

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-000575
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 01-Jan-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0548

Type of problem:

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: East Shaft, Lift 1
Procedural	Procedural	Description:	

Reference Description: Base Metal Repair without Engineer's Approval, East Shaft, Lift 1, Skin A Stiffener

Description of Non-Conformance:

During Quality Assurance (QA) random verification visual inspection at the heavy dock jetty, this QA Inspector discovered the following issue:

- Base metal repairs of Skin A stiffener without the Engineer's approval.
- The length of the base metal repairs were approximately 15mm and 25mm in length.
- The member is identified as Skin A stiffener, inside East Shaft – Lift 1.
- The member is located at the heavy dock jetty outside.
- The nearby weld joint is identified as: ESD1-SA 237 D/F-4
- The repair was performed utilizing the Shielded Metal Arc Welding (SMAW) process.
- The material is classified as A709 Grade 345 (Non SPCM).



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Applicable reference:

Standard Specifications (99) section 8-3.01: "The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also of the proposed repair procedures to correct them. For requests to perform repairs, The contractor shall include an engineering evaluation of the proposed repair."

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

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

Who discovered the problem: Baskar Govindarajan

Name of individual from Contractor notified: Li Xiu Hua

Time and method of notification: 0915 hours, 01-01-10, Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 1600 hours, 01-01-10, Verbal

QC Inspector's Name: Qiu Wen

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Skyler Guest, 15000422360, who represents the Office of Structural Materials for your project.

Inspected By:	Guest,Skyler	SMR
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Reviewed By:	Wahbeh,Mazen	SMR
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DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
 333 Burma Road
 Oakland CA 94607
 Tel: Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 02-Jan-2010

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

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Subject: NCR No. ZPMC-0548

Job Name: SAS Superstructure
Document No: 05.03.06-000538

Reference Description: Unapproved Base Metal Repair / East Shaft Lift 1 Skin A / Stiffener

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:** 01

Remarks:

During Quality Assurance (QA) random verification visual inspection at the heavy dock jetty, this QA Inspector discovered the following issue:

- Base metal repairs of Skin A stiffener without the Engineer’s approval.
- The length of the base metal repairs were approximately 15mm and 25mm in length.
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AWS D1.5/2002, Section 3.7.4: “Prior approval of the Engineer shall be obtained for repairs to base metal.”

Action Required and/or Action Taken:

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

NCT

(Continued Page 2 of 2)

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

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

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

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0548

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Mark Woods

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000538

Subject: NCR No. ZPMC-0548

Dated: 18-Jan-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000488 Rev: 00

Contractor's Proposed Resolution:

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

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

Submitted by: Lawton, Steve

Attachment(s): ABF-NPR-000488R00;

Caltrans' comments:

Status: CLO

Date: 19-Jan-2010

The Department agrees that a CWR is required for this type of repair instead of a WRR. The proposed resolution is acceptable. The Department concurs that Non-conformance ZPMC-0548 is closed.

Submitted by: Lee, Ken

Attachment(s):

Date: 19-Jan-2010



No. T-112

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-1-15

REGARDING: NCR-000575(ZPMC-0548)

ZPMC acknowledge this problem ,About this situation we issued the WR and did the repair work then ZPMC MT guys did the MT to make sure the area about the base metal repair no problem.

So ZPMC want to close this NCR.

ATTACHMENT:

NCR-000575(ZPMC-0548)

Welding repair report:T-WR3002

Report of MT examination:T787-MT-7840

Visual weld inspection report.

A handwritten signature in black ink, appearing to read "Li Hongjun", is located in the lower-left quadrant of the page.

2010.1.15.



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: 02-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: 05.03.06-000538

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Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0548

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Mark Woods

File: 05.03.06

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 File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, P.R. China

Report No: NCR-000575

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 01-Jan-2010

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

NCR #: ZPMC-0548

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Bridge No: 34-0006

Joint fit-up Coating Other

Component: East Shaft, Lift 1

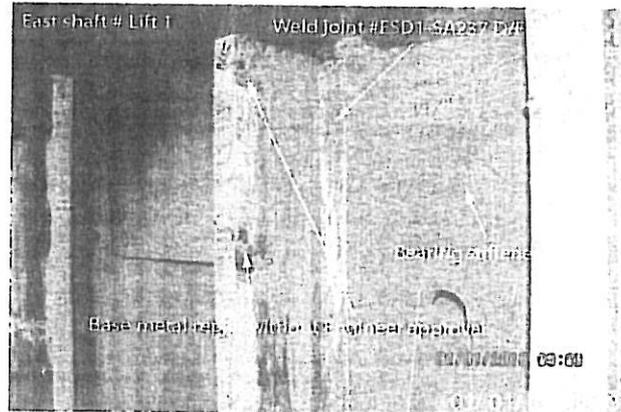
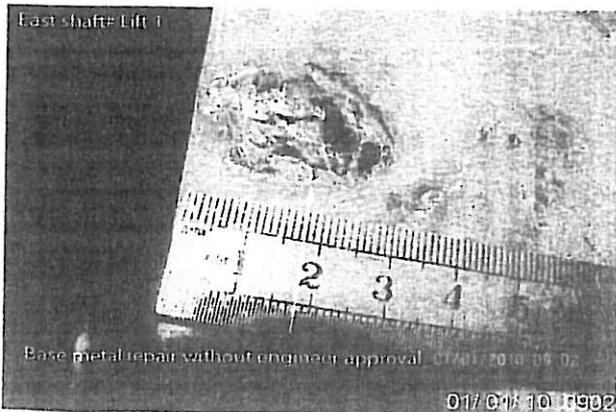
Procedural Procedural Description:

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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Time and method of notification: 0915 hours, 01-01-10, Verbal

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QC Inspector's Name: Qiu Wen

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

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Inspected By: Guest, Skyler

SMR

Reviewed By: Wahbeh, Mazen

SMR



焊缝返修报告

Welding Repair Report

版本
Rev. No.:

0

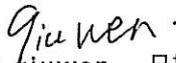
项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	P171	报告编号 Report No.:	T-WR3002
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	东塔一吊A面纵向筋 Tower(E) Skin A stiffener	NDT 报告编号 NDT Report No.:	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

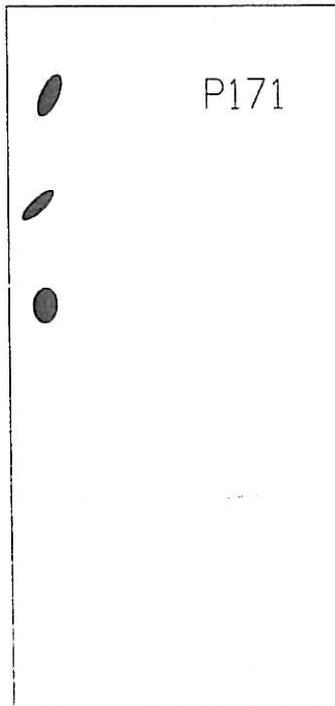
东塔第一吊装段,承压板烧焊结束后去除三角板时割伤母材, 深度3-5mm.

After weld east tower first lifting strut plate, the base metal was gouged after removing angle plate, 3-5mm in depth.


 检验员 (Inspector) : giuwen 日期 (Date) : 2010.01.01

焊缝返修位置示意图:

Draft of Welding Discontinuity:



注: 阴影部位为补焊区域。

Remark: repair area in shade.

产生原因:

Cause:

工人操作失误, 导致母材损伤。

Worker operated error caused base metal gouged.

车间负责人 (Foreman):

Lishiguan

日期 (Date):

10.01.09

处理意见

Disposition :

3. QC shall monitor and direct the welder and the grinder doing the repair operation.
4. Preheat before gouging; the temperature shall be at least 65°C.
5. Gouge the weld to remove identified defects.
6. Joint details shall refer to the approved WPS repair.
7. Grind the gouged areas to a smooth and shiny surface.
8. Verify with VT and MT to ensure no defects remain in the weld joint prior to welding.
9. QC shall monitor all welding passes being deposited.
10. QC shall ensure all slag has been removed prior the deposition of next pass.
11. Preheat and maintain interpass temperature control in accordance with the WPS.
12. Blend the weld repaired areas into the adjacent weld or base metal by grinding.
13. Perform VT, MT and UT NDT inspection to the repaired areas.

- 1、在返修过程中, QC 应该监控和指导焊工和打磨工;
- 2、碳刨之前必须先进行预热, 温度不低于 65° C;
- 3、碳刨去除缺陷;
- 4、缺陷被完全清除后, 必须准备一个正确的接头型式, 具体接头型式请参见对应的修补焊接工艺规程(WPS);
- 5、将碳刨面打磨光滑;
- 6、在准备好焊接接头焊接前, 用 VT 和 MT 检测缺陷被完全清除;
- 7、在返修过程中, QC 确认焊道清理干净;
- 8、在进入下到焊缝前, QC 应该保证所有的缺陷已经去除;
- 9、根据 WPS 控制预热和焊道的温度;
- 10、打磨返修区域与临近焊缝和母材其平;
11. VT,MT和其它NDT检测焊缝。

工艺:

Technical Engineer: *Lidian ping*
10.01.09

审核:

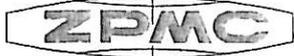
Approved By: *[Signature]*

日期:

Date:

10.1.15

#R787-QCP-900



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.:	P171	报告编号 Report No.:	T-WR3002
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	东塔一吊A面纵向筋 Tower(E) Skin A s tiffener	NDT 报告编号 NDT Report No.:	NA
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

培训和教育操作工, 提高操作水平。

Train and educate operation to improve operation skill.

车间负责人 (Foreman):

Lishiguan

日期 (Date):

10.01.09

参照的WPS编号 Repair WPS No.:	WPS-345-FCAW-2 G(2F)-Repair WPS-345-FCAW-3 G(3F)-Repair WPS-345-SMAW-2 G(2F)-Repair WPS-345-SMAW-3 G(3F)-Repair	工艺员 Technologist:	<i>Lichunping</i> <i>10.01.09</i>
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:	<i>N/A</i>	返修的缺陷 Description of Discontinuity:	<i>fatigue</i>
焊前处理检查 Inspection Before Welding:	<i>AC</i>	焊前预热温度 Preheat Temperature Before Welding:	<i>180</i>
最大碳刨深度 Max. Depth of Gouge:	<i>N/A</i>	碳刨总长 Total Length of Gouge:	<i>N/A</i>
焊工 Welder:	<i>040724</i>	焊接类型 Welding Type:	<i>SMAW</i>
焊接电流 Current:	<i>150</i>	焊接电压 Voltage:	<i>238</i>
		焊接位置 Position:	<i>36</i>
		焊接速度 Speed:	<i>120</i>

返修后检查
Inspection After Repair:

外观检查 VT Result:	<i>Ju</i>	检验员 Inspector:	<i>Shaochuan</i>	日期 Date:	<i>2010.01.19</i>
NDT复检 NDT Result:	<i>NT 18m</i>	探伤员 NDT Person:	<i>Cai Xinxin</i>	日期 Date:	<i>10.01.14</i>

见证:
Witness/Review:

备注:
Remark:

#R787-QCP-900

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCS-000475**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:****Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0548**Type of problem:**

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

Date the Non-Conformance Report was written: 01-Jan-2010**Description of Non-Conformance:**

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- The material is classified as A709 Grade 345 (Non SPCM).

Contractor's proposal to correct the problem:

Verify soundness of repair, educate staff.

Corrective action taken:

Documentation for the base metal repair and MT verification was provided (T-WR3002 and T787-MT-7840).

The ABF QCM informed ZPMC QA of the CWR requirements pertaining to base metal repairs.

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

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QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Inspected By: Guest,Skylar

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer