DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, PRC **Report No:** NCR-000603
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 05-Jan-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0576

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** Segment 7CW Floorbeam
Procedural	☐	**Procedural**	☐	**Description:** Missed MT indication by QC		

Reference Description: Missed MT indication by QC on Segment 7CW Floorbeam

Description of Non-Conformance:

During Magnetic Particle Testing (MT) review of welds on OBG Segment 7DW deck panel diaphragm components, this Quality Assurance Inspector (QA) discovered the following issues:

One (1) longitudinal linear indication measuring approximately 10 mm in length.

-The member is identified as FL2-2 Floor Beam FB005-025

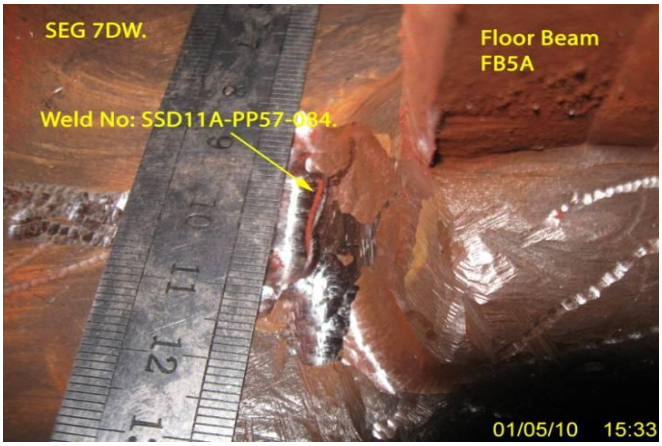
-The weld is a fillet weld T-joint, joining FB005-025 to Seismic Performance Critical Material (SPCM) bottom panel identified as BP092A.

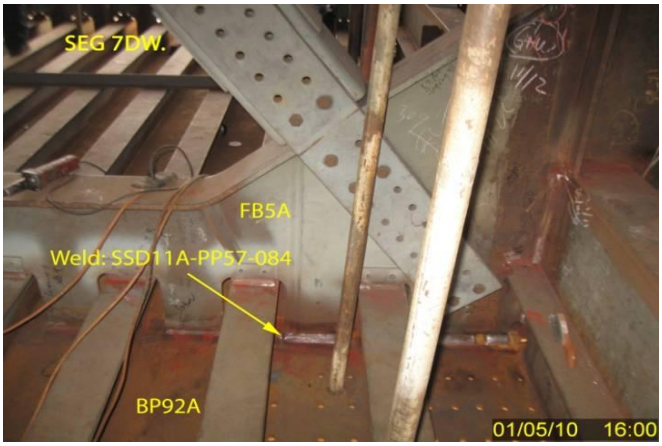
-The weld is identified as SSD11A-PP57-084.

-The approved shop drawings, detail this weld as a Fracture Critical Weld (FCW).

-Segment 7DW is located at outside yard, north end of bays 13 and 14.

The Notice of Witness Inspection Number (NWIT) is 004993. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.





QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Applicable reference:

Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

AWS D1.5 (02) Section 6.26.2 – "Welds that are subject to MT in addition to visual inspection shall have no cracks."

Who discovered the problem: Shailesh Vasant Wadkar

Name of individual from Contractor notified: Peter Shaw

Time and method of notification: 1/5/2010, 17:00; Verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 01/06/10, 09:00; Verbal

QC Inspector's Name: Wang Xian Pin

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:	Sinevod,Serge	ASMR
Reviewed By:	Wahbeh,Mazen	SMR

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

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	**Date:**	06-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:**	05.03.06-000566
Subject:	NCR No. ZPMC-0576		

Reference Description: Missed MT indication by QC on Segment 7CW Floorbeam

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:** 07

Remarks:

During Magnetic Particle Testing (MT) review of welds on OBG Segment 7DW deck panel diaphragm components, this Quality Assurance Inspector (QA) discovered the following issues:

One (1) longitudinal linear indication measuring approximately 10 mm in length.

-The member is identified as FL2-2 Floor Beam FB005-025

-The weld is a fillet weld T-joint, joining FB005-025 to Seismic Performance Critical Material (SPCM) bottom panel identified as BP092A.

-The weld is identified as SSD11A-PP57-084.

-The approved shop drawings, detail this weld as a Fracture Critical Weld (FCW).

-Segment 7DW is located at outside yard, north end of bays 13 and 14.

The Notice of Witness Inspection Number (NWIT) is 004993. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. Provide the required training and equipment to the ZPMC MT technician such that indications such as this are found. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Bill Howe Sr. Transportation Engineer

Attachments: ZPMC-0576

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

File: 05.03.06

AMERICAN BRIDGE/FLUOR ENTERPRISES, a JV

P.O. BOX 23223 Oakland, CA 94623

Phone (510) 419-0120 / Fax (510) 839-0666

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000566

Subject: NCR No. ZPMC-0576

Dated: **18-Jan-2010**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000504 Rev: 00**

Contractor's Proposed Resolution:

Reference Resolution: As a means of preventing future occurrences, the ABF QCM has performed refresher MT training. See attached MT training agenda and attendance roster.

As it is necessary to respond to the NCR with a proposed plan of action, ABF is doing so without all of the repair documentation at this time. As a means of preventing future occurrences, the ABF QCM has performed refresher MT training. See attached MT training agenda and attendance roster. The ABF QCM has been discussing missed MT indications with the ZPMC QCM and related NDT supervisory personnel. The ZPMC level III is in the process of assessing personnel, techniques and equipment. Preliminary findings have resulted in ZPMC taking immediate action by performing 100% overchecks of the previously tested areas beginning the week of 18 January 09 as a means of preventing future NCR's for missed indications. ABF has purchased powder dispensers for all the ZPMC MT technicians as a means to help control the amount of powder applied during MT testing. ZPMC requests this NCR be placed in the Approved Action Pending status category until such time that all the repair documents have been assembled and submitted.

Submitted by: Lawton, Steve

Attachment(s): ABF-NPR-000504R00;

Caltrans' comments:

Status: AAP

Date: 25-Jan-2010

The preventative measures taken by the QCM and the proposed resolution for closing NCR submitted by the contractor are acceptable. The NCR will be closed upon completion of the repair and review of the repair documents by the Engineer when submitted by the contractor.

Submitted by: Chao, Ching

Date: 25-Jan-2010

Attachment(s):

Tool Box Training Agenda

Subject: MT Techniques

Reason for Training: Several CT NCR's of indications missed during ZPMC NDT inspection.

1. Safety

a. Safety Glasses
b. Gloves (if required)
c. Knee Pads
d. Electrical shock

2. Tools

a. Lighting
b. MT Powder. Red for ambient, Yellow for High Temperature.
c. Powder Bulb
d. Powder Blower
e. MT Yoke Adequate working condition
f. Pie Gage

3. Inspection Techniques

a. Lighting
b. Position of body (distance of eyes to the weld surface)
c. Application of Powder removal of Powder
d. Continuous method
e. Two directions
f. Both sides of weld
g. Clean and dry surface

ZPMC

教育培训纪录

培训编号：MT-22-Dec-09

培训内容：	MT Techniques
培训对像：	项目质检
授课人员：	Steve Lawton
培训类型：	内部培训
培训时间：	22-Dec-09 5:00 pm
计划培训地点：	zpmc QC office

人员签到：

姓名	部门	姓名	部门
苏内韦 Sunwei	钢桥	狄坤轮 Di Kunlun	钢桥
孙[illegible] SunGongchang	钢桥	蔡新鑫 CaiXinXin	钢桥
徐海 XuHai	钢桥	傅志强 FuZhiqiang	钢桥
卞源源 BianYuanYuan	钢桥	顾云武 GuYunwu	钢桥
许兵 XuBing	钢桥	金建廷 Jinjianting	钢桥MT
李振华 Lizhenhua	钢桥	常芳杰 ChangFangjie	钢桥
李帅阳 LiXiuYang	QA	袁俊 YuanJun	钢桥
王威 Wangwei	钢桥	刘章敏 LiuZhangmin	
施林 SiLin	钢桥MT	徐华祥 XuHuaxiang	钢桥
丁阿成 DingAchang	钢桥MT	周东运 ZhongDongYun	钢桥
贺佳佳 HeJiajia	钢桥	赵成功 ZhaoChenggong	钢桥
黄璟 Huangjin	钢桥	孙工丁 SunGongchang	钢桥
李黎明 LiLiming	钢桥	徐[illegible] XuHui	刘宏文武 LiuHongbin
李昌涛 Lichangtao			

AMERICAN BRIDGE/FLUOR ENTERPRISES, a JV

P.O. BOX 23223 Oakland, CA 94623

Phone (510) 419-0120 / Fax (510) 839-0666

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000566

Subject: NCR No. ZPMC-0576

Dated: **12-Feb-2010**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000504 Rev: 01**

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has issued an internal NCR for this incident and where necessary issued a WRR or CWR and performed NDT to show the weld is acceptable. Enclosed are all documents.

ZPMC has issued an internal NCR for this incident and where necessary issued a WRR or CWR and performed NDT to show the weld is acceptable. Enclosed are all documents, based on this ZPMC request closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000504R01;

Caltrans' comments:

Status: CLO

Date: 15-Feb-2010

The documentation received is sufficient to close this NCR.

Submitted by: Howe, Bill

Date: 15-Feb-2010

Attachment(s):

No. B-610

LETTER OF RESPONSE

TO: American Bridge/Flour
DATE: 2010-2-11
REGARDING:
NCR-000583,594,602,603,625,626,627,628,644,651(ZPMC-0556,567,575,576,598,599,600,601, 615,622)

With this letter of response, ZPMC requests closure of CT NCR-000583, 594, 602, 603, 625, 626, 627, 628, 644, 651 (ZPMC - 0556, 567, 575, 576, , 599, , 601, 615, 622), what mentioned that CT Inspector observed missed MT/UT indications by ZPMC QC.

- ZPMC acknowledged these issues and has issued internal NCRs.
- The missed indications were confirmed by ZPMC and related WRRs/CWRs were issued reflecting these rejections.
- After repair, NDTs were performed to warrant the welds' quality.
- Refresh training has been performed by ABF QCM, to improve QC's technique.

Based on the taken action and attached documentations, ZPMC requests withdrawal of these NCRs.

ATTACHMENT:

NCR-000583, 594, 602, 603, 625, 626, 627, 628, 644, 651 (ZPMC - 0556, 567, 575, 576, 599, 615, 622)
NCR-B-396, 401, 394, 393, 408, , 429, 426
B-CWR1029, 1043, 1044, 1106, 1167, 1151
B-WR10060,
B787-MT-17496R1, 17605R1, 17606R1, 17999R1, 17997R1, 17930R1
B787-UT-10854R1,

2/11/10

CWR1029

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-396(ZPMC-0556)
Item: Missed MT indication 名称描述: MT 漏检	**Item Number:** 件号: Bike Path	**Drawing:** 图号:
Location: Bay 5 位置: 5 车间		**Date:** 日期: 2010-01-18

Description of Nonconformance:

During Magnetic Particle Testing (MT) review of welds on Bike Path Cantilever Beams, this Quality Assurance Inspector (QA) discovered the following issues:

One (1) transverse linear indication measuring approximately 8mm in length.

The member is identified as Bike Path Cantilever Beam BK001-032.

The weld is identified as BK001-032-008.

The weld is a Partial Joint Penetration (PJP) T-joint joining the Web Plate (BKX4A) to the Diaphragm Flange Plate (BKX3C).

The member is non-Seismic Performance critical Member (SPCM).

The member is located in OBG Bay 5.

The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform 100% MT inspection of this weld.

在随机对自行车悬臂梁进行 MT 检验时，加州检验员发现以下问题：

一条横向线性缺陷长度将近 8Mm.

该构件号是：BK001-032.焊缝是：BK001-032-008。

该焊缝是 PJP 焊缝与 BKX4A 和 BKX3C 连接。该构件不是 SPCM。

该缺陷之前已经被 ZPMC MT 人员所检验并接收。

Work By: 施工方: 2010.02.

Prepared by: ZhangWei 准备: 2010.1.18

Reviewed by QCE: 质量工程师批准: 1/19/10

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

Disposition: 处理措施: ☐ **Use as is** 回用 ☐ **Repair** 返修 ☐ **Reject** 拒收

Recommendation:

建议: 现场确认缺陷并报告返修。

Prepared by: 准备 2010.01.

Approved by QCA: 质量经理批准

Reason for Nonconformance:

不符合原因: 钱七生缺陷未被检测出来

Prevention of Re-occurrence:
预防措施: 及时检测报验 加强复检.

2010.02.02

Approved by/批准: [signature]

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

Reviewed /批准: _____

Verification: ☐ **Acceptable** 可接受 ☐ **Unacceptable** 不可接受
确认:

Verified by QCI/质检确认: _____ **Reviewed by QCA/质检主任审核:** _____

#R787-QCP-1300

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

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 03-Jan-2010

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

Job Name: SAS Superstructure

Document No: 05.03.06-000546

Dear: Mr. Charles Kanapicki

Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Subject: NCR No. ZPMC-0556

Reference Description: Missed MT transverse indication by QC for Bike Path Cantilever Beam BK001-032

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: Bike Path **Lift:** N/A

Remarks:

During Magnetic Particle Testing (MT) review of welds on Bike Path Cantilever Beams, this Quality Assurance Inspector (QA) discovered the following issues:

-One (1) transverse linear indication measuring approximately 8mm in length.
-The member is identified as Bike Path Cantilever Beam BK001-032.
-The weld is identified as BK001-032-008.
-The weld is a Partial Joint Penetration (PJP) T-joint joining the Web Plate (BKX4A) to the Diaphragm Flange Plate (BKX3C).
-The member is Non-Seismic Performance critical Member (SPCM).
-The member is located in OBG Bay 5.

The Notice of Witness Inspection Number (NWIT) is 004981. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform 100% MT inspection of this weld.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. Provide training and equipment as required to the ZPMC MT technician to ensure these types of indications are identified in the future. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Bill Howe Sr. Transportation Engineer
Attachments: ZPMC-0556

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

STATE OF CALIFORNIA--BUSINESS,TRANSPORTACTION AND HOUSING AGENCY Arnold Schwarzenegger, Governor

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-000583
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 02-Jan-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0556

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** OBG Bike Path Cantilever Beam BK001-032
Procedural	☐	**Procedural**	☐			**Description:** Missed MT transverse indication by QC

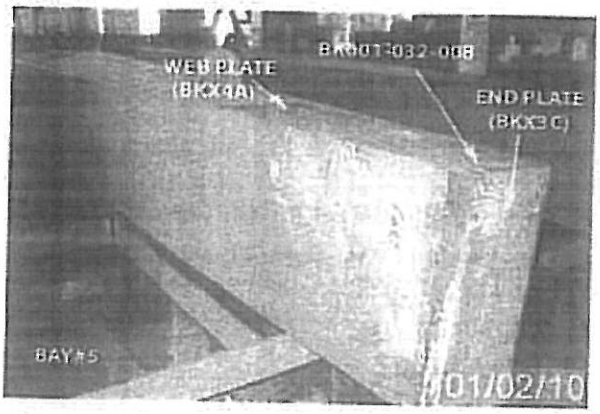
Reference Description: Missed MT transverse indication by QC for Bike Path Cantilever Beam BK001-032

Description of Non-Conformance:

During Magnetic Particle Testing (MT) review of welds on Bike Path Cantilever Beams, this Quality Assurance Inspector (QA) discovered the following issues:

-One (1) transverse linear indication measuring approximately 8mm in length.
-The member is identified as Bike Path Cantilever Beam BK001-032.
-The weld is identified as BK001-032-008.
-The weld is a Partial Joint Penetration (PJP) T-joint joining the Web Plate (BKX4A) to the Diaphragm Flange Plate (BKX3C).
-The member is Non-Seismic Performance critical Member (SPCM).
-The member is located in OBG Bay 5.

The Notice of Witness Inspection Number (NWIT) is 004981. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform 100% MT inspection of this weld.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Applicable reference:

Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

AWS D1.5 (02) Section 6.26.2 – "Welds that are subject to MT in addition to visual inspection shall have no cracks.

Who discovered the problem: Naddi Sandeep Kumar

Name of individual from Contractor notified: Wang Wen Bin

Time and method of notification: 1500 hours, 01/02/10, Verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 1000 hours, 01/03/10, Email

QC Inspector's Name: Zhong Chong Biao

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

Inspected By:	Tsang,Eric	SMR
Reviewed By:	Wahbeh,Mazen	SMR

ZPMC

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

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	BK1	报告编号 Report No.:	版本 Rev. No 0
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG CANTILEVER BOX BRACKET	NDT 报告编号 NDT Report No.:	B-CWR102
项目编号 Project No.:	ZP06-787				B787-MT-174

焊缝缺陷描述:

Description of Welding Discontinuity:

在对BK001-032-008检测时，发现1处横向裂纹。L1=5mm

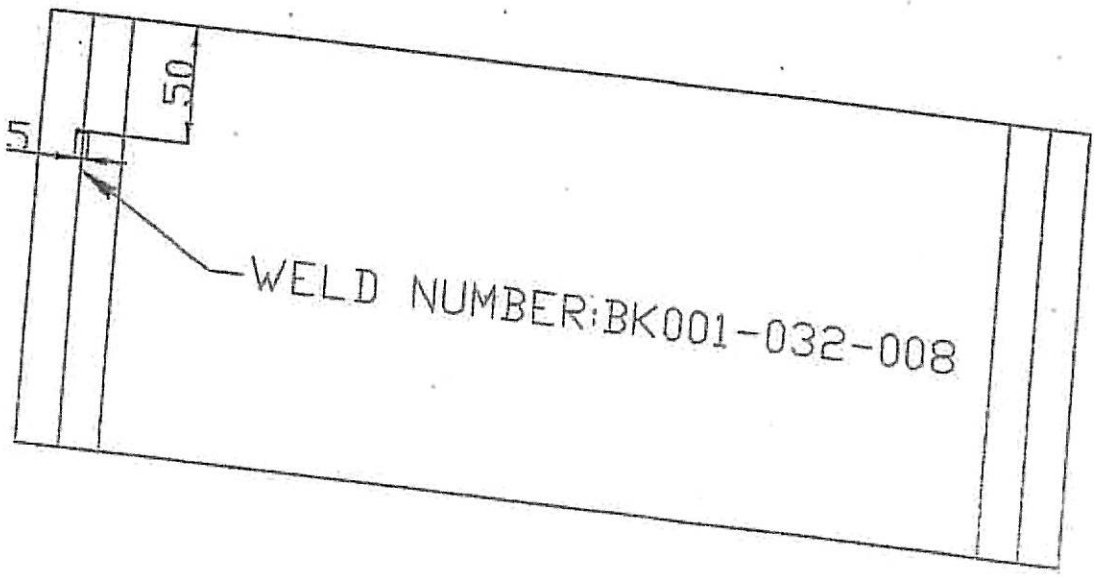
Welder ID No. (焊工编号):217805 Position:(位置): 3G

One transverse crack was found by use of MT on BK001-032-008.

检验员 (Inspector): Chang Fanjie 日期 (Date): 2010-01-03

焊缝返修位置示意图:

Draft of Welding Discontinuity:



产生原因：

Cause:

1. 火焰加热时，水汽没有完全的去除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): Hu Yuzhang 日期 (Date): 19.01.04

处理意见

Disposition :

1. 这次返修时，QC和Leader CWI到现场对打磨，焊接进行指导和监控工作以保证返修按照处理意见进行；
2. 整个返修的过程，QC和Leader CWI应该有批准CWR的复印件；
3. 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. 将杂物以及MT检测遗留的残留物清理干净。然后采用打磨的方法去除裂纹，打磨前预热至65° C。对于单个裂纹返修，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，则在继续返修前另需递交文件给工程师予以审核批准，并按照被批准的方法将角焊缝改成CJP焊缝；
6. 焊接前按照新的焊接返修工艺准备焊缝接头形式；
7. 返修前，VT和MT检测确认返修区域没有裂纹及其他缺陷存在，同时靠近裂纹的母材也要做MT，保证没有裂纹延伸到母材。如果在母材上发现裂纹，则另外需CWR，且只有当这份另出的CWR批准后才能继续返修；
8. 将杂物以及MT检测遗留的残留物清理干净。按照WPS进行预热和焊接，预热温度为160° C-230° C；
9. 焊接后WPS要求进行后热，后热温度为230° C—315° C，后热时间至少1个小时；
10. 后热后将焊缝逐渐冷却到周围环境温度，并控制冷却速率不超过50° C每小时；
11. 后热后将修补区域打磨与母材或相邻焊缝平齐；
12. 在焊缝冷却至环境温度至少经过48小时以后进行NDT检查；
13. 返修后根据图纸进行MT检测，并按照合同10-1.59 "钢结构" 中的 "检测和试验" 要求进行附加MT检测。对于CJP焊缝，NDT为VT，MT和UT。

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial CHW Date: 1/[illegible]/2010

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≥25mm in all direction of HAZ prior to MT.
4. Clean the excavation area of all loose debris including MT powder. Preheat to 65° C before removing 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>5mm is found during or after grinding, comply with the notification on changing fillet weld to CJP which is submitted for Engineer's review and approval form.
6. Prepare excavation in accordance with the New Repair Procedure prior to welding.
7. Before this repair, Verify with VT and MT repair areas are defects free, and also MT shall be performed on the base metal laying abroad cracks to ensure that no cracks were propagated to the base metal. Separate CWR approval is needed if cracks are found in the base metal, and only after this new CWR's approval can continue the repair.
8. Clean excavation area of all loose debris including MT powder after excavation. Preheat and weld according to repair WPS, the preheat shall between 160° C-230° C.
9. Perform post weld heating according to repair WPS, the postheat shall between 230° C—315° C and for one hour minimum.
10. Allow the weld to cool to ambient temperature gradually. Control cooling rate after PWHT to no more than 50° C per hour.
11. Grind the repaired area flush with base metal or the adjacent weld after post weld heating.
12. Wait 48 hours at least after the repair area has cooled to ambient temperature before performing NDT.
13. Perform MT inspection to all repair area according to Contract Drawings along with all additional NDT required by the applicable notes Special Provision Section 10-1.59 'Steel Structure', subsection 'Inspection testing'. NDT include VT, MT and UT if it is a CJP weld.

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

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	BK1	报告编号 Report No.:	B-CWR1029
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG CANTILEVER BOX BRACKET	NDT 报告编号 NDT Report No.:	B787-MT-17496
项目编号 Project No.:	ZP06-787				

版本 Rev. No.: 0

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): Hu Yuzhou 日期 (Date): 13.01.04

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-3G(3F)-Repair	工艺员 Technologist:	Yu Dongkai 13.01.04
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	NA	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:	171
最大碳刨深度 Max. Depth of Gouge:	NA	碳刨总长 Total Length of Gouge:	NA

焊工 Welder:	215083	焊接类型 Welding Type:	SMAW	焊接位置 Position:	3G
焊接电流 Current:	111	焊接电压 Voltage:	23	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:	F.W.Lin. 08126531	日 期 Date:	13.01.08
NDT复检 NDT Result:	ACC	探伤员 NDT Person:	Jin Jian Shy	日 期 Date:	1/8

见证： Witness/Review:

备注： Remark:

This document is APPROVED
SIGNED BEFORE
DEPARTMENT OF TRANSPORTATION

B787-CWR-003

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-17496R1	DATE日期 2010.01.08	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:	BK1 OBG CANTILEVER BOX BRACKET	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 5395 5617 5620
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm
MATERIAL TO BE EXAMINED 检测材料	√WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 10/16mm
WELDING PROCESS 焊接方法	SMAW	TYPE OF JOINT 焊缝类型	CORNER 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			
BK001-032-008	1R1			ACC.		100%MT
AFTER B-CWR1029						
BLANK						

EXAMINED BY主探

Jin jian ting Jin Jianting

LEVEL - II SIGN 签名 / DATE日期 2010.01.08

REVIEWED BY 审核

Sun Gongchang

LEVEL-II SIGN / DATE日期 2010.01.08.

质量经理 / QCM

签字 SIGN / 日期 DATE

用户CUSTOMER

签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

WR10060

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-401(ZPMC-0567)
Item: Missed MT indication 名称描述: MT 漏检	Item Number: 件号:	Drawing: 图号:
Location: BAY 14 位置: 14 车间		Date: 日期: 2010-01-19

Description of Nonconformance:

During random 10% verification Ultrasonic Testing (UT) of OBG Crossbeam 16, this Quality Assurance Inspector (QA) discovered the following issue:

One (1) Class "A" non conforming longitudinal indication measuring approximately 30mm in length.

The weld is a complete joint penetration (CJP) corner joint, joining Side Plate SP203A to Deck Plate DP204A and is identified as CB202A-016-002.

The discontinuity rating is +3, Class "A" reject

Depth of the discontinuity from face A is approximately 13mm, and Y location was 1920mm when measured from the north end of the crossbeam.

The Material thickness is 18mm.

The member is located in fabrication Bay 5.

The indication is an area previously tested and accepted by ZPMC QC UT technicians.

在对 OBG CB16 进行随机 UT 检验时，加州检验员发现以下问题：

一"A"级不符合的纵向缺陷长度将近 30mm。该焊缝是一完成的 PJP 焊缝，连接 SP203A 至 DP204A，编号是 CB202A-016-002。

DB 值是+3，"A"级拒收。A 面部连续长度将近 13mm，从联系梁北端头测量 Y 值是 1920mm。材质厚度是 18mm。该构件在 5 车间里，该缺陷所处位置之前已经被 ZPMC QC UT 人员所检查并接收。

Work By: Li Liang 施工方: 2010.01.20 Prepared by: zhangWei 准备: 2010.1.19 Reviewed by QCE: Lu Jianhua 质量工程师批准: 1/19/10

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

Disposition: 处理措施: ☐ Use as is 回用 ☐ Repair 返修 ☐ Reject 拒收

Recommendation:
建议:

现场确认后另具体报告返修

Prepared by: Li Liang 准备 2010.01.20 Approved by QCA: 质量经理批准

Reason for Nonconformance:
不符合原因:

线性缺陷未被检测出

Prevention of Re-occurrence:
预防措施:

加强复检并及时检验报验.

Approved by/批准: [signature] 20/01.2[illegible]

Technical Justification for Use-As-Is/Repair:
回用或返修的技术依据:

☐ **Attachment** 附件

☐ **Non-attachment** 无附件

Reviewed /批准: _____

Verification:
确认:

☐ **Acceptable** 可接受

☐ **Unacceptable** 不可接受

Verified by QCI/质检确认: _____ **Reviewed by QCA/质检主任审核:** _____

#R787-QCP-1300

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

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	Date:	05-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:	05.03.06-000556
Subject:	NCR No. ZPMC-0567		

Reference Description: Missed UT Indication by QC in Crossbeam 16 Deck Plate to Side Plate Joint

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: Xbeam **Lift:** 11

Remarks:

During random 10% verification Ultrasonic Testing (UT) of OBG Crossbeam 16, this Quality Assurance Inspector (QA) discovered the following issue:

One (1) Class "A" non conforming longitudinal indication measuring approximately 30 mm in length.

-The weld is a complete joint penetration (CJP) corner joint, joining Side Plate SP203A to Deck Plate DP204A and is identified as CB202A-016-002.

-The discontinuity rating is +3, Class "A" reject

-Depth of the discontinuity from face A is approximately 13 mm, and Y location was 1920mm when measured from the north end of the crossbeam.

-The Material thickness is 18 mm.

-The member is located in fabrication Bay 5.

-The indication is in an area previously tested and accepted by ZPMC QC UT technicians.

-The Notice of Witness Inspection Number (NWIT) is 004990.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. Provide training required to enable the ZPMC UT technician to find these types of indications in the future. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Bill Howe Sr. Transportation Engineer

Attachments: ZPMC-0567

NCT

(Continued Page 2 of 2)

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

STATE OF CALIFORNIA–BUSINESS,TRANSPORTACTION AND HOUSING AGENCY Arnold Schwarzenegger, Governor

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-000594
Date: 04-Jan-2010
NCR #: ZPMC-0567

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** Crossbeam CB16 DP to SP
Procedural	☐	**Procedural**	☐	**Description:** Missed UT indication by QC		

Reference Description: Missed UT Indication by QC in Crossbeam 16 Deck Plate to Side Plate Joint

Description of Non-Conformance:

During random 10% verification Ultrasonic Testing (UT) of OBG Crossbeam 16, this Quality Assurance Inspector (QA) discovered the following issue:

One (1) Class "A" non conforming longitudinal indication measuring approximately 30 mm in length.

-The weld is a complete joint penetration (CJP) corner joint, joining Side Plate SP203A to Deck Plate DP204A and is identified as CB202A-016-002.
-The discontinuity rating is +3, Class "A" reject
-Depth of the discontinuity from face A is approximately 13 mm, and Y location was 1920mm when measured from the north end of the crossbeam.
-The Material thickness is 18 mm.
-The member is located in fabrication Bay 5.
-The indication is in an area previously tested and accepted by ZPMC QC UT technicians.
-The Notice of Witness Inspection Number (NWIT) is 004990.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Applicable reference:

Special Provisions Section 8.3; "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

AWS D1.5 Section 6.26.3.1; "Welds that are subject to UT in addition to visual inspection shall be acceptable if they meet the following requirements:...(1) Welds subject to tensile stress under any condition of loading shall conform to the requirements of Table 6.3...(2) Welds subject to compressive stress shall conform to the requirements of Table 6.4."

AWS D1.5-02 Section 6; Table 6.3

Who discovered the problem: Naddi Sandeep Kumar
Name of individual from Contractor notified: Wang Wen Bin
Time and method of notification: 1600 hours, 01/04/10, Verbal
Name of Caltrans Engineer notified: Bill Howe
Time and method of notification: 1830 hours, 01/04/10, E-mail
QC Inspector's Name: Zhong Chong Biao
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 Eric Tsang, 15000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Guest,Skyler	SMR
Reviewed By:	Wahbeh,Mazen	SMR

焊缝返修报告
Welding Repair Report

版本 Rev. No. 0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	CB202A	报告编号 Report No.	B-WR10060
合同号 Contract No.	04-0120F4	部件名称 Items Name	CB16 STRUT	NDT报告编号 Report No.of NDT	B787-UT-10854
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of welding discontinuity:

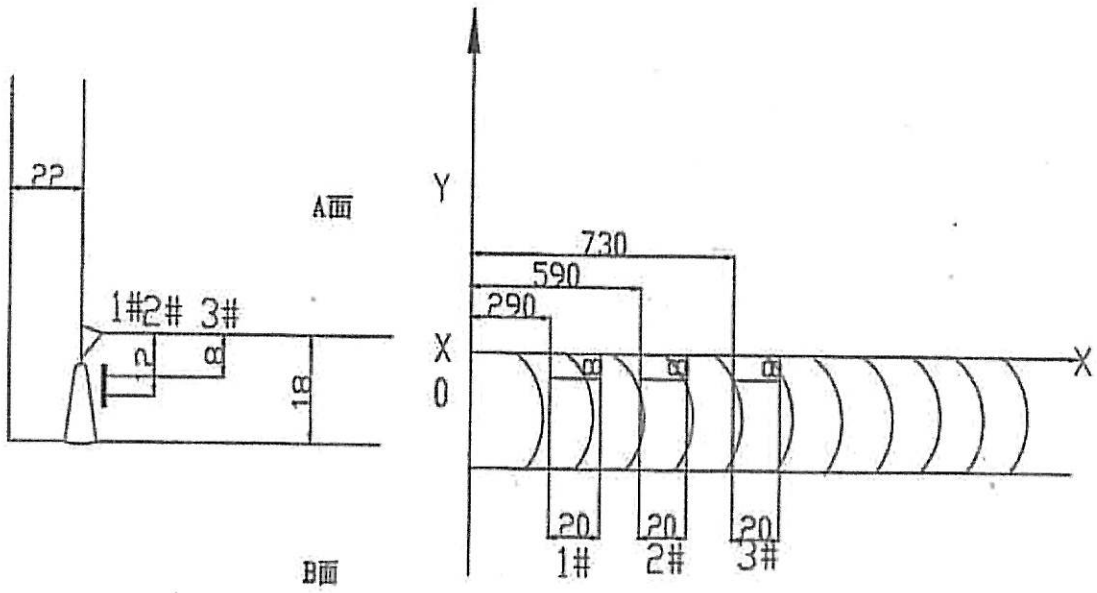
Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

(UT探伤发现的缺陷总长度小于最大允许长度。) CB202A-016-002

检验员 (Inspector) :Han Feng 日期(Date)： 2010.01.16

焊缝返修位置示意图：

Draft of welding discontinuity:



WELD NUMBER: CB202A-016-002

产生原因:

Caused:

1、焊道未及时处理干净。

1. Did not clear the weld pass completely in time.

车间负责人(Foreman): Zhang Guiming 日期(Date): 1.19

处理意见

Disposition :

1. 从缺陷距离端面较近一侧（D≤0.65T, D为缺陷深度，T为板厚）采用碳刨或打磨的方法去除焊缝缺陷;
2. 参照返修焊接工艺规程（WPS）准备正确的接头型式，预热和焊接;
3. 焊前对修补区域进行VT检测保证缺陷完全被清除;
4. 将修补区域打磨到与母材或邻近焊缝平齐;
5. 根据批准的车间图纸检查焊缝.

1. Gouge or grind from nearer side from metal edge （D≤0.65T, "D" is depth of defects, "T" is thickness of metal） to remove all defects;
2. Follow repair WPS for joint preparation, preheat, and weld deposit;
3. Verify with VT no defects remain in the weld joint prior to welding;
4. Grind the repaired area flush with base metal or the adjacent weld;
5. Check the welds according to the working drawings;

工 艺: Liu Dongkai 1.19
Technical engineer

审核:
Approved by

日期 1/21/20
Date

焊缝返修报告
Welding Repair Report

ZPMC			版本 Rev. No.
			0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	CB202A	报告编号 Report No.	B-WR10060
合同号 Contract No.:	04-0120F4	部件名称 Items Name	CB16 STRUT	NDT报告编号 Report No.of NDT	B787-UT-10854
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

1.加强焊接监控和道间清理。

1. Improve monitoring of welding and interpass cleaning.

车间负责人(Foreman): Zhang Guiming 日期(Date): 1.19

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2 G(2F)-Repair WPS-345-SMAW-4 G(4F)-Repair WPS-345-SMAW-2 G(2F)-FCM-Repair WPS-345-SMAW-4 G(4F)-FCM-Repair	工艺员 technologist	Xu Rongkui 1.19
返修（碳刨）前预热温度 Preheat temperature before gouging	70℃	返修的缺陷 Description of discontinuity	N/A
焊前处理检查 Inspection before welding	ACC	焊前预热温度 Preheat temperature before welding	172℃
最大碳刨深度 Max. depth of gouging	9mm	碳刨总长 Total length of gouging	60mm

焊工 welder	215248	焊接类型 welding type	SMAW	焊接位置 position	2G
焊接电流 Current	160	焊接电压 Voltage	23.5	焊接速度 Speed	112

返修后检查
Inspection After repairing:

外观检查 VT result	ACC	检验员 Inspector	F.W.Liu. 08176531	日期 Date	2010.01.21
NDT复检 NDT result	ACC	探伤员 NDT person		日期 Date	2010.1.21

见证：
Witness/Review:

备注：
Remark:

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-10854R1	DATE 2010.01.21	PAGE 1 OF 1	Revision No: 0

PROJECT NO. : 工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 CB16 STRUT	DRAWING NO.: 图号 CB202A	CALTRANS CONTRACT NO.: 04-0120F4 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	CORNER -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 IIW BLOCK TYPE II	C.M.C	A709M-345T2 -X	18/22mm

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 探测面	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		
CB202A-016-002	1R1	70				32								ACC.	100%
	2R1	70				32								ACC.	100%
	3R1	70				32								ACC.	100%
AFTER B-WR10060															
BLANK															

EXAMINED BY主探	REVIEWED BY 审核
Wuchao	Tang Xingshang
LEVEL - II SIGN / DATE 2010.01.21	LEVEL - II SIGN / DATE 2010.01.21
质量经理 / QCM	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

CWR1043

ZPMC

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-394(ZPMC-0575)
Item: Missed MT indication 名称描述: MT 漏检	Item Number: 件号: 7DW	Drawing: 图号:
Location: Outside yard 位置: 外场		Date: 日期: 2010-01-18

Description of Nonconformance:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 7DW, this Quality Assurance Inspector (QA) discovered the following issues:

One (1) Longitudinal linear indication measuring approximately 20mm in length.

The welds are identified as: SSD10-PP56-108,109.

These welds are a Fillet Weld type joining the Bottom Plate (BP92A) to Floor Beam (FB5B) web plate.

These welds are designated as Seismic Performance Critical Member (SPCM) on the approved drawing (SEGSD10)

The OBG segment 7DW is located outside in the Trial Assembly area.

The Notice of Witness Inspection Number (NWIT) is 004993. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.

在对 7DW 进行 MT 随机检验时，加州检验员发现以下问题：

一条纵向线性缺陷长度将近 20mm。

该焊缝是：SSD10-PP56-108,109

这条焊缝是角焊缝连接底板（BP92A）至隔板（FB5B）腹板。

这些焊缝被认为是在 SPCM 板上。

预约单编号是 004993.这些缺陷之前已经被 ZPMC MT 人员所检验并接收。

Work By: [signature] 施工方: 2010.01.20	Prepared by: Zhang Wei 准备: 2010.1.18.	Reviewed by QCE: [signature] 1/19/10 质量工程师批准:

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

Disposition: 处理措施:	☐ Use as is 回用	☐ Repair 返修	☐ Reject 拒收

Recommendation:

建议: 现场确认后出报告返修

Prepared by: [signature] 2010.01.20

准备

Approved by QCA: _____

质量经理批准

Reason for Nonconformance:

不符合原因:

线性缺陷未被检测出

Prevention of Re-occurrence:
预防措施: 及时检测报验加强复检.

Approved by/批准: _____

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**

Reviewed /批准: _____

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 - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	**Date:**	06-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:**	05.03.06-000565
Subject:	NCR No. ZPMC-0575		

Reference Description: Missed MT Indication by QC on 7DW on FB to BP joint

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:** 07

Remarks:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 7DW, this Quality Assurance Inspector (QA) discovered the following issues:

-One (1) Longitudinal linear indication measuring approximately 20mm in length.

-The welds are identified as: SSD10-PP56-108, 109.

-These welds are a Fillet Weld type joining the Bottom Plate (BP92A) to Floor Beam (FB5B) web plate.

-These welds are designated as Seismic Performance Critical Member (SPCM) on the approved drawing (SEGSD10).

-The OBG segment 7DW is located outside in the Trial Assembly area.

The Notice of Witness Inspection Number (NWIT) is 004993. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. Provide the training and equipment required for the ZPMC MT technician such that these indications are found. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Bill Howe Sr. Transportation Engineer

Attachments: ZPMC-0575

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

File: 05.03.06

STATE OF CALIFORNIA--BUSINESS,TRANSPORTACTION AND HOUSING AGENCY Arnold Schwarzenegger, Governor

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-000602
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 05-Jan-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0575

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** OBG Segment 7DW FB to BP
Procedural	☐	**Procedural**	☐			**Description:** Missed MT indication by QC

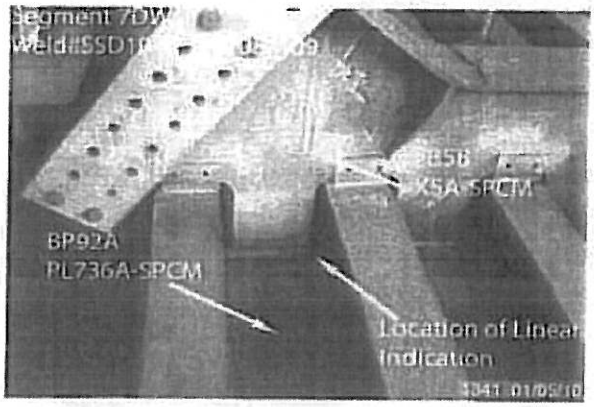
Reference Description: Missed MT Indication by QC on 7DW on FB to BP joint

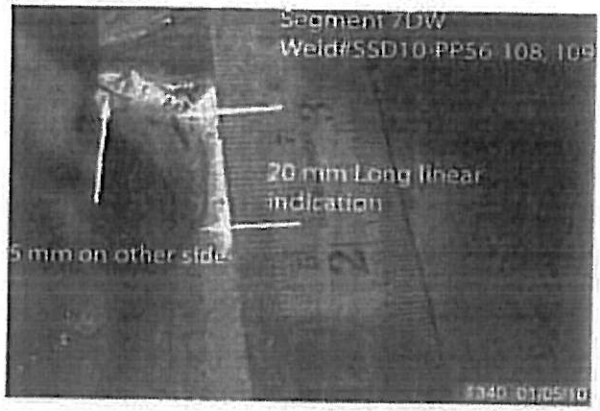
Description of Non-Conformance:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 7DW, this Quality Assurance Inspector (QA) discovered the following issues:

-One (1) Longitudinal linear indication measuring approximately 20mm in length.
-The welds are identified as: SSD10-PP56-108, 109.
-These welds are a Fillet Weld type joining the Bottom Plate (BP92A) to Floor Beam (FB5B) web plate.
-These welds are designated as Seismic Performance Critical Member (SPCM) on the approved drawing (SEGSD10).
-The OBG segment 7DW is located outside in the Trial Assembly area.

The Notice of Witness Inspection Number (NWIT) is 004993. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.





QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Applicable reference:
Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

AWS D1.5 (02) Section 6.26.2 – "Welds that are subject to MT in addition to visual inspection shall have no cracks.

Approved Drawing; SEGSD10 (SPCM Welds)."
Who discovered the problem: Hiranch Patel
Name of individual from Contractor notified: Peter Shaw
Time and method of notification: 1/5/2010, 17:00; Verbal
Name of Caltrans Engineer notified: Bill Howe
Time and method of notification: 1/6/2010, 07:00; Verbal
QC Inspector's Name: Wang Xian Pin
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:	Sinevod,Serge	ASMR
Reviewed By:	Wahbeh,Mazen	SMR

ZPMC	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.:	SSD10	报告编号 Report No.:	B-CWR1043
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG FLOOR BEAM AND BOTTOM PLATE	NDT 报告编号 NDT Report No.:	B787-MT-17605
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of Welding Discontinuity:

在对SSD10-PP56-108检测时，发现1处纵向裂纹。L1=18mm

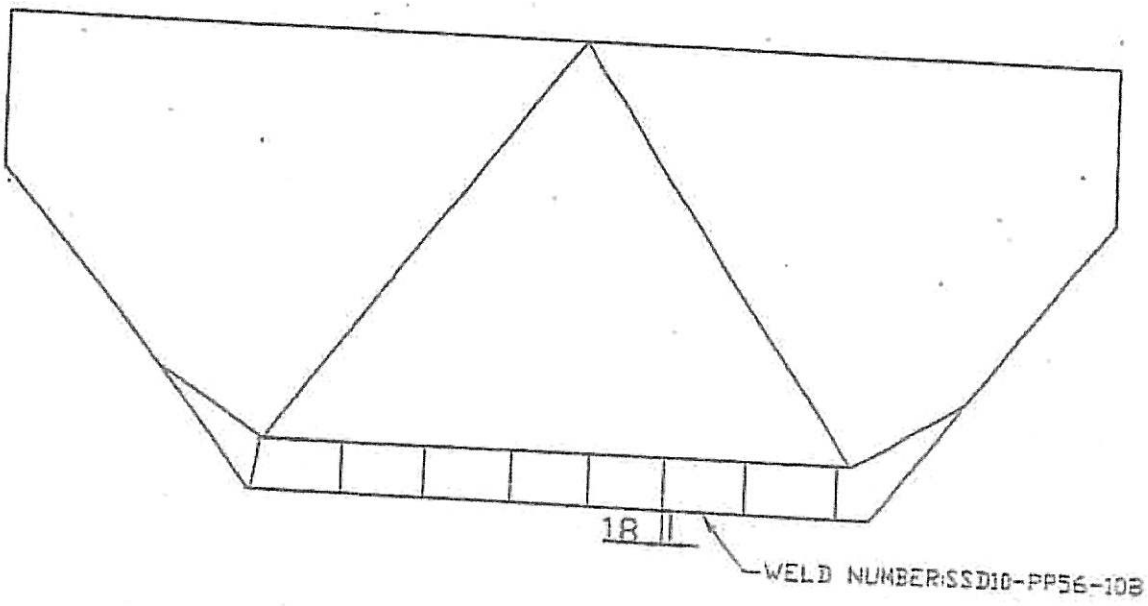
Welder ID No. (焊工编号):037705 Position:(位置)：2F

One longitudinal crack was found by use of MT on SSD10-PP56-108.

检验员 (Inspector)：Sun Gongchang 日期 (Date)：2010-01-07

焊缝返修位置示意图：

Draft of Welding Discontinuity:



产生原因:

Cause:

1. 火焰加热时，水汽没有完全的去除或者这个区域预热不够；

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

车间负责人 (Foreman): Li Zhigang 日期 (Date): 10.1.7

处理意见

Disposition :

1. 这次返修时，QC和Leader CWI到现场对打磨，焊接进行指导和监控工作以保证返修按照处理意见进行；
2. 整个返修的过程，QC和Leader CWI应该有批准CWR的复印件；
3. 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. 将杂物以及MT检测遗留的残留物清理干净。然后采用打磨的方法去除裂纹，打磨前预热至65° C。对于单个裂纹返修，打磨返修范围清除长度为沿裂纹长度加上超出其每一端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，则在继续返修前另需递交文件给工程师予以审核批准，并按照被批准的方法将角焊缝改成CJP焊缝；
6. 焊接前按照新的焊接返修工艺准备焊缝接头形式；
7. 返修前，VT和MT检测确认返修区域没有裂纹及其他缺陷存在，同时靠近裂纹的母材也要做MT，保证没有裂纹延伸到母材。如果在母材上发现裂纹，则另外需CWR，且只有当这份另出的CWR批准后才能继续返修；
8. 将杂物以及MT检测遗留的残留物清理干净。按照WPS进行预热和焊接，预热温度为160° C-230° C；
9. 焊接后WPS要求进行后热，后热温度为230° C—315° C，后热时间至少1个小时；
10. 后热后将焊缝逐渐冷却到周围环境温度，并控制冷却速率不超过50° C每小时；
11. 后热后将修补区域打磨与母材或相邻焊缝平齐；
12. 在焊缝冷却至环境温度至少经过48小时以后进行NDT检查；
13. 返修后根据图纸进行MT检测，并按照合同10-1.59“钢结构”中的“检测和试验”要求进行附加MT检测。对于CJP焊缝，NDT为VT，MT和UT。

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial Date: 1/11/10

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≥25mm in all direction of HAZ prior to MT.
4. Clean the excavation area of all loose debris including MT powder. Preheat to 65° C before removing 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>5mm is found during or after grinding, comply with the notification on changing fillet weld to CJP which is submitted for Engineer's review and approval form.
6. Prepare excavation in accordance with the New Repair Procedure prior to welding.
7. Before this repair, Verify with VT and MT repair areas are defects free, and also MT shall be performed on the base metal laying abroad cracks to ensure that no cracks were propagated to the base metal. Separate CWR approval is needed if cracks are found in the base metal, and only after this new CWR's approval can continue the repair.
8. Clean excavation area of all loose debris including MT powder after excavation. Preheat and weld according to repair WPS, the preheat shall between 160° C-230° C.
9. Perform post weld heating according to repair WPS, the postheat shall between 230° C—315° C and for one hour minimum.
10. Allow the weld to cool to ambient temperature gradually. Control cooling rate after PWHT to no more than 50° C per hour.
11. Grind the repaired area flush with base metal or the adjacent weld after post weld heating.
12. Wait 48 hours at least after the repair area has cooled to ambient temperature before performing NDT.
13. Perform MT inspection to all repair area according to Contract Drawings along with all additional NDT required by the applicable notes Special Provision Section 10-1.59 'Steel Structure', subsection 'Inspection testing'. NDT include VT, MT and UT if it is a CJP weld.

工艺:
Technical Engineer: Ku Dayou

审核:
Approved By: Engineering

日期:
Date: 10.1.7

ZPMC

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.:	SSD10	报告编号 Report No.:	B-CWR1043
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG FLOOR BEAM AND BOTTOM PLATE	NDT 报告编号 NDT Report No.:	B787-MT-17605
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

1.返修前，QC确认有效的预热，以将水汽全部去除。

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

车间负责人 (Foreman): Li zhigang 日期 (Date): 10.1.7

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2G(2F)-FCM-Repair	工艺员 Technologist:	Xu Dongkui 10.1.7
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	178°C	返修的缺陷 Description of Discontinuity:	Slag
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	164°C
最大碳刨深度 Max. Depth of Gouge:	NA	碳刨总长 Total Length of Gouge:	NA

焊工 Welder:	045133	焊接类型 Welding Type: SMAW		焊接位置 Position:	2F
焊接电流 Current:	152	焊接电压 Voltage: 23.6		焊接速度 Speed:	10

返修后检查 Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	Liyanhua 07120701	日 期 Date:	2010.01.29
NDT复检 NDT Result:	Acc	探伤员 NDT Person:	Sunyongcheng	日 期 Date:	2010.1.31

见证: Witness/Review:

备注: Remark:

ZPMC

		周数	117#
		日期	2010.01.29

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG PlatePanelSplice
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Tower/塔:	
		Representative: 质检代表:	
		CWI: 检验员:	LiYanhua 09-07-01
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager –Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	or Reject after repair 返修后
SSD10-PP56-108	045133	2F	TL508H4(Φ4.0)	√	√	√	√	√	√	√	ACC	NA	NA

☐/After root weld
☑ After CWR or WRR No.:B-CWR1043
☐ After cover pass
☐ After HSR No.:
☐ Others

#R787-QCP-603

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

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-17605R1	DATE日期 2010.01.31	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:	SSD10 7DW FLOOR BEAM AND BOTTOM PLATE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 5395 5617 5620
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70—150mm
MATERIAL TO BE EXAMINED 检测材料	√WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 20/12mm
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			
SSD10-PP56-108	1R1			ACC.		
AFTER B-CWR1043						
BLANK						

EXAMINED BY主探 Sun Gongchang SunGongchang LEVEL - II SIGN 签名 / DATE日期 2010.01.31	REVIEWED BY 审核 Jin Jianting LEVEL-II SIGN / DATE日期 2010.01.31
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

CWR1044

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-393(ZPMC-0576)
Item: Missed MT indication 名称描述: MT 漏检	Item Number: 件号: 7DW	Drawing: 图号:
Location: Outside yard 位置: 外场		Date: 日期: 2010-01-18

Description of Nonconformance:

During Magnetic Particle Testing (MT) review of welds on OBG Segment 7DW deck panel diaphragm components, this Quality Assurance Inspector (QA) discovered the following issues:

One (1) longitudinal linear indication measuring approximately 10mm in length.

The member is identified as FL2-2 Floor Beam FB005-025.

The weld is a fillet weld T-joint, joining FB005-025 to Seismic Performance Critical Material (SPCM) bottom panel identified as BP092A.

The weld is identified as SSD11A-PP57-084.

The approved shop drawings, detail this weld as a Fracture Critical Weld (FCW).

The Notice of Witness Inspection Number (NWIT) is 004993. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.

在进行对 7DW 顶板部分 MT 随机检验时，加州检验员发现以下问题：

一条纵向长度接近 10mm 的线性缺陷。

该板式 FL2-2 隔板 FB005-025.

该焊缝是一角焊缝，连接 FB005-025 和 SPCM 底板 BP092A.

按照图纸要求，该焊缝是 FCW 焊缝。

预约单编号是 004993. 该缺陷之前已经被 ZPMC MT 人员检验并接收。

Work By: [signature] 2010.01.20 Prepared by: zhangwei 2010.1.18 Reviewed by QCE: [signature] 1/19/10

施工方: 准备: 质量工程师批准:

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

Disposition: 处理措施: ☐ Use as is 回用 ☐ Repair 返修 ☐ Reject 拒收

Recommendation:

建议:

现场确认后再报告返修.

Prepared by: [signature] 2010.01.20 Approved by QCA: _____

准备 质量经理批准

Reason for Nonconformance:

不符合原因:

线性缺陷未被检测出

Prevention of Re-occurrence:
预防措施: 及时检测报验. 加强复检

Approved by/批准: Li Ling 2020.1.20

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**

Reviewed /批准: _____

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 - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	**Date:**	06-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:**	05.03.06-000566
Subject:	NCR No. ZPMC-0576		

Reference Description: Missed MT indication by QC on Segment 7CW Floorbeam

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:** 07

Remarks:

During Magnetic Particle Testing (MT) review of welds on OBG Segment 7DW deck panel diaphragm components, this Quality Assurance Inspector (QA) discovered the following issues:

One (1) longitudinal linear indication measuring approximately 10 mm in length.

-The member is identified as FL2-2 Floor Beam FB005-025

-The weld is a fillet weld T-joint, joining FB005-025 to Seismic Performance Critical Material (SPCM) bottom panel identified as BP092A.

-The weld is identified as SSD11A-PP57-084.

-The approved shop drawings, detail this weld as a Fracture Critical Weld (FCW).

-Segment 7DW is located at outside yard, north end of bays 13 and 14.

The Notice of Witness Inspection Number (NWIT) is 004993. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. Provide the required training and equipment to the ZPMC MT technician such that indications such as this are found. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Bill Howe Sr. Transportation Engineer

Attachments: ZPMC-0576

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

File: 05.03.06

05.03.06-000566,NCT

STATE OF CALIFORNIA--BUSINESS,TRANSPORTACTION AND HOUSING AGENCY Arnold Schwarzenegger, Governor

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, PRC **Report No:** NCR-000603
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 05-Jan-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0576

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** Segment 7CW Floorbeam
Procedural	☐	**Procedural**	☐	**Description:** Missed MT indication by QC		

Reference Description: Missed MT indication by QC on Segment 7CW Floorbeam

Description of Non-Conformance:

During Magnetic Particle Testing (MT) review of welds on OBG Segment 7DW deck panel diaphragm components, this Quality Assurance Inspector (QA) discovered the following issues:

One (1) longitudinal linear indication measuring approximately 10 mm in length.

-The member is identified as FL2-2 Floor Beam FB005-025

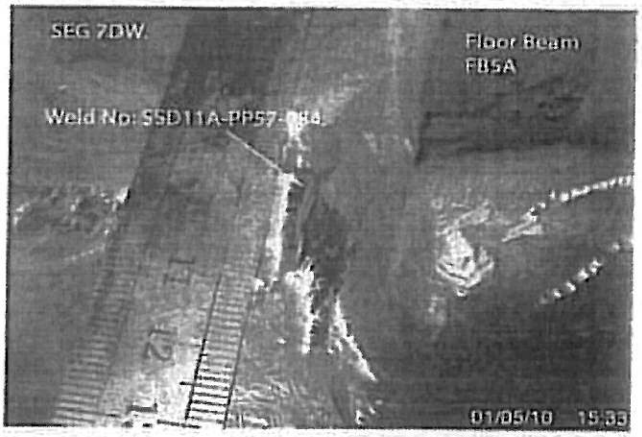
-The weld is a fillet weld T-joint, joining FB005-025 to Seismic Performance Critical Material (SPCM) bottom panel identified as BP092A.

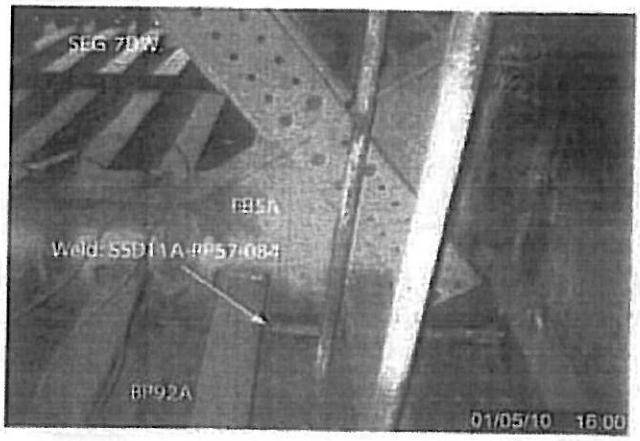
-The weld is identified as SSD11A-PP57-084.

-The approved shop drawings, detail this weld as a Fracture Critical Weld (FCW).

-Segment 7DW is located at outside yard, north end of bays 13 and 14.

The Notice of Witness Inspection Number (NWIT) is 004993. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.





QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Applicable reference:

Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

AWS D1.5 (02) Section 6.26.2 – "Welds that are subject to MT in addition to visual inspection shall have no cracks."

Who discovered the problem: Shailesh Vasant Wadkar

Name of individual from Contractor notified: Peter Shaw

Time and method of notification: 1/5/2010, 17:00; Verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 01/06/10, 09:00; Verbal

QC Inspector's Name: Wang Xian Pin

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:	Sinevod,Serge	ASMR
Reviewed By:	Wahbeh,Mazen	SMR

ZPMC	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.:	SSD11	报告编号 Report No.:	B-CWR1044
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG FLOOR BEAM AND BOTTOM PLATE 7DW	NDT 报告编号 NDT Report No.:	B787-MT-1760
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of Welding Discontinuity:

在对SSD11-PP57-084检测时，发现1处纵向裂纹。L1=10mm

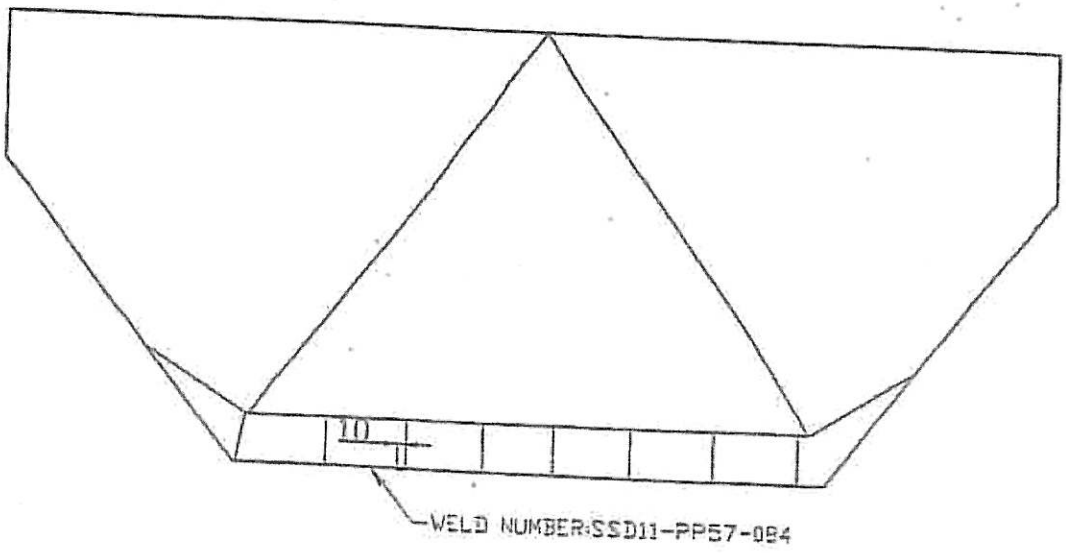
Welder ID No. (焊工编号):037705 Position:(位置)：2F

One longitudinal crack was found by use of MT on SSD11-PP57-084.

检验员 (Inspector)：Sun Gongchang 日期 (Date)：2010-01-07

焊缝返修位置示意图：

Draft of Welding Discontinuity:



产生原因：

Cause:

1. 火焰加热时，水汽没有完全的去除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): 日期 (Date): 2010.1.7

处理意见

Disposition :

1. 这次返修时，QC和Leader CWI到现场对打磨，焊接进行指导和监控工作以保证返修按照处理意见进行；
2. 整个返修的过程，QC和Leader CWI应该有批准CWR的复印件；
3. 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. 将杂物以及MT检测遗留的残留物清理干净。然后采用打磨的方法去除裂纹，打磨前预热至65° C。对于单个裂纹返修，打磨返修范围清除长度为沿裂纹长度加上超出其每一端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，则在继续返修前另需递交文件给工程师予以审核批准，并按照被批准的方法将角焊缝改成CJP焊缝；
6. 焊接前按照新的焊接返修工艺准备焊缝接头形式；
7. 返修前，VT和MT检测确认返修区域没有裂纹及其他缺陷存在，同时靠近裂纹的母材也要做MT，保证没有裂纹延伸到母材。如果在母材上发现裂纹，则另外需CWR，且只有当这份另出的CWR批准后才能继续返修；
8. 将杂物以及MT检测遗留的残留物清理干净。按照WPS进行预热和焊接，预热温度为160° C-230° C；
9. 焊接后WPS要求进行后热，后热温度为230° C—315° C，后热时间至少1个小时；
10. 后热后将焊缝缓慢冷却到周围环境温度，并控制冷却速率不超过50° C每小时；
11. 后热后将修补区域打磨与母材或相邻焊缝平齐；
12. 在焊缝冷却至环境温度至少经过48小时以后进行NDT检查；
13. 返修后根据图纸进行MT检测，并按照合同10-1.59“钢结构”中的“检测和试验”要求进行附加MT检测。对于CJP焊缝，NDT为VT，MT和UT。

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial Date: 1/11/10

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≥25mm in all direction of HAZ prior to MT.
4. Clean the excavation area of all loose debris including MT powder. Preheat to 65° C before removing 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>5mm is found during or after grinding, comply with the notification on changing fillet weld to CJP which is submitted for Engineer's review and approval form.
6. Prepare excavation in accordance with the New Repair Procedure prior to welding.
7. Before this repair, Verify with VT and MT repair areas are defects free, and also MT shall be performed on the base metal laying abroad cracks to ensure that no cracks were propagated to the base metal. Separate CWR approval is needed if cracks are found in the base metal, and only after this new CWR's approval can continue the repair.
8. Clean excavation area of all loose debris including MT powder after excavation. Preheat and weld according to repair WPS, the preheat shall between 160° C-230° C.
9. Perform post weld heating according to repair WPS, the postheat shall between 230° C—315° C and for one hour minimum.
10. Allow the weld to cool to ambient temperature gradually. Control cooling rate after PWHT to no more than 50° C per hour.
11. Grind the repaired area flush with base metal or the adjacent weld after post weld heating.
12. Wait 48 hours at least after the repair area has cooled to ambient temperature before performing NDT.
13. Perform MT inspection to all repair area according to Contract Drawings along with all additional NDT required by the applicable notes Special Provision Section 10-1.59 'Steel Structure', subsection 'Inspection testing'. NDT include VT, MT and UT if it is a CJP weld.

二 三 三

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

ZPMC				版本 Rev. No.:
				0

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SSD11	报告编号 Report No.:	B-CWR1044
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG FLOOR BEAM AND BOTTOM PLATE	NDT 报告编号 NDT Report No.:	B787-MT-17606
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

1.返修前，QC确认有效的预热，以将水汽全部去除。

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

车间负责人 (Foreman): Li Zhigang 日期 (Date): 2010.1.7

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2G(2F)-FCM-Repair	工艺员 Technologist:	He Xiaoli 2010.1.8
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	NA	返修的缺陷 Description of Discontinuity:	2F
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	192°C
最大碳刨深度 Max. Depth of Gouge:	4mm	碳刨总长 Total Length of Gouge:	110mm

焊工 Welder:	045133	焊接类型 Welding Type: SMAW		焊接位置 Position:	2F
焊接电流 Current:	169	焊接电压 Voltage: 25		焊接速度 Speed:	152

返修后检查 Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	LiYunhua 0712070	日 期 Date:	2010.01.29
NDT复检 NDT Result:	Acc	探伤员 NDT Person:	SunYongchun	日 期 Date:	2010.1.31

见证： Witness/Review:

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Date: 1/24/12

备注： Remark:

ZPMC		周数	117#
		日期	2010.01.29

Visual Weld Inspection Report 焊缝目视检查报告		Girder/梁:	OBG PlatePanelSplice
		Tower/塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Liyanhua 07/10/01
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	or Reject after repair 返修后
SSD11-PP57-084	045133	2F	TL508H4(Φ4.0)	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☑ After CWR or WRR No.:B-CWR1044
☐ After cover pass
☐ After HSR No.:
☐ Others

#R787-QCP-603

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

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-17606R1	DATE日期 2010.01.31	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:	SSD11 7DW FLOOR BEAM AND BOTTOM PLATE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 5395 5617 5620
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70～150mm
MATERIAL TO BE EXAMINED 检测材料	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 20/12mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SSD11-PP57-084	1R1			ACC.		
B-CWR1044						
BLANK						

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 2010.01.31	REVIEWED BY 审核 Jin Jianting LEVEL-II SIGN / DATE日期 2010.01.31
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

CWR1106

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-408(ZPMC-0599)
Item: Missed MT indication 名称描述: MT 漏检	**Item Number:** 件号:	**Drawing:** 图号:
Location: 位置:		**Date:** 日期: 2010-01-28

Description of Nonconformance:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 8CW, this Quality Assurance Inspector (QA) discovered the following issues:

Four (4) Transverse linear indications measuring approximately from 2mm to 6mm in length. The weld is identified as: SSD11-PP69-004. This weld was turned into a Complete Joint Penetration (CJP) T-joint weld joining the upper floor beam flange to the deck panel diaphragm previously. The indication is located in an area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. According to the contract documents ZPMC Quality Control (QC) is required to perform 100% Magnetic particle Testing (MT) of this weld.

在随机检验 8CW MT 时，加州检验员发现以下问题：

4 条横向线性缺陷长度将近 2mm 至 6mm。焊缝是：SSD11-PP69-004.这条焊缝是 CJP 焊缝。缺陷所在位置先前已经被 ZPMC MT 人员所检验并接收。

Work By: 施工方: 2010.02.28

Prepared by: 准备: 2010.1.28

Reviewed by QCE: 质量工程师批准: 1/28/10

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

Disposition: 处理措施: ☐ **Use as is** 回用 ☐ **Repair** 返修 ☐ **Reject** 拒收

Recommendation:
建议:

现场确认处理报告已附.

Prepared by: 准备 2010.02.28

Approved by QCA: 质量经理批准

Reason for Nonconformance:
不符合原因:

该件处缺陷没有检测出.

Prevention of Re-occurrence:
预防措施: 及时检测报验，加强复检.

Approved by/批准: _____

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

Reviewed /批准: _____

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: _____

#R787-QCP-1300

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

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	**Date:**	13-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:**	05.03.06-000589
Subject:	NCR No. ZPMC-0599		

Reference Description: Four Transverse linear indications discovered with MT after ZPMC NDT had previously tested and accepted this weld in Segmer

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:** 08

Remarks:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 8CW, this Quality Assurance Inspector (QA) discovered the following issues:

-Four (4) Transverse linear indications measuring approximately from 2 mm to 6 mm in length.

-The weld is identified as: SSD11-PP69-004 @ Panel Point 069.

-This weld was turned into a Complete Joint Penetration (CJP) T-joint weld joining the upper floor beam flange to the deck panel diaphragm previously.

-This OBG Segment is located at outside yard.

-The Notice of Witness Inspection Number (NWIT) is 005037.

-The indication is located in an area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. According to the contract documents ZPMC Quality Control (QC) is required to perform 100% Magnetic particle Testing (MT) of this weld.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. Provide the required training and equipment to the ZPMC MT technician in order to recognize these sorts of indications. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Bill Howe Sr. Transportation Engineer
Attachments: ZPMC-0599

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

STATE OF CALIFORNIA--BUSINESS,TRANSPORTACTION AND HOUSING AGENCY Arnold Schwarzenegger, Governor

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-000626
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 11-Jan-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0599

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** Segment 8CW DP Diaphragm to FB flnage weld
Procedural	☐	**Procedural**	☐			**Description:** Missed MT indications by QC

Reference Description: Four Transverse linear indications discovered with MT after ZPMC NDT had previously tested and accepted this weld in Segment 8CW

Description of Non-Conformance:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 8CW, this Quality Assurance Inspector (QA) discovered the following issues:

-Four (4) Transverse linear indications measuring approximately from 2 mm to 6 mm in length.

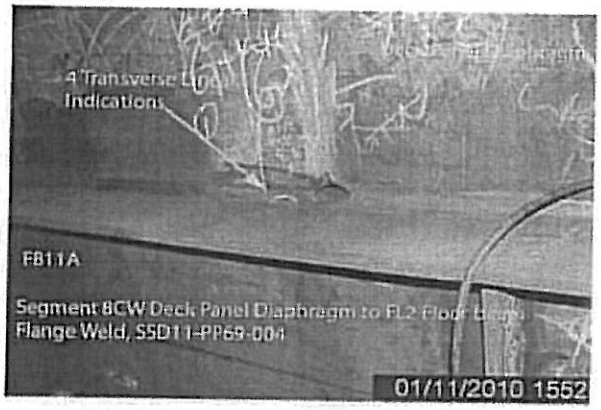
-The weld is identified as: SSD11-PP69-004 @ Panel Point 069.

-This weld was turned into a Complete Joint Penetration (CJP) T-joint weld joining the upper floor beam flange to the deck panel diaphragm previously.

-This OBG Segment is located at outside yard.

-The Notice of Witness Inspection Number (NWIT) is 005037.

-The indication is located in an area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. According to the contract documents ZPMC Quality Control (QC) is required to perform 100% Magnetic particle Testing (MT) of this weld.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Applicable reference:

Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the -Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

-AWS D1.5 (02) Section 6.26.2 – "Welds that are subject to MT in addition to visual inspection shall have no cracks.

Who discovered the problem: Larry Viars

Name of individual from Contractor notified: Peter Ferguson

Time and method of notification: 1830 hours, 01-11-10, Verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 0700 hours, 01-12-10, Verbal

QC Inspector's Name: Zhang Wei

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:	Carreon,Albert	Lead Reviewer/Task Leader
Reviewed By:	Wahbeh,Mazen	SMR

ZPMC	关键焊缝返修报告 Critical Welding Repair Report (CWR)				版本 Rev.
项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SSD11	报告编号 Report No.:	0 B-CWR1
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	8CW- FLOOR BEAM SPLICE	NDT 报告编号 NDT Report No.:	B787-MT-1
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

在对SSD11-PP69-004检测时，发现1处纵向裂纹。L1=8mm

Welder ID No. (焊工编号):058551 Position;(位置): 3G

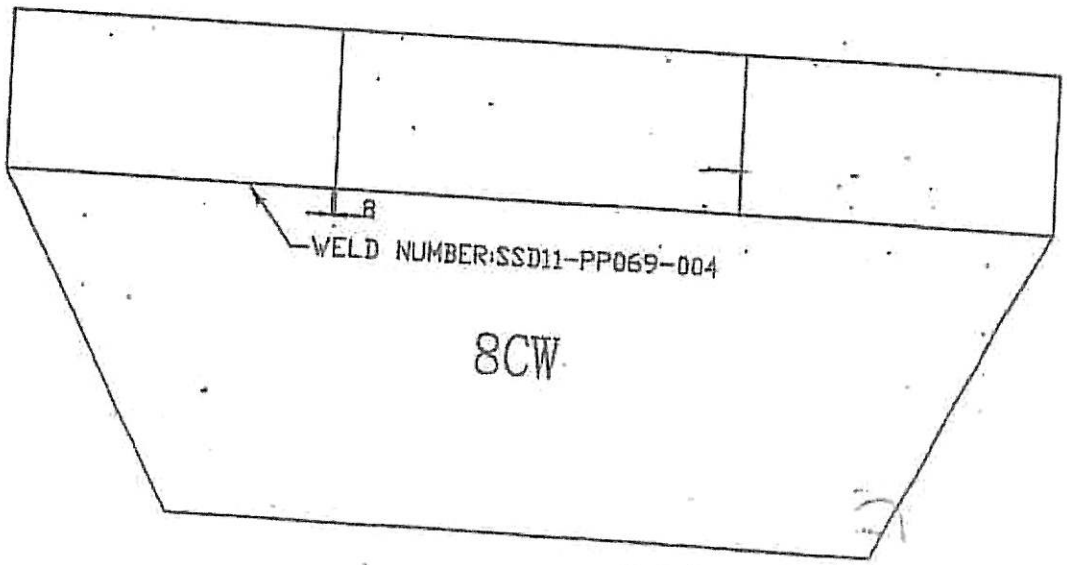
One longitudinal crack was found by use of MT on SSD11-PP69-004.

检验员 (Inspector) : Sun Gongchang

日期 (Date) : 2010-01-20

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 Date: 1/19/10

产生原因:

Cause:

1. 火焰加热时，水汽没有完全的去除或者这个区域预热不够；

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

车间负责人 (Foreman): Li Zhigang 日期 (Date): 10.01.16

处理意见

Disposition :

1. 这次返修时，QC和Leader CWI到现场对打磨，焊接进行指导和监控工作以保证返修按照处理意见进行；
2. 整个返修的过程，QC和Leader CWI应该有批准CWR的复印件；
3. 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. 将杂物以及MT检测遗留的残留物清理干净。然后采用打磨的方法去除裂纹，打磨前预热至65° C。对于单个裂纹返修，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，则在继续返修前另需递交文件给工程师予以审核批准，并按照被批准的方法将角焊缝改成CJP焊缝；
6. 焊接前按照新的焊接返修工艺准备焊缝接头形式；
7. 返修前，VT和MT检测确认返修区域没有裂纹及其他缺陷存在，同时靠近裂纹的母材也要做MT，保证没有裂纹延伸到母材。如果在母材上发现裂纹，则另外需CWR，且只有当这份另出的CWR批准后才能继续返修；
8. 将杂物以及MT检测遗留的残留物清理干净。按照WPS进行预热和焊接，预热温度为160° C-230° C；
9. 焊接后WPS要求进行后热，后热温度为230° C—315° C，后热时间至少1个小时；
10. 后热后将焊缝逐渐冷却到周围环境温度，并控制冷却速率不超过50° C每小时；
11. 后热后将修补区域打磨与母材或相邻焊缝平齐；
12. 在焊缝冷却至环境温度至少经过48小时以后进行NDT检查；
13. 返修后根据图纸进行MT检测，并按照合同10-1.59 "钢结构" 中的 "检测和试验" 要求进行附加MT检测。对于CJP焊缝，NDT为VT，MT和UT。

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State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial [signature] Date 1/19/10

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≥25mm in all direction of HAZ prior to MT,
4. Clean the excavation area of all loose debris including MT powder. Preheat to 65° C before removing 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>5mm is found during or after grinding, comply with the notification on changing fillet weld to CJP which is submitted for Engineer's review and approval form.
6. Prepare excavation in accordance with the New Repair Procedure prior to welding.
7. Before this repair, Verify with VT and MT repair areas are defects free, and also MT shall be performed on the base metal laying abroad cracks to ensure that no cracks were propagated to the base metal. Separate CWR approval is needed if cracks are found in the base metal, and only after this new CWR's approval can continue the repair.
8. Clean excavation area of all loose debris including MT powder after excavation. Preheat and weld according to repair WPS, the preheat shall between 160° C-230° C.
9. Perform post weld heating according to repair WPS, the postheat shall between 230° C—315° C and for one hour minimum.
10. Allow the weld to cool to ambient temperature gradually. Control cooling rate after PWHT to no more than 50° C per hour.
11. Grind the repaired area flush with base metal or the adjacent weld after post weld heating.
12. Wait 48 hours at least after the repair area has cooled to ambient temperature before performing NDT.
13. Perform MT inspection to all repair area according to Contract Drawings along with all additional NDT required by the applicable notes Special Provision Section 10-1.59 'Steel Structure', subsection 'Inspection testing'. NDT include VT, MT and UT if it is a CJP weld.

工艺: Technical Engineer: [signature] 审核: Approved By: [signature] 日期: Date: 10.01.18

ZPMC	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.:	SSD11	报告编号 Report No.:	B-CWR1106
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	BCW FLOOR BEAM SPLICE	NDT 报告编号 NDT Report No.:	B787-MT-17999
项目编号 Project No.:	ZP06-787				

纠正措施:
Corrective Action to Prevent Re-occurrence:
1.返修前，QC确认有效的预热，以将水汽全部去除。

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

车间负责人 (Foreman): Li zhigang 日期 (Date): 10.01.16

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2G(2F)-Repair	工艺员 Technologist:	Xu Dayliu 10.01.16
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	NA	返修前缺陷 Description of Discontinuity:	CR
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	180°C
最大碳刨深度 Max. Depth of Gouge:	NA	碳刨总长 Total Length of Gouge:	NA.

焊工 Welder:	043661	焊接类型 Welding Type:	SMAW	焊接位置 Position:	2G
焊接电流 Current:	160A	焊接电压 Voltage:	25.9V	焊接速度 Speed:	110 mm/min

返修后检查
Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	Li lanhua	日期 Date:	2010.01.20
NDT复检 NDT Result:	Acc	探伤员 NDT Person:	Sungong chang	日期 Date:	2010.1.24

见证：
Witness/Review:

备注：
Remark:

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial
Date 2/19/10

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-17999R1	DATE日期 2010.01.24	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:	SSD11 OBG FLOOR BEAM SPLICE	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 5395 5617 5620
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm
MATERIAL TO BE EXAMINED 检测材料	√WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345F2-X 14/20mm
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			
SSD11-PP069-004	1R1			ACC.		
AFTER B-CWR1106						
BLANK						

EXAMINED BY主探 Sun Gongchang Sun Gongchang LEVEL - II SIGN 签名 / DATE日期 2010.01.XX	REVIEWED BY 审核 Jin Jian ting LEVEL-II SIGN / DATE日期 2010.01.XX
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

(WR116)

ZPMC

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-429(ZPMC-0615)
Item: Miss indication 名称描述: 探伤漏检	Item Number: 件号:	Drawing: 7DW 图号:
Location: 位置: 外场		Date: 日期: 2010-02-03

Description of Nonconformance:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 7DW, this Quality Assurance Inspector discovered the following issue:

One (1) Transverse linear crack measuring approximately 15mm in length. The Y location is 4500mm from corner of the PP57 at Cross Beam side. The weld is identified as :SSD11A-PP57-003. This weld is a Complete Joint Penetration (CJP) weld joining the Deck Panel Diaphragm (X1H) to Floor Beam Flange (X7G). The Deck Panel Diaphragm (X1H) is identified as Non-Seismic Performance Critical Member (SPCM). The Floor Beam Flange (X7G) is identified as Non-SPCM. The indication is located inside an area that has been previously tested 100% and accepted by ZPMC Quality Control (QC) personnel.

在对 7DW 进行 MT 检验过程中，加州检验员发现以下问题：

一条横向线性缺陷长度将近 15mm.Y 值是 4500mm 从 PP57 标准横梁侧开始。焊缝是:SSD11A-PP57-003.这条焊缝是 CJP 焊缝连接 X1H 和 X7G。X1H，X7G 都是非 SPCM。缺陷位置之前已经被 ZPMC MT 人员所检验并接收。

Work By: [signature] 施工方: 2010.02.03 Prepared by: [signature] 准备: 2010.2.3 Reviewed by QCE: [signature] 质量工程师批准: 2/3/10

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

Disposition: 处理措施: ☐ Use as is 回用 ☐ Repair 返修 ☐ Reject 拒收

Recommendation:
建议:

现场确认写报告返修、

Prepared by: [signature] 准备 2010.02.03 Approved by QCA: _____ 质量经理批准

Reason for Nonconformance:
不符合原因:

线性缺陷未被检测到.

Prevention of Re-occurrence:
预防措施:

加强复检及时检测报验.

Approved by/批准: 2022.03

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

Reviewed /批准: _____

Verification: 确认:	☐ **Acceptable** 可接受	☐ **Unacceptable** 不可接受

Verified by QCI/质检确认: _____ **Reviewed by QCA/质检主任审核:** _____

#R787-QCP-1300

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:**	24-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:**	05.03.06-000606
Subject:	NCR No. ZPMC-0615		

Reference Description: MT Transverse Crack discovered after ZPMC tested and accepted this weld (7DW floorbeam to deck panel diaphragm joint)

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:** 07

Remarks:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 7DW, this Quality Assurance Inspector discovered the following issue:

-One (1) Transverse linear crack measuring approximately 15mm in length.

-The Y location is 4500mm from corner of the Panel Point PP57 at Cross Beam side.

-The indication is clearly marked on the material near the weld.

-The weld is identified as: SSD11A-PP57-003.

-This weld is a Complete Joint Penetration (CJP) weld joining the Deck Panel Diaphragm (X1H) to Floor Beam Flange (X7G).

-The Deck Panel Diaphragm (X1H) is identified as Non-Seismic Performance Critical Member (SPCM).

-The Floor Beam Flange (X7G) is identified as Non-SPCM.

-OBG segment 7DW is located outside North side of Bay 13.

The Notice of Witness Inspection Number (NWIT) is 005086. The indication is located inside an area that has been previously tested 100% and accepted by ZPMC Quality Control (QC) personnel.

Please see attached NCR ZPMC-615 for details.

Action Required and/or Action Taken:

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

Transmitted by: Ching Chao
Attachments: ZPMC-0615

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

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 #: 04-0120F4
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-000644
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 20-Jan-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0615

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** 7DW Floor Beam to Deck Panel Diaphragm
Procedural	☐	**Procedural**	☐			**Description:** Missed MT transverse indication by QC

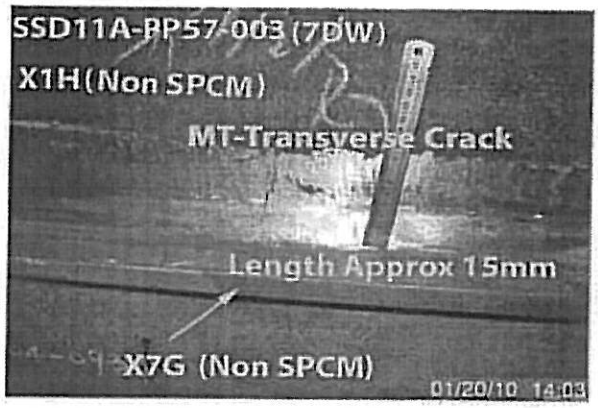
Reference Description: MT Transverse Crack discovered after ZPMC tested and accepted this weld (7DW floorbeam to deck panel diaphragm joint)

Description of Non-Conformance:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 7DW, this Quality Assurance Inspector discovered the following issue:

-One (1) Transverse linear crack measuring approximately 15mm in length.
-The Y location is 4500mm from corner of the Panel Point PP57 at Cross Beam side.
-The indication is clearly marked on the material near the weld.
-The weld is identified as: SSD11A-PP57-003.
-This weld is a Complete Joint Penetration (CJP) weld joining the Deck Panel Diaphragm (X1H) to Floor Beam Flange (X7G).
-The Deck Panel Diaphragm (X1H) is identified as Non-Seismic Performance Critical Member (SPCM).
-The Floor Beam Flange (X7G) is identified as Non-SPCM.
-OBG segment 7DW is located outside North side of Bay 13.

The Notice of Witness Inspection Number (NWIT) is 005086. The indication is located inside an area that has been previously tested 100% and accepted by ZPMC Quality Control (QC) personnel.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Applicable reference:

Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

AWS D1.5 (02) Section 6.26.2 – "Welds that are subject to MT in addition to visual inspection shall have no cracks.

Who discovered the problem: Vibin Kumar Selvanayahan

Name of individual from Contractor notified: Peter Shaw

Time and method of notification: 1415 hours, 01-20-10, Verbal

Name of Caltrans Engineer notified: Bill Howe and Ching Chao

Time and method of notification: 1230 hours, 01-21-10, Email

QC Inspector's Name: Wnag Xian Pin

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:	Carreon,Albert	Lead Reviewer/Task Leader
Reviewed By:	Wahbeh,Mazen	SMR

ZPMC	关键焊缝返修报告 Critical Welding Repair Report (CWR)				版本 Rev. No.:
项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SEG039	报告编号 Report No.:	B-CWR1167
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG DECK PLATE SPLICE	NDT 报告编号 NDT Report No.:	B787-MT-18475
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

在对SSD11A-PP57-003检测时，发现1处横向裂纹，1、L=15mm

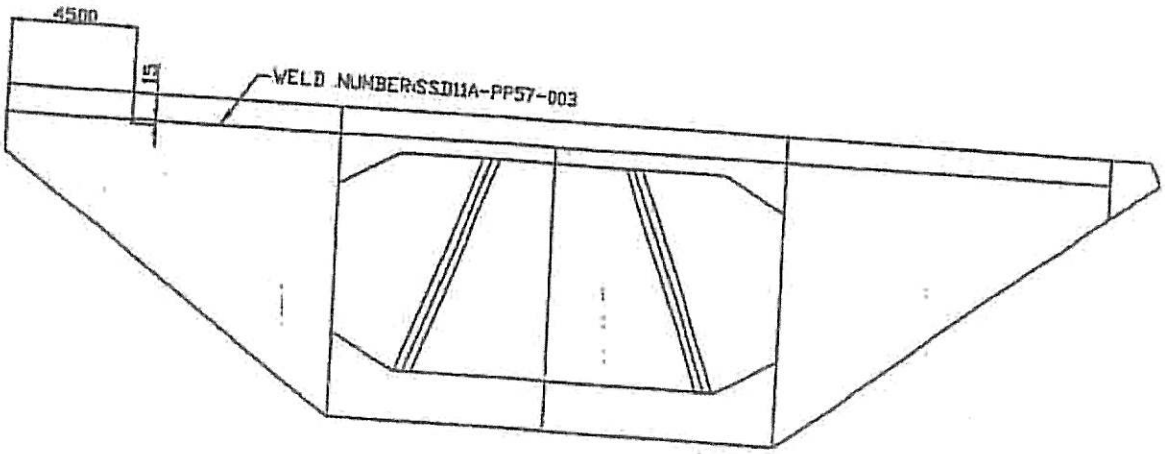
WelderID No. (焊工编号):047858 Position:(位置)：2F

One transverse crack was found by use of MT on SSD11A-PP57-003.

检验员（Inspector）：Wang Wei 日期 (Date)：2010-01-22

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: Date: 1/27/10

产生原因： Cause:

1. 火焰加热时，水汽没有完全的去除或者这个区域预热不够；

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

车间负责人 (Foreman): Lizhigaf 日期 (Date): 10.01.23

处理意见

Disposition：

1.这次返修时，QC和Leader CWI到现场对打磨，焊接进行指导和监控工作以保证返修按照处理意见进行；

2.整个返修的过程，QC和Leader CWI应该有批准CWR的复印件；

3.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.将杂物以及MT检测遗留的残留物清理干净。然后采用打磨的方法去除裂纹，整个过程中打磨前预热需至65° C。对于单个裂纹返修，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；

6.焊接前按照焊新的接返修工艺准备焊缝接头形式；

7.返修前，VT和MT检测确认返修区域没有裂纹及其他缺陷存在，同时靠近裂纹的母材也要做MT，保证没有裂纹延伸到母材。如果在母材上发现裂纹，则另外需CWR，且只有当这份另出的CWR批准后才能继续返修；

8.将杂物以及MT检测遗留的残留物清理干净。按照WPS进行预热和焊接，预热温度为160° C–230° C；

9.如果打磨深度达到(2/3T+2)mm，但是缺陷仍然存在，则停止打磨，将坡口打磨平滑，且挖出的凹槽部分两个端头要有1：1的斜势过渡，然后按照批准的WPS进行第一个面的焊接，焊接前需至少160° C的预热。从反面进行打磨直至露出金属光泽，并对打磨后坡口位置进行100%MT检测，确保裂纹清除干净，然后将坡口打磨平滑，确保来两个端头有1：1的斜势过渡，并按照WPS的要求进行反面的焊接。

10. 焊接后WPS要求进行后热，后热温度为230° C—315° C，后热时间至少1个小时；

11. 后热后将焊缝逐渐冷却到周围环境温度，并控制冷却速率不超过50° C每小时；

12. 后热后将修补区域打磨与母材或相邻焊缝平齐；

13. 在焊缝冷却至环境温度至少经过48小时以后进行NDT检查；

14. 返修后根据图纸进行VT, UT和MT检测，并按照合同10-1.59“钢结构”中的“检测和试验”要求进行附加MT检测。

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial [signature] Date: 1/27/10

1. QC and a Lead CWI shall be present, direct and supervise all grinding and welding operations during this repai r 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≥25mm in all direction of HAZ prior to MT.

4. Clean the excavation area of all loose debris including MT powder. Preheat to 65° C before removing cracks b y grinding and it applied to all the repair process. 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.

6. Prepare excavation in accordance with the New Repair Procedure prior to welding.

7. Before this repair, Verify with VT and MT repair areas are defects free, and also MT shall be performed on th e base metal laying abroad cracks to ensure that no cracks were propagated to the base metal. Separate CW R approval is needed if cracks are found in the base metal, and only after this new CWR's approval can conti nue the repair.

8. Clean excavation area of all loose debris including MT powder after excavation. Preheat and weld according to repair WPS, the preheat shall between 160° C—230° C.

9. If a crack still present and excavation have reached (2/3T+2)mm maximum, the gringing work shall be ceased. Prepare excavation that all metal is ground clean to a smooth, shiny metal finish and starts and stops are tape red to a 1:1 slope. Weld first side of repair according to approved WPS, and the preheat temperature be 160° C at least. Grind from the opposite side until sound weld metal is reached and perform 100% MT of excavation to ensure no crack exists. Prepare excavation that all metal is ground clean to a smooth, shiny metal finish a nd starts and stops are tapered to a 1:1 slope. Weld opposite side of repair according to approved WPS.

10. Perform post weld heating according to repair WPS, the postheat shall between 230° C—315° C and for on e hour minimum.

11. Allow the weld to cool to ambient temperature gradually. Control cooling rate after PWHT to no more than 5 0° C per hour.

12. Grind the repaired area flush with base metal or the adjacent weld after post weld heating.

13. Wait 48 hours at least after the repair area has cooled to ambient temperature before performing NDT.

14. Perform VT, UT and MT inspection to all repair area according to Contract Drawings along with all additional NDT required by the applicable notes Special Provision Section 10-1.59 'Steel Structure', subsection 'inspection testing'.

工艺： Technical Engineer: He Xiaolin 审核： Approved By: [signature] 日期： Date: 10.01.23

ZPMC	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.:	SEG039	报告编号 Report No.:	B-CWR1167
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG DECK PLATE SPLICE	NDT 报告编号 NDT Report No.:	B787-MT-18475
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

1.返修前，QC确认有效的预热，以将水汽全部去除。

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

车间负责人 (Foreman): Li Zhiqing 日期 (Date): 10.01.23

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2G(2F)-Repair	工艺员 Technologist:	Hexianlin 10.01.23
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	47°C	返修的缺陷 Description of Discontinuity:	2-F
焊前处理检查 Inspection Before Welding:	ACL	焊前预热温度 Preheat Temperature Before Welding:	180°C
最大碳刨深度 Max. Depth of Gouge:	4 mm	碳刨总长 Total Length of Gouge:	50 mm

焊工 Welder:	043661	焊接类型 Welding Type: SMAW		焊接位置 Position:	2G
焊接电流 Current:	160A	焊接电压 Voltage: 25.9V		焊接速度 Speed:	110mm/min

返修后检查
Inspection After Repair:

外观检查 VT Result:	ACL	检验员 Inspector:	Li Yanhua	日期 Date:	2013.01.31
NDT复检 NDT Result:	ACL	探伤员 NDT Person:	Sungong Chang	日期 Date:	2013.01.31

见证：
Witness/Review:

备注：
Remark:

#R787-QCP-900

This document is APPROVED
State of Ca...
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Date: Date: 1/30/13

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-17997R1	DATE日期 2010.01.24	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:	SSD10A OBG FLOOR BEAM SPLICE	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 5395 5617 5620
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm
MATERIAL TO BE EXAMINED 检测材料	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345F2-X 12/20mm
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			
SSD10A-PP68-083	1R1			ACC.		
AFTER B-CWR1104						
BLANK						

EXAMINED BY主探 Sun Gongchang Sun Gongchang LEVEL - II SIGN 签名 / DATE日期 2010.01.26	REVIEWED BY 审核 Jin Jianting LEVEL-II SIGN / DATE日期 2010.01.26
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

CWR1151

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-426(ZPMC-0622)
Item: Miss MT indication 名称描述: MT 漏检	Item Number: 件号:	Drawing: 7EW 图号:
Location: 位置: Bay 2		Date: 日期: 2010-02-03

Description of Nonconformance:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on LD3022-001, this Quality Assurance (QA) discovered the following issues:

One (1) linear indication measuring approximately 6mm in length. The weld is identified as :LD3022-001-014 for Lift 12. The area was previously repaired by ZPMC using Critical Weld Repair (CWR) 1151. The fillet weld size is 12mm. This Fillet Weld joins longitudinal diaphragm stiffener to longitudinal diaphragm web plate. This weld is designated as Non-Seismic Performance Critical Member. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC Quality Control (QC) has performed 100% Magnetic particle Testing (MT) of this weld.

在对 LD3022-001 进行 MT 检验过程中，加州检验员发现以下问题：

一条纵向线性缺陷长度将近 6mm。该焊缝是 12 段的 LD3022-001-014.该区域之前已经被 ZPMC 锁返修。角焊缝尺寸是 12mm，连接纵桁加强筋至纵桁腹板。该焊缝是非 SPCM 构件，缺陷位置之前已经被 ZPMC MT 人员所检验并接收。

Work By: [signature] 2010.02.04 Prepared by: [signature] 2010.2.3. Reviewed by QCE: [signature] 2/3/10

施工方: 准备: 质量工程师批准:

☐ 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

处理措施:

Recommendation:

建议: 现场确认出具报告返修.

Prepared by: [signature] 2010.02.04 Approved by QCA: _____

准备 质量经理批准

Reason for Nonconformance:

不符合原因:

线性缺陷未被检测出

Prevention of Re-occurrence:

预防措施:

及时检测报验 加强复检.

2010.02.04

Approved by/批准: Liu Liming

Technical Justification for Use-As-Is/Repair: 回用或返修的技术依据:	☐ **Attachment** 附件	☐ **Non-attachment** 无附件
Reviewed /批准: _____		
Verification: 确认:	☐ **Acceptable** 可接受	☐ **Unacceptable** 不可接受
Verified by QCI/质检确认: _____	**Reviewed by QCA/质检主任审核:** _____	

#R787-QCP-1300

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:**	26-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:**	05.03.06-000615
Subject:	NCR No. ZPMC-0622		

Reference Description: Missed MT Indication by QC for a weld joint on the Lift 12 Longitudinal Shear Plate

The attached Non-Conformance Report describes an occurrence where the contractor did not comply with a requirement of the contract document as indicated below:

- ☐ Material or Workmanship not in conformance with contract documents.
- ☐ Quality Control (QC) not performed in conformance with contract documents.
- ☑ Recurring QC issue that constitutes a systematic problem in quality control.
- ☐ Non-Conformance Resolved.

Material Location: OBG **Lift:** 12

Remarks:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on LD3022-001, this Quality Assurance Inspector (QA) discovered the following issues:

-One (1) linear indication measuring approximately 6mm in length.

-The weld is identified as: LD3022-001-014 for Lift 12.

-The area was previously repaired by ZPMC using Critical Weld Repair (CWR) 1151.

-The fillet weld size is 12mm.

-This Fillet Weld joins longitudinal diaphragm stiffener to longitudinal diaphragm web plate.

-This weld is designated as Non-Seismic Performance Critical Member.

-The Notice of Witness Inspection Number (NWIT) is 005124. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC Quality Control (QC) has performed 100% Magnetic particle Testing (MT) of this weld.

Please see attached NCR ZPMC-622 for details.

Action Required and/or Action Taken:

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

Transmitted by: Ching Chao
Attachments: ZPMC-0622

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Jason Tom, Contract Files, Ching Chao, Bill Howe
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 #: 04-0120F4
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-000651
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 24-Jan-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0622

Type of problem:

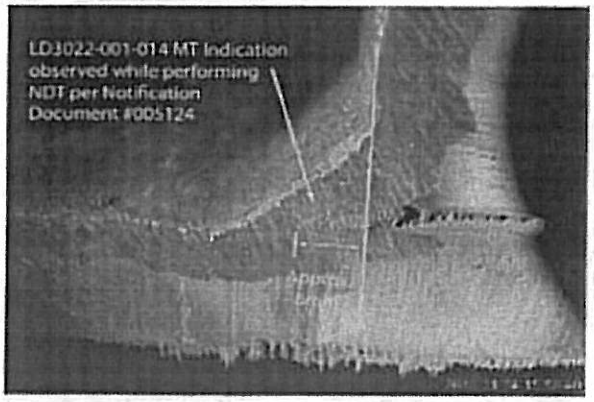
Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** Lift 12 Longitudinal Shear Plate
Procedural	☐	**Procedural**	☐	**Description:** Missed MT indication by QC		

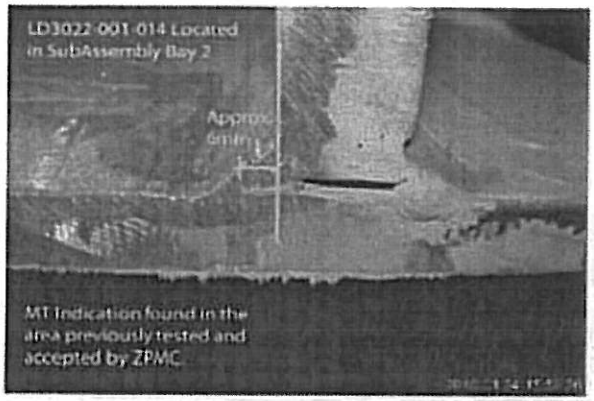
Reference Description: Missed MT Indication by QC for a weld joint on the Lift 12 Longitudinal Shear Plate

Description of Non-Conformance:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on LD3022-001, this Quality Assurance Inspector (QA) discovered the following issues:

-One (1) linear indication measuring approximately 6mm in length.
-The weld is identified as: LD3022-001-014 for Lift 12.
-The area was previously repaired by ZPMC using Critical Weld Repair (CWR) 1151.
-The fillet weld size is 12mm.
-This Fillet Weld joins longitudinal diaphragm stiffener to longitudinal diaphragm web plate.
-This weld is designated as Non-Seismic Performance Critical Member.
-The Notice of Witness Inspection Number (NWIT) is 005124. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC Quality Control (QC) has performed 100% Magnetic particle Testing (MT) of this weld.





Applicable reference:

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

AWS D1.5 2002, Section 6.26.2 – "Welds that are subject to MT in addition to visual inspection shall have no cracks.

Who discovered the problem: Stefan Holmes
Name of individual from Contractor notified: Chen Ji Wei
Time and method of notification: 1600 hours, 01/24/10, Verbal
Name of Caltrans Engineer notified: Bill Howe, Ching Chao
Time and method of notification: 1400 hours, 01/25/10, Verbal
QC Inspector's Name: Wang Lu
Was QC Inspector aware of the problem: ☐ Yes ☑ No
Contractor's proposal to correct the problem:
N/A
Comments:
This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By:	Tsang,Eric	SMR
Reviewed By:	Wahbeh,Mazen	SMR

ZPMC	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.:	LD3022	报告编号 Report No.:	B-CWR1151
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	12th lifting longitudinal diaphragm	NDT 报告编号 NDT Report No.:	B787-MT-17930
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

在对LD3022-001-006检测时，发现1处气孔和2处横向裂纹。

在对LD3022-001-007检测时，发现1处纵向裂纹和4处横向裂纹。

在对LD3022-001-010检测时，发现1处气孔和1处横向裂纹。

在对LD3022-001-013检测时，发现1处气孔和2处横向裂纹。

在对LD3022-001-014检测时，发现1处纵向裂纹和1处横向裂纹。

在对LD3022-001-019检测时，发现1处气孔和1处横向裂纹。

Welder ID No. (焊工编号):045209 Position:(位置): 2F

One pore and two transverse cracks were found by use of MT on LD3022-001-006.

One longitudinal crack and four transverse cracks were found by use of MT on LD3022-001-007.

One pore and one transverse crack were found by use of MT on LD3022-001-010.

One pore and two transverse cracks were found by use of MT on LD3022-001-013.

One longitudinal crack and one transverse crack were found by use of MT on LD3022-001-014.

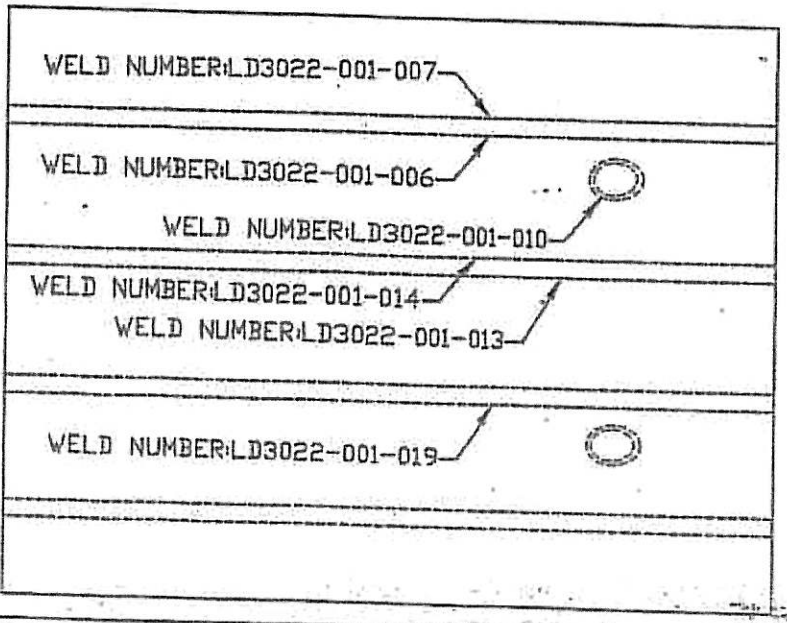
One pore and one transverse crack were found by use of MT on LD3022-001-019.

Please see the detail data from MT report!

检验员 (Inspector): Jin Jianting 日期 (Date): 2010-01-19

焊缝返修位置示意图:

Draft of Welding Discontinuity:



产生原因：

Cause:

1. 火焰加热时，水汽没有完全的去除或者这个区域预热不够；

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

车间负责人 (Foreman): Li Zhiyang 日期 (Date): 10.01.19

处理意见

Disposition：

1. 这次返修时，QC和Leader CWI到现场对打磨，焊接进行指导和监控工作以保证返修按照处理意见进行；
2. 整个返修的过程，QC和Leader CWI应该有批准CWR的复印件；
3. 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. 将杂物以及MT检测遗留的残留物清理干净。然后采用打磨的方法去除裂纹，打磨前预热至65° C。对于单个裂纹返修，打磨返修范围为沿缺陷焊缝每一端加50mm，对于多个裂纹的返修，打磨返修范围为多个裂纹最外端的返修加长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，则在继续返修前另需递交文件给工程师予以审核批准，并按照被批准的方法将角焊缝改成CJP焊缝；
6. 焊接前按照新的焊接返修工艺准备焊缝接头形式；
7. 返修前，VT和MT检测确认返修区域没有裂纹及其他缺陷存在，同时靠近裂纹的母材也要做MT，保证没有裂纹延伸到母材。如果在母材上发现裂纹，则另外需CWR，且只有当这份另出的CWR批准后才能继续返修；
8. 将杂物以及MT检测遗留的残留物清理干净。按照WPS进行预热和焊接，预热温度为160° C-230° C；
9. 焊接后WPS要求进行后热，后热温度为230° C—315° C，后热时间至少1个小时；
10. 后热后将焊缝逐渐冷却到周围环境温度，并控制冷却速率不超过50° C每小时；
11. 后热后将修补区域打磨与母材或相邻焊缝平齐；
12. 在焊缝冷却至环境温度至少经过48小时以后进行NDT检查；
13. 返修后根据图纸进行MT检测，并按照合同10-1.59“钢结构”中的“检测和试验”要求进行附加MT检测。对于CJP焊缝，NDT为VT，MT和UT。

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≥25mm in all direction of HAZ prior to MT.
4. Clean the excavation area of all loose debris including MT powder. Preheat to 65° C before removing cracks by grinding, repair area shall extend a minimum of 50mm beyond each end of single crack repairs. and 50mm beyond the outermost cracks for multiple crack repairs
5. If base metal is damaged by grinding, the damaged area shall be ground clean prior to performing weld repair. If gap>5mm is found during or after grinding, comply with the notification on changing fillet weld to CJP which is submitted for Engineer's review and approval form.
6. Prepare excavation in accordance with the New Repair Procedure prior to welding.
7. Before this repair, Verify with VT and MT repair areas are defects free, and also MT shall be performed on the base metal laying abroad cracks to ensure that no cracks were propagated to the base metal. Separate CWR approval is needed if cracks are found in the base metal, and only after this new CWR's approval can continue the repair.
8. Clean excavation area of all loose debris including MT powder after excavation. Preheat and weld according to repair WPS, the preheat shall between 160° C-230° C
9. Perform post weld heating according to repair WPS, the postheat shall between 230° C—315° C and for one hour minimum.
10. Allow the weld to cool to ambient temperature gradually. Control cooling rate after PWHT to no more than 50° C per hour.
11. Grind the repaired area flush with base metal or the adjacent weld after post weld heating.
12. Wait 48 hours at least after the repair area has cooled to ambient temperature before performing NDT.
13. Perform MT inspection to all repair area according to Contract Drawings along with all additional NDT required by the applicable notes Special Provision Section 10-1.59 'Steel Structure', subsection 'inspection testing'. NDT include VT, MT and UT if it is a CJP weld.

工艺：
Technical Engineer: Y. Jiaqi

审核：
Approved By: [signature]

日期：
Date: [illegible]

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.:	LD3022	报告编号 Report No.:	B-CWR1151
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	12th lifting longitudinal diaphragm.	NDT 报告编号 NDT Report No.:	B787-MT-17930
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

1.返修前，QC确认有效的预热；以将水汽全部去除。

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

车间负责人 (Foreman): Li Zhiqi 日期 (Date): 10.1.19

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2G(2F)-Repair	工艺员 Technologist:	Xu Daykai 10.01.19
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	70c	返修的缺陷 Description of Discontinuity:	crack
焊前处理检查 Inspection Before Welding:	Ac	焊前预热温度 Preheat Temperature Before Welding:	250c
最大碳刨深度 Max. Depth of Gouge:	47mm	碳刨总长 Total Length of Gouge:	1500mm

焊工 Welder:	045206	焊接类型 Welding Type:	SMAW	焊接位置 Position:	2F
焊接电流 Current:	175A	焊接电压 Voltage:	25.1V	焊接速度 Speed:	128 mm/min

返修后检查
Inspection After Repair:

外观检查 VT Result:	Ac	检验员 Inspector:	chen Xi	日期 Date:	2010.1.26
NDT复检 NDT Result:	Acc	探伤员 NDT Person:	Jin Jian Ting	日期 Date:	1/26

见证：
Witness/Review:

备注：
Remark：

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-17930R1	DATE日期 2010.01.26	PAGE OF页码 1/2	Revision No: 0

PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用 户: CALTRANS	
DRAWING NO. 图号: LD3022 12th lifting longitudinal diaphragm		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 5395 5617 5620
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm
MATERIAL TO BE EXAMINED 检测材料	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 22/25/14/18mm
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			
LD3022-001-006	1R1			ACC.		
	2R1			ACC.		
	3R1			ACC.		
LD3022-001-007	1R1			ACC.		
	2R1			ACC.		
	3R1			ACC.		
	4R1			ACC.		
	5R1			ACC.		
LD3022-001-010	1R1			ACC.		
	2R1			ACC.		
LD3022-001-013	1R1			ACC.		
	2R1			ACC.		
	3R1			ACC.		
LD3022-001-014	1R1			ACC.		

EXAMINED BY主探 Jin Jianting Jin Jianting LEVEL - II SIGN 签名 / DATE日期 2010.01.26	REVIEWED BY 审核 Sun Gongchang LEVEL-II SIGN / DATE日期 2010.01.26
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-17930R1	DATE日期 2010.01.26	PAGE OF页码 2/2	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	LD3022 12th lifting longitudinal diaphragm	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4

REFERENCING CODE 参考规范编码	ACCEPTANCE STANDARD 接受标准	PROCEDURE NO. 程序编号	CALIBRATION DUE DATE 仪器校正有效期
AWS D1.5-2002	AWS D1.5-2002	ZPQC-MT-01	Dec. 28ST ,2010

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

MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70～150mm
MATERIAL TO BE EXAMINED 检测材料	√WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 22/25/14/18mm
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			
	2R1			ACC.		
LD3022-001-019	1R1			ACC.		
	2R1			ACC.		
LD3022-001-020	1R1			ACC.		
LD3022-001-024	1R1			ACC.		
LD3022-001-027	1R1			ACC.		
AFTER B-WR10082,CWR1151						
BLANK						

EXAMINED BY主探 Jin Jianting Jin Jianting LEVEL - II SIGN 签名 / DATE日期 2010.01.26	REVIEWED BY 审核 Sun Dongchang LEVEL-II SIGN / DATE日期 2010.01.26
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

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 #: xx.25A

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

Location: Changxing Island, Shanghai, PRC **Report No:** NCS-000536
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 11-Mar-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0576

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:**
Procedural	☐	**Procedural**	☐	**Descripton:**		

Date the Non-Conformance Report was written: 05-Jan-2010

Description of Non-Conformance:

During Magnetic Particle Testing (MT) review of welds on OBG Segment 7DW deck panel diaphragm components, this Quality Assurance Inspector (QA) discovered the following issues:
One (1) longitudinal linear indication measuring approximately 10 mm in length.
-The member is identified as FL2-2 Floor Beam FB005-025
-The weld is a fillet weld T-joint, joining FB005-025 to Seismic Performance Critical Material (SPCM) bottom panel identified as BP092A.
-The weld is identified as SSD11A-PP57-084.
-The approved shop drawings, detail this weld as a Fracture Critical Weld (FCW).
-Segment 7DW is located at outside yard, north end of bays 13 and 14.
The Notice of Witness Inspection Number (NWIT) is 004993. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.

Contractor's proposal to correct the problem:

Repair indication and perform NDT required to verify weld quality.

Corrective action taken:

Contractor submitted CWR along with subsequent NDT report verifying the weld is in conformance with Contract specifications. An internal NCR was also issued by the Contractor in regards to this matter.

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 152. 1675.3703, who represents the Office of Structural Materials for your project.

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Inspected By:	Simonis,Jim	Quality Assurance Inspector
Reviewed By:	Wahbeh,Mazen	QA Reviewer