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-000943
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 13-Dec-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0902

Type of problem:

Welding	☑	**Concrete**	☐	**Other**	☐	
Welding	☑	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☐	**Component:** Tower Facade Connection Plate
Procedural	☐	**Procedural**	☐	**Description:**		

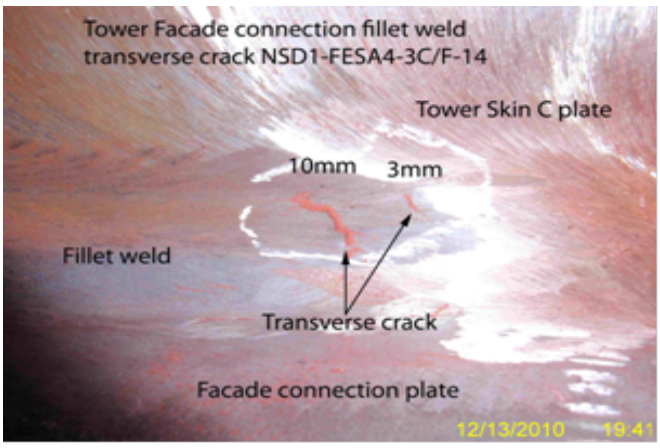
Reference Description: 2 Transverse Cracks located at Tower Facade Connection Plate

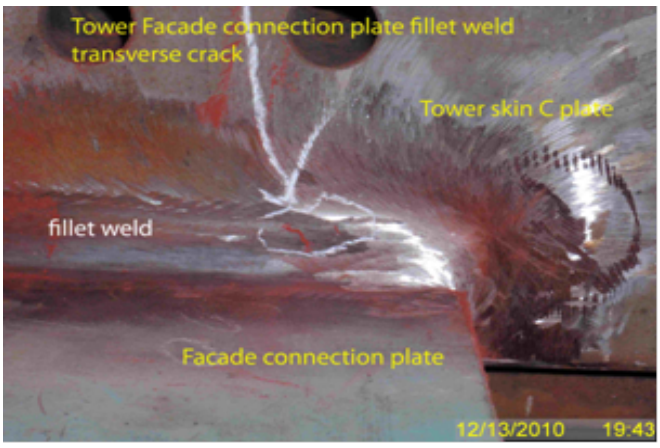
Description of Non-Conformance:

During the Quality Assurance Magnetic particle Testing (MT) review of welds located on NSD1-FESA4-3C/F, this Quality Assurance Inspector (QA) discovered the following issues:

-2 Transverse cracks measuring approximately 3mm and 10mm.
-The weld is identified as: NSD1-FESA4-3C/F-14
-The Y location is approximately 25mm and 35mm, respectively from the right end of the weld.
-The Weld is a fillet weld joining the façade connection plate to north tower skin C.
-The weld is not SPCM.
-The member is located in Bay # 10

The Notice of Witness Inspection Number (NWIT) is 7766. The indication is within 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 10% 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 and shall be unacceptable if the MT shows any types of discontinuities."

Who discovered the problem: Dong J, Shin
Name of individual from Contractor notified: Steve Lawton
Time and method of notification: 07:30_12/14/2010_Email
Name of Caltrans Engineer notified: Jim Reid
Time and method of notification: 07:00, 12/14/2010, Verbal
QC Inspector's Name: Wang Lu
Was QC Inspector aware of the problem: ☐ **Yes** ☑ **No**
Contractor's proposal to correct the problem:
NA
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:	Ng,Michael	QA Inspector
Reviewed By:	Devey,Jim	SMR

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: 510-286-0539 Fax: 510-286-0550

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	**Date:**	15-Dec-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:**	05.03.06-000898
Subject:	NCR No. ZPMC-0902		

Reference Description: 2 Transverse Cracks located at Tower Facade Connection Plate - Tower/Lift 4/Facades

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

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

Material Location: Tower **Lift:** 04

Remarks:

During the Quality Assurance Magnetic particle Testing (MT) review of welds located on NSD1-FESA4-3C/F, the Quality Assurance Inspector (QA) discovered the following issues:

-2 Transverse cracks measuring approximately 3mm and 10mm.

-The weld is identified as: NSD1-FESA4-3C/F-14

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-AWS D1.5 (02) Section 6.26.2 – "Welds that are subject to MT in addition to visual inspection shall have no cracks and shall be unacceptable if the MT shows any types of discontinuities."

Action Required and/or Action Taken:

Propose a resolution for this non-conformance and provide documentation that the deficiency has been brought into compliance with the contract requirements. Propose a resolution that addresses the apparent failure of Quality Control to identify the indication. Additionally, provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

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

Transmitted by: Gina Rizzardo Transportation Engineer

Attachments: ZPMC-0902

cc: Rick Morrow, Peter Siegenthaler, Mark Woods

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: Siegenthaler, Peter
Resident Engineer

Ref: 05.03.06-000898

Subject: NCR No. ZPMC-0902

Dated: **03-Jan-2011**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000895 Rev: 00**

Contractor's Proposed Resolution:

Reference Resolution: ABFJV has noted which inspector missed the indication so that the inspector can receive additional training if he shows a pattern of missed indications.

"In addition to ZPMC's comments, ABFJV has noted which inspector missed the indication so that the inspector can receive additional training if he shows a pattern of missed indications. Based on this ZPMC requests closure of this NCR."

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000895R00;

Caltrans' comments:

Status: CLO

Date: 04-Jan-2011

This proposed resolution is acceptable. The documentation received is sufficient and the Department concurs that Non-Conformance ZPMC-0902 is closed.

Submitted by: Eagen, Sean

Date: 04-Jan-2011

Attachment(s):

No. T-183

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-12-31

REGARDING: NCR-000943(ZPMC-0902)

ZPMC received NCR-000943(ZPMC-0902), it mentioned that CT inspectors found two cracks in the welds. The weld is identified as NSD1-FESA4-3C/F-14.

After we learn what happened in site, it is found that, in order to transport the Tower to blasting shop immediately, the quality of NDT work were not done as good as before. We stopped the transportation plan finally, and let NDT person to do a 100% percent for these component though requirement only ask for 10% percent.

Relative CWR were issued and careful repairing was taken.

As a result, welds were accepted and green tagged.

Here we attach related documents, hope CT could take a review and close these NCR.

ATTACHMENT:

NCR-000943(ZPMC-0902)

T-CWR712

T787-MT-12334R1

Zhao Jiaheng

2010.12.31

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: 510-286-0539 Fax: 510-286-0550

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	**Date:**	15-Dec-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:**	05.03.06-000898
Subject:	NCR No. ZPMC-0902		

Reference Description: 2 Transverse Cracks located at Tower Facade Connection Plate - Tower/Lift 4/Facades

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

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

Material Location: Tower **Lift:** 04

Remarks:

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Transmitted by: Gina Rizzardo Transportation Engineer
Attachments: ZPMC-0902

cc: Rick Morrow, Peter Siegenthaler, Mark Woods
File: 05.03.06

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

DEPARTMENT OF TRANSPORTATION
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Location: Changxing Island, Shanghai P.R. China **Report No:** NCR-000943
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 13-Dec-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0902

Type of problem:

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

Bridge No: 34-0006
Component: Tower Facade Connection Plate

Reference Description: 2 Transverse Cracks located at Tower Facade Connection Plate

Description of Non-Conformance:

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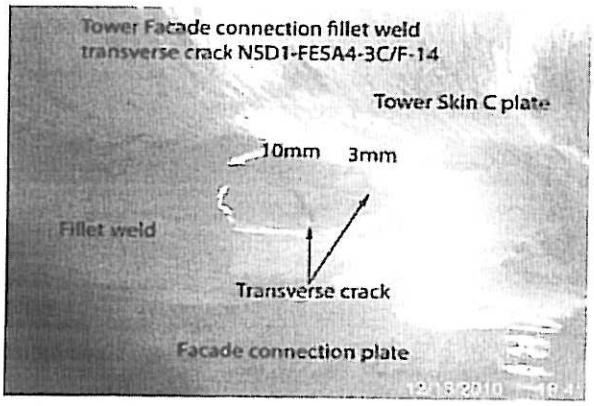

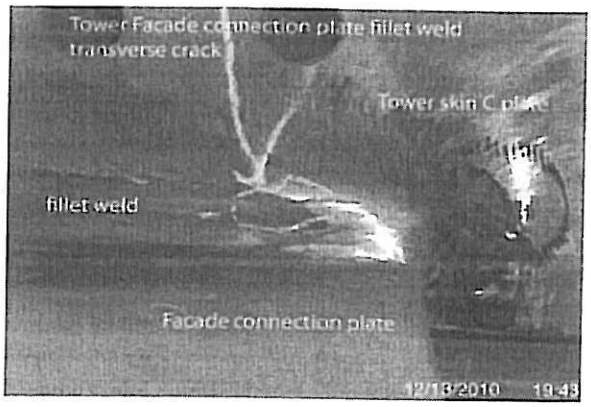

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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Time and method of notification: 07:30_12/14/2010_Email
Name of Caltrans Engineer notified: Jim Reid
Time and method of notification: 07:00, 12/14/2010, Verbal
QC Inspector's Name: Wang Lu
Was QC Inspector aware of the problem: ☐ Yes ☑ No
Contractor's proposal to correct the problem:
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Comments:
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Inspected By:	Ng,Michael	QA Inspector
Reviewed By:	Devey,Jim	SMR

车间/Location	WORKSHO P 10

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.:	NSD1-FESA4	报告编号 Report No.:	T-CWR712
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	THE FOURTH LIFTING TOWER	NDT 报告编号 NDT Report No.:	T787-MT-12334
项目编号 Project No.:	ZP06-787				

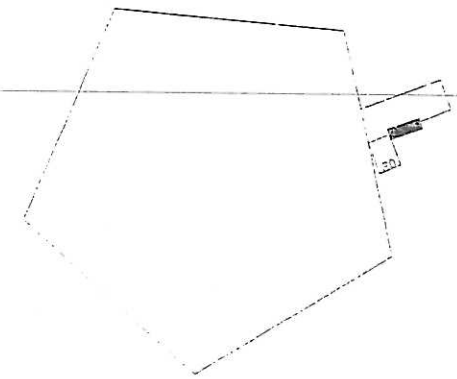
焊缝缺陷描述：
Description of welding discontinuity: 线性缺陷 ~~Linear indication~~ Crack Repair

List weld No.(焊缝编号) : NSD1-FESA4-3C/F-14

Welder ID No. (焊工编号):044504 Welding Position(位置) : 1G ~~3G~~

检验员 (Inspector): Di Kunlun Di Kunlun 日期(Date): 2010.12.13/14

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): 2.Yefu 日期 (Date): 10.12.13

处理意见 Disposition：

1.角焊缝裂纹

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,预热温度按照下表所列；
9. 焊接后WPS要求进行后热，后热温度按照下表所列，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. Prior to continuing with Repair work.
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, Preheat in accordance with the following pre-heat table.

BASE METAL THICKNESS	MINIMUM PREHEAT	MINIMUM POSTHEAT
☐ T≤40mm	160℃	160℃
☐ 40mm<T	200℃	200℃

9. Perform post weld heating according to repair WPS, the postheat in accordance with the following table for one hour minimum.

BASE METAL THICKNESS	MINIMUM PREHEAT	MINIMUM POSTHEAT
☐ T≤40mm	160℃	160℃
☐ 40mm<T	200℃	200℃

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：Niu Tie Feng 审核：Lu Jian Hua 日期：

Technical Engineer: Approved By: Date:

Verified by: B227

12/14/10

2. CJP焊缝裂纹

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，对于多个裂纹的返修，打磨返修范围为清除多个裂纹外另加其最外端的每一端加长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；
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，预热温度参照下表；
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，后热温度参照下表，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。

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 and it applied to all the repair process. 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.
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 in accordance with the following table. .

BASE METAL THICKNESS	MINIMUM PREHEAT	MINIMUM POSTHEAT
□ T≤40mm	160℃	160℃
□ 40mm<T	200℃	200℃

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 tapered 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 and 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 in accordance with the following table for one hour minimum.

BASE METAL THICKNESS	MINIMUM PREHEAT	MINIMUM POSTHEAT
□ T≤40mm	160℃	160℃
□ 40mm<T	200℃	200℃

11. Allow the weld to cool to ambient temperature gradually. Control cooling rate after PWHT to no more than 50° 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：Ma Tie Feng　审核：Lu Jian Hua　日期：

Technical Engineer:　Approved By:　Date:

Verified by: _____

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.:	NSD1-FESA4	报告编号 Report No.:	T-CWR712
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	THE FOURTH LIFTING TOWER	NDT 报告编号 NDT Report No.:	T787-MT-12334
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): Cui Tefu 日期 (Date): 10.12.13

WPS-345H485-SMAW-1G(1F)-Repair 参照的WPS编号 Repair WPS No.:	☑ WPS-345-SMAW-1G(1F)- Repair ☐ WPS-345-SMAW-2G(2F)-Repair ☐ WPS-345-SMAW-3G(3F)- Repair ☐ WPS-345-SMAW-4G(4F)- Repair ☐ WPS-345-SMAW-1G(1F)-FCM-Repair ☐ WPS-345-SMAW-2G(2F)-FCM-Repair ☐ WPS-345-SMAW-3G(3F)-FCM-Repair ☐ WPS-345-SMAW-4G(4F)-FCM-Repair ☑ Others	工艺员 Technologist:	Niu Tie Feng

返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	NA grind	返修的缺陷 Description of Discontinuity:	crack
焊前处理检查 Inspection Before Welding:	VT Acc MT Acc	焊前预热温度 Preheat Temperature Before Welding:	200 C°
最大碳刨深度 Max. Depth of Gouge:	grind 10mm	碳刨总长 Total Length of Gouge:	grind 10 mm

焊工 Welder:	04082	焊接类型 Welding Type:	SMAW	焊接位置 Position:	1G
焊接电流 Current:	178 A	焊接电压 Voltage:	23.5 V	焊接速度 Speed:	105 mm/min

返修后检查 Inspection After Repair:

外观检查 VT Result:	VT Acc	检验员 Inspector:	Zhaochenbin	日期 Date:	2010-12-15
NDT复检 NDT Result:	MT Acc	探伤员 NDT Person:	Dikunlun	日期 Date:	2010.12.20

见证： Witness/Review:

备注： Remark :

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-12334R1	DATE日期 2010.12.20	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:	NSD1-FESA4 THE FOURTH LIFTING TOWER	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	DA-400S	17365

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-Z A709M-HPS-485WT2-Z 50/20mm
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			
NSD1-FESA4-3C/F-14				ACC.		100%MT
AETER T-CWR712						
BIANK						

EXAMINED BY主探 Di Kunlun LEVEL - II SIGN 签名 / DATE日期 2010.12.20	REVIEWED BY 审核 LEVEL-II SIGN / DATE日期 2010.12.20
质量经理 / QCM 签字 SIGN / 日期 DATE 2010.12.10	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 P.R. China **Report No:** NCS-000889
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 04-Jan-2011
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0902

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: 13-Dec-2010

Description of Non-Conformance:

During the Quality Assurance Magnetic particle Testing (MT) review of welds located on NSD1-FESA4-3C/F, this Quality Assurance Inspector (QA) discovered the following issues:

-2 Transverse cracks measuring approximately 3mm and 10mm.
-The weld is identified as: NSD1-FESA4-3C/F-14
-The Y location is approximately 25mm and 35mm, respectively from the right end of the weld.
-The Weld is a fillet weld joining the façade connection plate to north tower skin C.
-The weld is not SPCM.
-The member is located in Bay # 10

The Notice of Witness Inspection Number (NWIT) is 7766. The indication is within 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 10% MT inspection of this weld.

Contractor's proposal to correct the problem:

Contractor proposes to perform 100% MT instead of 10% to prove the weld is acceptable. Contractor will issue a CWR (Critical Welding Repair) to repair this component.

Corrective action taken:

Contractor issued a CWR and performed the repair. Performed 100% MT of the component. The NDT report shows the weld is acceptable, and the component was green tagged.

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

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

☐ **Yes** ☑ **No**

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Wahbeh, Mazen 818-292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Ng,Michael	Quality Assurance Inspector
Reviewed By:	Devey,Jim	QA Reviewer