrasonic Inspection for a **SECOND** repair. *third*
(UT二次缺陷) SP215-001-048

Welder ID No. (焊工编号): 216667 Position:(位置): 4G

检验员 (Inspector): *Ma Jilong* 日期 (Date): 2009.05.11

焊缝返修位置示意图:

Draft of Welding Discontinuity:



This document is APPROVED *as noted*
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications

Initial *fw* Date: *7/1/09*

产生原因:

Cause:

1. 焊工在第一次反面清根时, 没有注意, 导致焊接缺陷没有全部去除;
 2. 在焊返修前, QC没有确认所有的焊接缺陷已经去除。
1. The welder was not observant during the first backgouging operation resulting in the Indications not being completely removed.
 2. QC did not verify the indications had been removed prior to re-welding.

车间负责人 (Foreman):

Hu Yunshang

日期 (Date):

09.05.11

处理意见

Disposition:

1. 在整个的返修过程中, QC和Leader CWI必须在现场监控所有的碳刨, 打磨和焊接操作;
 2. 在返修时, QC必须有有效的CWR, 以保证返修按照要求进行;
 3. 如果碳刨, 按照返修的WPS进行预热;
 4. 从A面采用碳刨或打磨的方法去除焊缝缺陷;
 5. 准备一个正确得接头型式, 具体参照相应的返修WPS;
 6. 将缺陷区域打磨平滑;
 7. 采用MT和VT检测方法保证缺陷完全被消除;
 8. 预热及焊接要求参照已批准的返修WPS执行;
 9. 返修后,VT,MT,UT检测焊缝;
 10. 将焊缝打磨与相邻焊缝平齐;
 11. 根据批准的车间图纸检查焊缝;
1. QC and a Lead CWI shall be present and monitor all gouging, grinding and welding operations during this repair.
 2. QC shall have a copy of the CWR available to ensure the repair is per the disposition requirements.
 3. If gouging is performed, preheat per the repair WPS minimum requirements.
 4. Gouge and/or grind to remove all the defects from the Face A.
 5. Prepare the repair joint according to the relevant repair WPS.
 6. Grind area smooth to a shiny finish.
 7. Perform VT and MT to ensure the defects have been removed.
 8. Preheat and weld according to the relevant repair WPS.
 9. Perform VT, MT and UT to the repair areas.
 10. Grind the weld flush with the adjacent weld.
 11. Check the weld according to the working drawings.

This document is APPROVED
 State of California
 DEPARTMENT OF TRANSPORTATION
 Pursuant to Section 5-1.02 of the
 Standard Specifications
 Initial *fw* Date: *5/12/09*

工艺:
Technical Engineer:

Nin Zhang

审核:
Approved By:

for Chenbin

日期:
Date: *09.05.11*

		<h2 style="margin: 0;">关键焊缝返修报告</h2> <h3 style="margin: 0;">Critical Welding Repair Report (CWR)</h3>			版本 Rev. No.:
					0
项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	CB1	报告编号 Report No.:	B-CWR509
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG CROSS BEAMS	NDT 报告编号 NDT Report No.:	B787-UT-6536R1
项目编号 Project No.:	ZP06-787				
纠正措施: Corrective Action to Prevent Re-occurrence: <ol style="list-style-type: none"> 1. 返修前, QC必须VT和MT确认所有的缺陷已经去除; 2. 教导在烧熔透焊缝和焊道清理时, 焊工必须负责任; 3. QC指导碳刨工将所有的缺陷去除; 4. 关键焊缝返修时, 主要的QC负责人要在现场; <ol style="list-style-type: none"> 1. QC to verify VT and MT has been performed and all the defects have been removed prior to the repair. 2. QC to instruct the welder that it is his responsibility to produce sound welds and perform interpass cleaning. 3. QC to instruct the grinder all defects shall be removed. 4. Greater QC presence during critical welding operations. 					
车间负责人 (Foreman): <u>Hu Yuzhan</u> 日期 (Date): <u>09.05.11</u>					
参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-1G(1F)-FCM-Repair WPS-345-FCAW-1G(1F)-FCM-Repair WPS-345-SMAW-4G(4F)-FCM-Repair WPS-345-FCAW-4G(4F)-FCM-Repair	工艺员 Technologist:	<u>Niu Tiefang</u> 09.05.11		
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:	75°C	返修的缺陷 Description of Discontinuity:	slag		
焊前处理检查 Inspection Before Welding:	All	焊前预热温度 Preheat Temperature Before Welding:	175°C		
最大碳刨深度 Max. Depth of Gouge:	10	碳刨总长 Total Length of Gouge:	45		
焊工 Welder:	<u>Zhang Duo</u> 21667	焊接类型 Welding Type:	SMAW	焊接位置 Position:	4G
焊接电流 Current:	151	焊接电压 Voltage:	24.8	焊接速度 Speed:	113
返修后检查 Inspection After Repair:					
外观检查 VT Result:	All	检验员 Inspector:	<u>Zhang Jiyang</u>	日期 Date:	2009.05.11
NDT复检 NDT Result:	All	探伤员 NDT Person:	<u>Ma Jiahong</u>	日期 Date:	2009.05.10
见证: Witness/Review:					
This document is APPROVED State of California DEPARTMENT OF TRANSPORTATION Pursuant to Section 5-1.02 of the Standard Specifications Initial Date: 5/12/09					
备注: Remark: <u>keep temperature time > 70°C/1hr</u>					

#R787-QCP-900



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-6536R2 DATE 2009.05.16 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: OBG CROSS BEAMS DRAWING NO.: CB1 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, 2009

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-345T2-X 14/22mm

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	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	Depth from Surface 距表面深度	From X 距X	From Y 距Y		
SP215-001-048	1R2	70				34								ACC.	100%

AFTER B-CWR509

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EXAMINED BY 主探 <i>Majestong</i> 2009.05.16 LEVEL - II SIGN / DATE	REVIEWED BY 审核 <i>X. V. ...</i> 09.05.16 LEVEL - II SIGN / DATE
质量经理 / QCM <i>[Signature]</i> 签字 SIGN / 日期 DATE <i>200603</i>	用户 CUSTOMER _____ 签字 SIGN / 日期 DATE



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 SFOB	部件图号 Drawing No.:	CB1	报告编号 Report No.:	B-CWR502
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	扭曲横梁CB1 Cross beam C B1	NDT报告编号 Report No. of NDT	B787-MT-10681
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

在对SP215-001-048检测时,发现一处横向裂纹,长度15mm。

Welder ID No. (焊工编号): 216667 Position:(位置): 4G

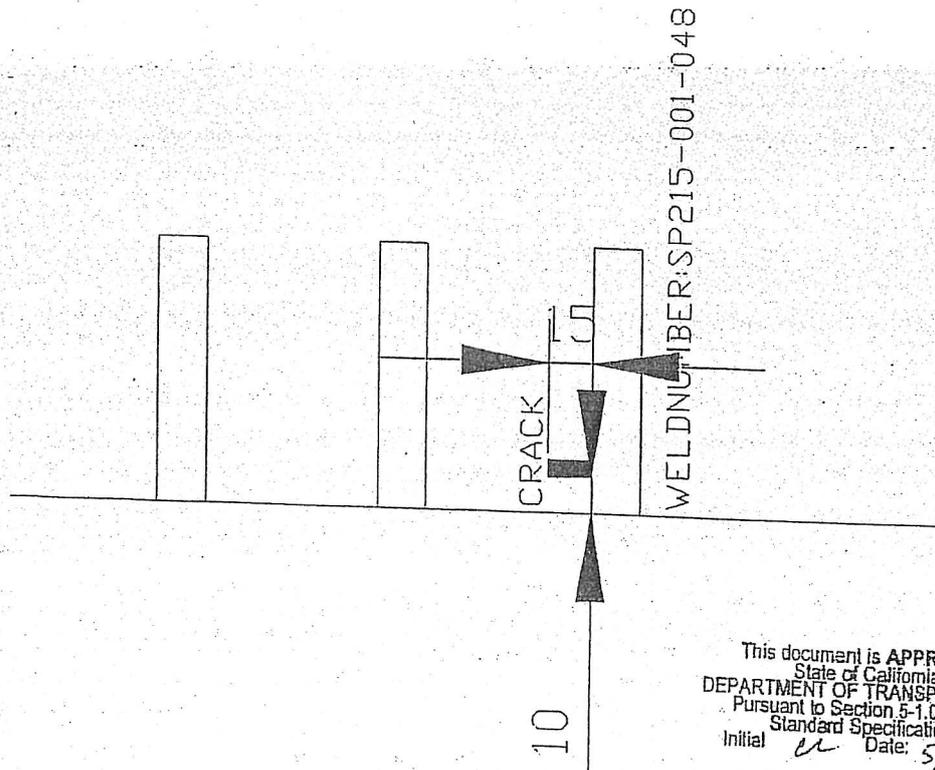
We found one transverse crack in SP215-001-048.

检验员 (Inspector): Cai Xinxin

日期 (Date): 2009-05-12

焊缝返修位置示意图:

Draft of Welding Discontinuity:



This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications

Initial ca Date: 5/18/09

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;

2. 翻身破刨清根后, 打磨不到位。

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

2. It didn't grind smoothly after backing gouging.

车间负责人 (Foreman):

Hu Yuzhang

日期 (Date):

05.25.11

处理意见

Disposition:

1. 这次返修时, QC到现场指导打磨, 焊接;

2. QC指导返修, 以保证返修按照处理意见进行;

3. 采用打磨的方式去除裂纹;

4. 准备一个正确的接头型式, 具体参照相应的返修WPS;

5. VT和MT检测确认返修区域没有裂纹;

6. 根据批准的返修焊接工艺规程

7. 预热温度应不小于100℃;

8. 预热范围在修补区域周围不应小于150mm;

9. 将修补区域打磨与母材或相邻焊缝平齐;

10. 对修补区域做VT与MT检测。

1. QC shall be present and direct all grinding and welding operations during this repair.

2. QC shall direct the repair to ensure the repair is per the disposition requirements.

3. Remove the crack by means of grinding.

4. Prepare excavation according to the approved repair WPS.

5. Verify with VT and MT repair areas are crack free.

6. Preheat and weld according to the approved repair WPS.

7. Preheat prior to welding to a minimum temperature of 100°C

8. The preheat area shall be a minimum of 150mm in all directions around the repair area.

9. Grind the repaired area flush with base metal or the adjacent weld.

10. Perform VT and MT of the repair areas.

工艺:

Technical Engineer:

Ninzefer

审核:

Approved By:

Lujianhua

for chenbin

日期:

Date:

05.25.12

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications

Initial

LL

Date:

5/18/09



关键焊缝返修报告

Critical Welding Repair Report (CWR)

版本
Rev. No.:

1

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	CB1	报告编号 Report No.:	B-CWR002
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	扭曲横梁CB1 Cross beam C B1	NDT报告编号 Report No. of NDT	B787-MT-10681
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。

2. 培训和教育打磨工, 提高打磨质量, 保证凹槽圆滑过度。

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

2. Train and educate grinder to improve grinder quality to ensure exaction transits smoothly.

车间负责人 (Foreman):

Hu Yuzhong

日期 (Date):

07.05.12

参照的WPS编号 Repair WPS No.:	WPS-SMAW-345-1G (1F)-Repair WPS-FCAW-345-1G (1F)-Repair WPS-SMAW-345-4G (4F)-Repair	工艺员 Technologist:	Nin Tiefaj 07.05.12
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:	Grind	返修的缺陷 Description of Discontinuity:	Crack
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	NA
最大碳刨深度 Max. Depth of Gouge:	7mm	碳刨总长 Total Length of Gouge:	30mm
焊工 Welder:	216667	焊接类型 Welding Type:	SMAW
焊接电流 Current:	151	焊接电压 Voltage:	25
		焊接位置 Position:	4G
		焊接速度 Speed:	113

返修后检查

Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	chenxi	日期 Date:	2009.05.18.
NDT复检 NDT Result:	MT Acc	探伤员 NDT Person:	Cai Xinxin	日期 Date:	07-05-18

见证:

Witness/Review:

备注:

Remark:

Keep temperature 281°C . 1h

#R787-QCP-900

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000231

Subject: NCR No. ZPMC-0240

Dated: 16-Oct-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000235 Rev: 03

Contractor's Proposed Resolution:

Reference Resolution: Per Caltrans comments to ABF-NPR-000235R02 the UT report for the 4th time repair is attached to this NPR. ZPMC requests closure of this NCR.

Per Caltrans comments to ABF-NPR-000235R02, the UT report for the 4th time repair is attached to this NPR. All other supporting documentation was submitted with ABF-NPR-000245R02. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000235R03;

Caltrans' comments:

Status: CLO

Date: 08-Nov-2009

The attached UT report no. B787-UT-6536-1, dated 5-19-09, was determined to be for the repair done for CWR502R1 on 5-18-09 instead of CWR502 as shown on the report after reviewing QA Data base and discussing with ABF's engineer. CT METS inspector confirmed the acceptance of the final weld repair dated 8-18-09. ABF will upload the aforementioned UT report on the data base.

Submitted by: Chao, Ching

Date: 08-Nov-2009

Attachment(s):



No. B-481

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-10-16

REGARDING: NCR-000266 (ZPMC-0240)

With this letter of response, ZPMC requests closure for Caltrans NCR-000266 (ZPMC-0240). Per the comments of NPR, we are providing the final UT report after the crack weld repair that can prove the weld have been accepted by NDT inspection.

so base on the above explanation, ZPMC applies to close the caltrans's report NCR-000266 (ZPMC-0240).

Please reference attached document for acceptance and closure the NCR-000266 (ZPMC-0240).

ATTACHMENT:

NCR-000266 (ZPMC-0240)

The final UT report



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-6536-1 DATE 2009.05.19 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: OBG CROSS BEAMS DRAWING NO.: CB1 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, 2009

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 A709M-345T2-X 14/22mm

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	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		
SP215-001-048		70				36								ACC.	100%

AFTER B-CWR502

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EXAMINED BY 主探 <i>Mailing</i> LEVEL - II SIGN / DATE 09.25.19	REVIEWED BY 审核 <i>Xuekaiyong</i> LEVEL - II SIGN / DATE 09.25.19
质量经理 / QCM <i>[Signature]</i> 签字 SIGN / 日期 DATE 5.19	用户 CUSTOMER 签字 SIGN / 日期 DATE

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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-000354**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 30-Nov-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0240**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: 12-May-2009**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed that the Contractor has performed base metal repair of a linear indication without an approved repair procedure. The Complete Joint Penetration (CJP) weld (SP215-001-048, Crossbeam CB1) in the area of this repair has previously been repaired three times; one time for two toe indications discovered visually on 5/6/09 and two additional times after ZPMC Quality Control (QC) Ultrasonic Testing (UT) technicians rejected the repaired area of the weld. A CWR was provided to the Engineer after the work had already been performed.

Contractor's proposal to correct the problem:

Perform required repair and NDT.

Corrective action taken:

ZPMC has performed the required repair and submitted the required documentation verifying that the welds are in conformance with Contract requirements.

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