

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** ZPMC Changxing Island - Shanghai, China**Report No:** NCR-000013**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 15-Oct-2007**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0012**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Mock Up 89M
Procedural	Procedural	Descriptor:	

Description of Non-Conformance:

American Bridge/Fluor Enterprises, a JV, allowed ZPMC welding personnel to weld parts of 89M Strut Sub-Assemblies MUSB-MA25 and MUSB-MA26 with an electrode not in compliance with contract specifications. The material welded was ASTM A 709M GR345 to ASTM A709M GR485. The Contract Drawings Sheet numbers MUSB-MA25 and MUSB-MA26, specify in Note 2 "Filler metal matching the higher strength of base metals shall be used". The filler metal actually used was E7018. ZPMC had posted and was following ZPMC approved Weld Procedure Specification (WPS) WPS-B-T-U3b-2 which was for welding the same materials, but in an undermatching condition. The Contract Drawings specified an overmatching condition. The parts in 89M Sub-Assembly MUSB-MA25 which were affected were: piece marks mp209-1 to p516-1 and mp209-2 to p516-2. The parts affected in 89M Sub-Assembly MUSB-MA26 were: piece marks mp517-1 through mp517-4 to p1114-1 through p1114-4. There were 6 weldments in total which were welded with the undermatching E7018 electrode.

Applicable reference:

Shop Drawings Sheet Number MUSB-MA25 and Sheet Number MUSB-MA26

Who discovered the problem: QA Inspector and ABF QA Manager**Name of individual from Contractor notified:** John Hamer and Steve Lawton**Time and method of notification:** 1000 - Verbal**Name of Caltrans Engineer notified:** Stan Ku, Senior Bridge Engineer**Time and method of notification:** 10/15/2007, 1300 verbal**QC Inspector's Name:** Li Xiu Yang**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 Mazen Wahbeh, (818) 292-0659, who represents the

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Office of Structural Materials for your project.

Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Cochran,Jim

QA Reviewer



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: 510-622-5158 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To: American Bridge/Fluor Enterprises, a JV
375 BURMA ROAD
OAKLAND CA 95607

Date: 06-Nov-2007

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

Dear: Mr. Charles Kanapicki

Job Name: SAS Superstructure

Attention: Mr. Michael Flowers Project Executive

Document No: 05.03.06-000074

Subject: NCR No. ZPMC-0012

Reference Description: Repairs to skin plate welds greater than 10% in length on the 114m Mock-up

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 - No Response Required.

Material Location:

Lift:

Remarks:

Originally sent by State letter 05.03.01-000795

Action Required and/or Action Taken:

Transmitted by: Keith Osantowski Sr. Engineer

Attachments: ZPMC-0012

cc:

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000074

Subject: NCR No. ZPMC-0012

Dated: 08-Dec-2007

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000007 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ABF has reviewed the 114M Mock-up section of the Special Provisions with ZPMC to gain understanding of this requirement which is different from the requirements for production.

Rejects in Stiffener to Skin Plate welds exceeded 10%, repairs were made contrary to contract requirements.

ABF JV has reviewed the Mock-up section of the Special Provisions with ZPMC to gain understanding of this requirement which is different from the requirements for production. Both ABFJV and ZPMC now understand this requirement. ZPMC initiated an internal NCR to address this nonconformance. ZPMC also conducted internal tests and has submitted a plan to improve weld quality.

Attached for review is the ZPMC Internal NCR and the written plan to improve weld quality.

Submitted by: Flowers, Michael

Attachment(s): ABF-NPR-000007R00; ABF-NPR-000007-01

Caltrans' comments:

Status: Approved

Date: 24-Mar-2008

See State Letter 05.03.01-001406

Submitted by: Pursell, Gary

Attachment(s): 05.03.01-001406

Date: 22-Feb-2008

15-Feb-2008

ABF-CAL-LTR-000446

Mr. Gary Pursell
Resident Engineer
California Department of Transportation
333 Burma Road,
Oakland, CA 94607, USA

PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110

SUBJECT: RESPONSE TO NCR-11, 12 AND 13

Gentlemen:

American Bridge / Fluor Enterprises Inc. a Joint Venture (ABFJV) acknowledges receipt of the Department's Letter No.05.03.01-000795 dated November 6, 2007 forwarding the Department's Non-Compliance Reports NCR-0011, 0012 and 0013.

The attached documents is the response to NCRs 0011, 0012 and 0013. Based on the attached ABFJV is requesting written confirmation from the Engineer that NCRs 0011, 0012 and 0013 are closed.

If you need any more information, please call Chuck Kanapicki at (510) 808-4609.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE



Michael Flowers
Project Director
MF/CK/cc

File: 02.01, 15.04

Page 1 of 3

Date: 08 December 2008 *7* *OK 2/14/08*

To: Gary Pursell

From: Steve Lawton

Contract No. 04-0120F4

Dear Gary Pursell

NCR's 11, 12, 13, and 16 *OK 2/14/08*

This letter is issued to provide formal response addressing the proposed resolution to each of the mentioned NCR's for Engineer's review and approval.

NCR-000011 - Inspection status of fit-up not physically marked on part.

No documentation available at the work area that the fit-up was inspected prior to welding. Physical marking of "Fit-up OK" was not present on part.

ZPMC has acknowledged that the marking was not present on the part, however was able to produce records indicating that the fit-up was inspected. ZPMC has generated an internal NCR to document this non-conformance.

NCR-000012 - 114M Mock-up

Rejects in Stiffener to Skin Plate welds exceeded 10%, repairs were made contrary to contract requirements.

ABFJV has reviewed the Mock-up section of the Special Provisions with ZPMC to gain understanding of this requirement which is different from the requirements for production. Both ABFJV and ZPMC now understand this requirement. ZPMC initiated an internal NCR to address this nonconformance. ZPMC also conducted internal tests and has submitted a plan to improve weld quality. Attached for review is the ZPMC Internal NCR and the written plan to improve weld quality.

NCR-000013 - 89M Mock-up.

Wrong filler metal used. Dissimilar welds of Grade 345 to Grade 485 for the Strut Subassemblies require the higher strength filler metal to be used. Contrary to contract documents ZPMC used the lower strength E7018 filler metal. ZPMC has generated an internal NCR, removed the lower strength filler metal and replaced with the higher strength filler metal E9018.

GFR 2/14/02

NCR-000016 - OBG SPCM Floor Beams Lift 3

SPCM material being used in production was found to not have been check sampled contrary to contract requirements.

ZPMC has generated an internal NCR addressing this issue. Production material was immediately placed on hold remnant material was located in the receiving inspection yard and check samples were taken.
See attached documents

With the above response, ABFJV considers the NCR's mentioned as closed.

If further clarifications are needed, please contact me.



Steve Lawton
Foreign Quality Assurance Manager

TL-000514



TRANSMITTAL LETTER

PROJECT: SAN FRANCISCO OAKLAND BAY BRIDGE

DATE: 12/24/2007

TO: RUBY/ ABFJV QA DEPARTMENT

FROM: ZPMC QA DEPARTMENT

SUBJECT: NCR(NCR-0012) FOR CLOSURE

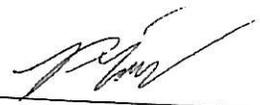
SUBMITTED FOR YOUR APPROVAL AND SUBMITTAL TO CALTRANS.

ENCLOSED WITH THIS TRANSMITTAL IS ONE

- (1) COPY OF LETTER OF RESPONSE FOR CLOSURE NCR (NCR-0012).
- (2) COPY OF NCR WITH NUMBER NCR-0012
- (3) COPY OF NCR-CT-002

PLEASE SIGN THIS TRANSMITTAL AND RETURN TO ME.

ACKNOWLEDGEMENT:



 PLAN HOLDER

12/24/07 3:30pm

 DATE

ABFJV

 COMPANY

 PHONE NO.

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



LETTER OF RESPONSE

DATE: 2007.11.24

To: AB/F Steve Lawton

From: ZPMC

Subject: Response to CT NCR-000012

Mr. Lawton:

ZPMC has generated internal NCR-CT-002 in Response to NCR-000012, Regarding weld defects exceeding 10% weld length. ZPMC has performed weld trials to determine acceptable method to perform these welds with less than a 10% reject rate.

Attached you will find a copy of ZPMC internal NCR,CWR010 and documented plan to perform these welds with less than a 10%reject rate.

If further information is needed, Please contact me.

Sincerely

Yang Xuehui

A handwritten signature in black ink that reads 'Yang Xuehui'.

2007.11.24

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: 13.9/14.3.0.0/1.6
 File #: 69.25B

QUALITY ASSURANCE - NON-CONFORMANCE REPORT

Location: Shanghai, China

Report No: NCR-000012

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 30-Sep-2007

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

NCR #: NCR-000012

Type of problem:

Welding Concrete Other
 Welding Curing Procedural Bridge No: 34-0006
 Joint fit-up Coating Other Component: 114 Meter Mock-up
 Procedural Procedural Description: 114 Meter Mock-up

Description of Non-Conformance:

American Bridge/Fluor (ABF) allowed weld repairs to be performed without Engineer notification. The 114 meter mock-up, skin plate E, sub assembly MA109, weld joint #3 has a defect as defined by AWS D1.5, that was found by ultrasonic testing (UT) with a total length in excess of 10% of the weld length. The length of indication and the repair of the weld in question was found to be 100% of the complete joint penetration groove weld.

Applicable reference:

Special Provisions Section 10-1.59, Fabrication/Erection Procedure and Mock-ups, Item, B.2 page 313.

Who discovered the problem: Quality Assurance (QA) Inspector Sherri Brannon

Name of individual from Contractor notified: ABF/Bureau Veritas, Tan Da and ABF, QA Manager Steve Lawton

Time and method of notification: 1400 hour, verbal Sept 30, 2007 and 0800 hour, Oct 1, 2007

Name of Caltrans Engineer notified: Mr. Stan Ku Senior Bridge Engineer

Time and method of notification: 0745 hour, verbal Oct 1, 2007

QC Inspector's Name: Tan Da

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

The contractor proposes to generate a critical weld repair (CWR) report for each case where 10% of the weld length has been exceeded.

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: Brannon, Sherri

Quality Assurance Inspector

Reviewed By: Cuellar, Robert

QA Reviewer



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-CT-002 NCR 编号: NCR-CT-002	
Item: Weld 名称描述: 焊缝	Item Number: 件号:	Drawing Number: 图号:	
Location: Mock Up for Caltrans 位置: 加州模型段一塔段		Date: 2007-10-02 日期: 2007-10-02	
Description of Nonconformance: 不符合项状态描述: According to section 10-1.59 of special provision, " Defects, as defined by AWS D1.5, that are found by UT or RT occur in greater than 10 percent of the cumulative length of any weld ",is unsatisfactory mock-up. Now many welds' repair length has over 10 percent, Caltrans can not accept. 根据标书 10-1.59 节规定, "任何焊缝由 UT 或 RT 所发现的如 AWS D1.5 所定义的缺陷, 其所发现的部位大于焊缝累积长度的 10%", 为不令人满意的模型。 现车间许多焊缝返修率已超过焊缝长度 10%, 目前状态不能接受。			
Work By: <u>孙永波 Sunbo</u> Prepared by: <u>陈石龙 Lay Tao</u> Reviewed by QCE: <u>陈永强 Chen Yongqiang</u> 施工方: <u>2007.10.4</u> 准备: <u>2007.10.2</u> 质量工程师批准: <u>2007.10.2</u> <input type="checkbox"/> Drawing Error <input type="checkbox"/> Material Defect <input type="checkbox"/> Fabrication Error <input type="checkbox"/> Other 图纸错误 材料缺陷 制作错误 其他原因			
Disposition: <input checked="" type="checkbox"/> Use as is <input type="checkbox"/> Repair <input type="checkbox"/> Reject 处理措施: 回用 返修 拒收			
Recommendation: 建议 <u>出具关键焊缝返修报告。</u>			
Prepared by: <u>徐贤平 Xu Xianping</u> Approved by QCA: <u>胡刚 Hu Gang</u> 准备: <u>2007.10.04</u> 质量经理批准: <u>2007.10.4</u>			
Reason for Nonconformance: 不符合原因: <u>0#号道床物理干燥</u>			
Prevention of Re-occurrence: 预防措施: <u>①停用合格率低时的焊工。</u> <u>②作相关试验,寻找最佳焊接工艺</u> Approved by/批准: <u>陈石龙</u>			
Technical Justification for Use-As-Is/Repair: <input type="checkbox"/> Attachment <input checked="" type="checkbox"/> Non-attachment 回用或返修的技术依据: 附件 无附件 <u>1. 加强焊缝处焊缝的打磨清理。</u> <u>2. 使用合格焊工进行施工。</u> Reviewed /批准: <u>陈永强</u>			
Verification: <input type="checkbox"/> Acceptable <input type="checkbox"/> 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: _____			



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-CT-002	
Item: Weld 名称描述: 焊缝	Item Number: 件号:	Drawing Number: 图号:	
Location: Mock Up for Caltrans 位置: 加州模型段		Date: 日期: 2007-10-02	

Description of Nonconformance:
不符合项状态描述:

According to section 10-1.59 of special provision, " Defects, as defined by AWS D1.5, that are found by UT or RT occur in greater than 10 percent of the cumulative length of any weld ",is unsatisfactory mock-up.
Now many welds' repair length has over 10 percent, Caltrans can not accept.
根据标书 10-1.59 节规定, "任何焊缝由 UT 或 RT 所发现的如 AWS D1.5 所定义的缺陷, 其所发现的部位大于焊缝累积长度的 10%", 为不令人满意的模型。
现车间许多焊缝返修率已超过焊缝长度 10%, 目前状态不能接受。

Work By: Sun bo Prepared by: Tao Lay Reviewed by QCE: Fu Yulong 2007.10.2
施工方: 2007.10.4 准备: 2007.10.2 质量工程师批准:

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

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

Recommendation:
建议
出具关键焊缝返修报告 Submit the CWR to AB/F and Cltrans to approve.
Prepared by: Xu Xianping Approved by QCA: Hu Gang
准备: 2007.10.24 质量经理批准: 2007.10.9

Reason for Nonconformance:
不符合原因:
Don't clean the weld pass completely.

Prevention of Re-occurrence:
预防措施:
1. ZPMC will stop some welds who can't satisfy the requirement.
2. Do some experiment to look for the best methods of the welding.
Approved by/批准: Lu Ye Pei

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

1. Improve grinding and cleaning of the interpass welding.
2. Let some better welders to improve qualified percent.
Reviewed /批准: Wu Zhuyang

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: _____



关键焊缝返修报告

Critical Welding Repair Report

版本 Rev. No.

3

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	MUSC-MA109	报告编号 Report No.	CWR010
合同号 Contract No.:	04-0120F4	部件名称 Items Name	STIFFENER OF 114M SKIN E	NDT报告编号 Report No. of NDT	CT-UT-016
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of welding discontinuity:

UT检测缺陷的返修长度超过10%。

Rejected indication found by ultrasonic inspection exceeds 10% of the weld size. MUSC-MA109-3

检验员 (Inspector):

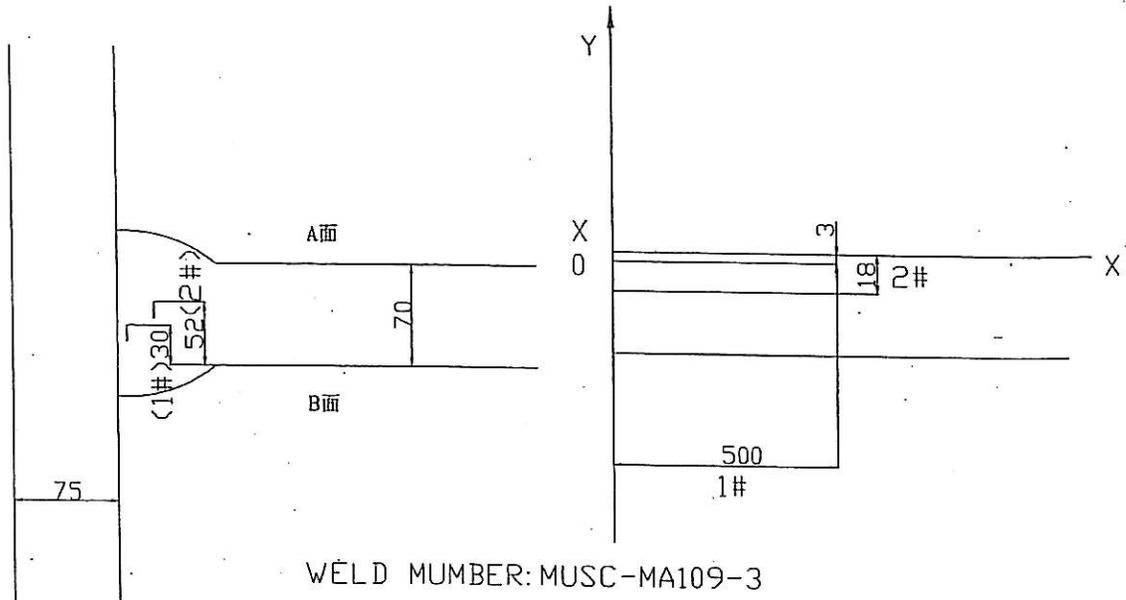
Li Liming
Li Liming

日期(Date):

07.11.13
07.11.13

焊缝返修位置示意图:

Draft of welding discontinuity:



APPROVED

Per dt 11/16/2007

产生原因:

Caused:

1. 焊道没有清除干净。
2. 返修深度错误。
1. Did not clear the weld pass completely.
2. Depth of repair had mistakes.

车间负责人(Foreman): *Yang Xuehui*

07.11.13

日期(Date): 07.11.13

处理意见

Disposition:

返修的焊缝的工艺应该与筋板与面板的CJP焊接工艺及批准的WPS一致，修改的模型制作工艺现在正在使用和将反映采用了附上的修改了的筋板与面板CJP的焊接工艺。

Repair welding shall be in according with the attached Stiffener to Skin Plate CJP welding Procedure and an approved WPS. Revisions to the Mockup Fabrication Procedure are currently in process and shall reflect the revisions adopted by the attached Stiffener to Skin Plate CJP welding procedure.

工艺: *Lu Mengjun*
Technical engineer

11.13.

审核: *Hu Gang*
Approved by

日期 2007.11.
Date

		<h2 style="margin: 0;">关键焊缝返修报告</h2> <h3 style="margin: 0;">Critical Welding Repair Report</h3>			版本 Rev. No.
					3
项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No.	MUSC-MA109	报告编号 Report No.	CWR010
合同号 Contract No.:	04-0120F4	部件名称 Items Name	STIFFENER OF 114M SKIN E	NDT报告编号 Report No.of NDT	CT-UT-016
项目编号 Project No.:	ZP06-787				
<p>纠正措施: Correction action to prevent re occurrence:</p> <p>1. ZPMC将停止使用不能满足要求的焊工, 让一些好的焊工烧焊, 以提高焊接合格率。 2. 见附件</p> <p>1. ZPMC will stop using some welders who can't satisfy requirement and let some better Welders, weld to improve qualified percent. 2. See attachment.</p>					
车间负责人(Foreman): <i>Yang Xuehui</i> 日期(Date): <i>07.11.13</i>					
参照的WPS编号 Repair-WPS No.	WPS-345-SMAW-1 G(1F)-Repair WPS-345-FCAW-1 G(1F)-Repair	工艺员 technologist		<i>Liuyang 2007.11.13</i>	
返修(碳刨)前预热温度 Preheat temperature before gouging	<i>102°C</i>	返修的缺陷 Description of discontinuity		<i>林景全</i>	
焊前处理检查 Inspection before welding	<i>合格</i>	焊前预热温度 Preheat temperature before welding		<i>208°C</i>	
最大碳刨深度 Max. depth of gouging	<i>39</i>	碳刨总长 Total length of gouging		<i>500</i>	
焊工 welder <i>Xu Bo</i> <i>060627</i>	焊接类型 welding type	<i>FCAW</i>	焊接位置 position	<i>1G</i>	
焊接电流 Current <i>310</i>	焊接电压 Voltage <i>30.8</i>	焊接速度 Speed <i>290</i>			
<p>返修后检查 Inspection After repairing:</p>					
外观检查 VT result <i>OK</i>	检验员 Inspector <i>LWJianping</i> <i>060627</i>	日期 Date <i>2007.11.19</i>			
NDT复检 NDT result <i>Acc</i>	探伤员 NDT person <i>U. Uming</i>	日期 Date <i>2007.11.22</i>			
<p>见证: Witness/Review:</p>					
<p>备注: Remark:</p>					

step1 装配纵向筋
step1. fit up Longitudinal stiffener

1.1. 在装配纵向筋之前,按照图纸要求将纵向筋及面板加工到位,并且在零件上划好线.

1.2. 根据划好的装配线安装纵向筋及两端的引焊弧板,用直角尺检测其垂直度.

1.2 Assemble longitudinal stiffener and run-off tab according to fitting line, and check the plumbness with square

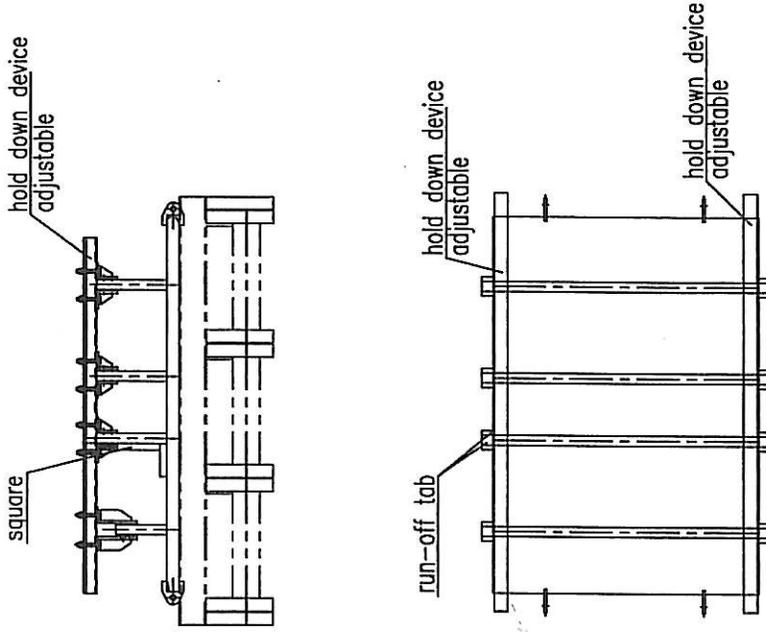
1.3. 在两端增加好可调卡码(如右图).

1.3 Install adjustable hold down device at two sides

1.4. 纵向筋与面板点焊固定.

1.4 Tack weld longitudinal stiffener to skin PL

1.5. 对所有尺寸进行检查.



ZPMC SHANGHAI ZHENHUA PORT MACHINERY CO. LTD.	
SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SAN FRANCISCO, SUSSEX, CALIFORNIA, U.S.A.	
ROUTE 88, EAST OF YUBA, YUBA COUNTY, CALIFORNIA, U.S.A.	
BRIDGE, NEW YORK BRIDGE, DISTRICT 14, ST. LOUIS, MO.	
STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 34-33074	
DESIGNED BY: TAYLOR / NEFFATT & WOOD, INC.	
CONTRACTOR: AMERICAN BRIDGE / FLUOR DANTECH, INC.	
纵向筋与面板CJP焊接的制造工艺	
DRAWN	REVISION
CHECKED	BY: 01

step2 焊接纵向筋的P,JP部分焊缝
step2 Weld longitudinal stiffener

2.1. 预热及变形,在面板中间垫厚度为t的钢板,两侧用千斤顶压住。

2.2. 焊接,对称预热施焊,并按图示顺序施焊纵向筋。

2.2 Pre-heat, then weld symmetrically, and weld according to the sequence shown on the right

2.3. 焊接WPS:WPS-B-T-2332-TC-P5-F和

WPS-B-T-2332-TC-P5-F-1.

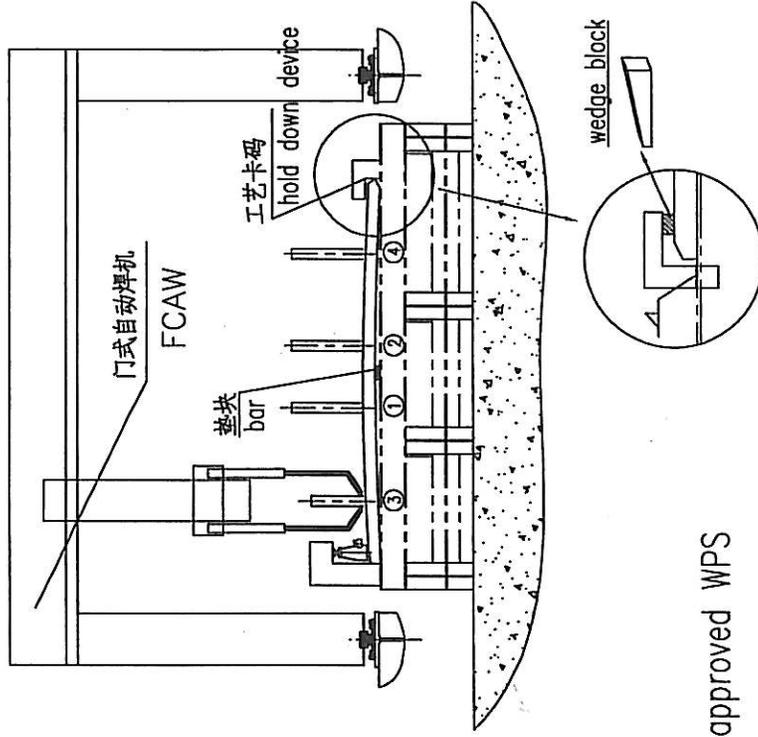
2.4. 焊接方法:采用FCAW,门式自动焊。

2.5. 焊接中断后,如需再次进行焊接须按WPS要求预热。

2.4 Before restarting weld, pre-heat according to approved WPS

2.6. 焊后按批准的WQCP要求校正纵向筋垂直度。

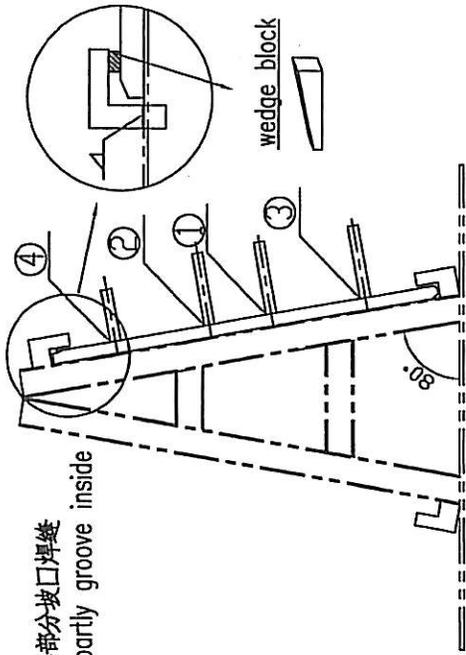
2.7. NDT检测要求:打底焊和焊接后进行100%MT检查。



ZPAC SHANGHAI ZHENHUA PORT MACHINERY CO. LTD.	
SAN FRANCISCO DISTRICT OFFICE, EAST SPAN SELF-ANCHORED SUSPENSION SPAN	
ROUTE 66 EAST OF YUBA RIVER ISLAND, DISTRICT 04, ST. COLONY, CA.	
BRIDGE No. 34-3004 PM 0.2, SP 132 & 34-0004R PM 0.7, SP 13.9	
STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 04-00P74	
ENGINEER: CALTRANS — TYLON / HOFFATT & HENNER, JV.	
CONTRACTOR: AMERICAN BRIDGE / FLUOR ENTERPRISES, JV.	
DRAWN	DATE
CHECKED	REV
	RT-02

位置1

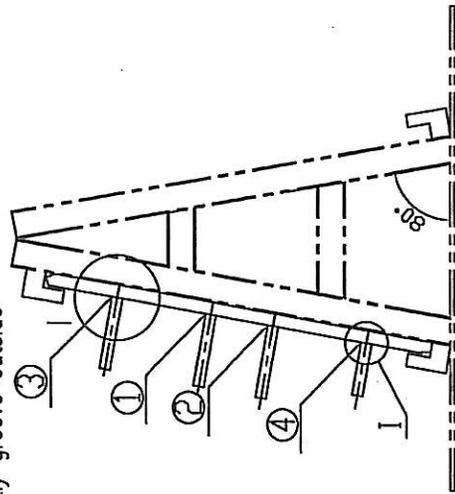
正面焊部分坡口焊缝
weld partly groove inside



↓ turnover

位置2

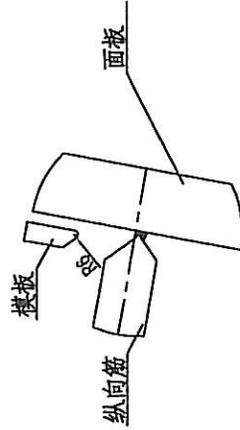
翻身碳刨清根, 焊部分坡口焊缝
weld partly groove outside



step3 焊接纵向筋的CJP焊缝

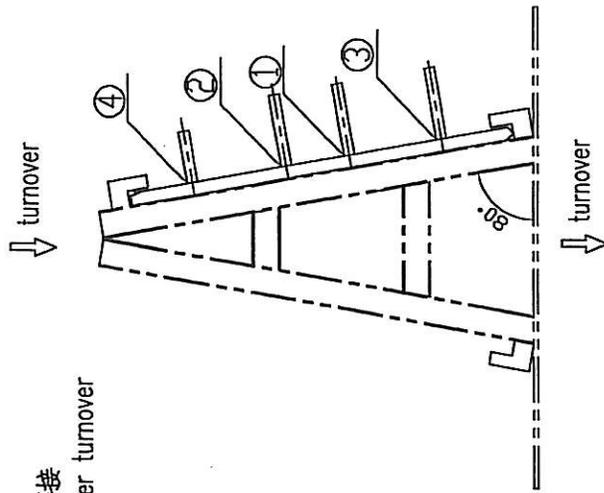
- 3.1. 焊接位置: 将板单元放置在特制的带有倾斜角度胎架上, 加好卡码固定.
- 3.2. 焊接方法: 采用FCAW, 手工焊.
- 3.3. 焊接WPS: WPS-B-T-2231-TC-U5-F和
WPS-B-T-2332-TC-P5-F-1.
- 3.4. 正面第一次烧焊结束后, 翻身进行碳刨, 并利用模板检验碳刨的角度.
- 3.5. 碳刨结束后, 将碳刨面打磨光亮.

放大
检验碳刨

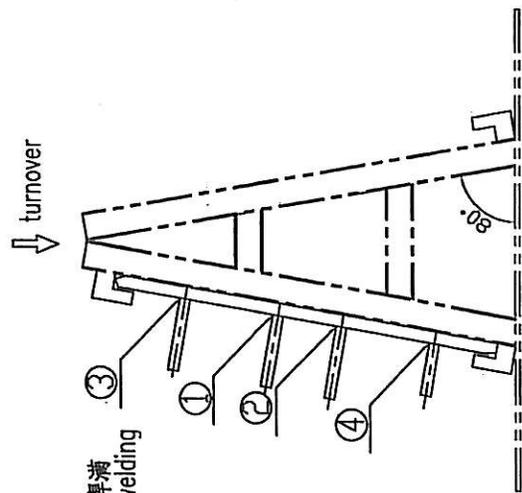


ZPIC SHANGHAI ZHENHUA PORT MACHINERY CO. LTD.	
SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SAN FRANCISCO, CALIFORNIA	
ROUTE 88 EAST OF TERESA BUENA VISTA, DISTRICT 04, SF COUNTY, CA	
BRIDGE Nos. 34-0066, PH 05, RP 13P & 34-0068 PH 07, RP 13P	
STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 04-0066/4	
DRAWN BY: CALTRANS --- T.Y. LIN / KOFFART & NICHOL, J.V.	
CONTRACTOR: AMERICAN BRIDGE / FLUOR ENTERPRISES, J.V.	
纵向筋与面板CJP焊缝的碳刨工艺	
DRAWN BY: []	CHECKED BY: []
DATE: []	SCALE: []
PROJECT NO. []	REP-103
DESIGN NO. []	

位置3
翻身
weld after turnover



位置3
翻身
finish welding



- 3.6. 焊接时采用多次翻身控制纵向筋垂直度,按照图示顺序烧焊纵向筋。
- 3.7. 焊接过程中注意焊道的清理工作,要求使用钢丝刷或打磨片清理。
- 3.8. 焊接中断后,如需再次进行焊接须按WPS要求预热。
- 3.9. 焊后按批准的WQCP要求校正纵向筋垂直度和面板的平整度。
- 3.10. NDT检测要求:焊后对CJP焊缝进行100%UT检查。

ZPAC SHANGHAI ZHENHUA PORT MACHINERY CO. LTD.	
SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SPAN SELF-ANCHORED SUSPENSION SPAN	
ROUTE 80 EAST OF YUBA RIVER ISLAND, DISTRICT 04, SF COUNTY, CA	
BRIDGE Nos. 34-0004, PH 02, RP 02E & 34-0006 PH 02, RP 02F	
STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 04-00074	
ENGINEER CALTRANS ----- TAYLOR / KEFFATT & HOSKEL, JV.	
CONTRACTOR AMERICAN BRIDGE / FLIER ENTERPRISES, JV.	
DRAWN	REVISED
DATE	BY
11-11-04	RP-04
纵向筋与面板CJP焊缝的烧焊工艺	

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program

333 Burma Rd.
Oakland, CA 94607
(510) 622-5660, (510) 286-0550 fax



*Flex your power
Be energy efficient!*

February 22, 2008

Contract No. 04-0120F4
04-SF-80-13.2 / 13.9
Self-Anchored Suspension Bridge
Letter No. 05.03.01-001406

Michael Flowers
Project Executive
American Bridge/Fluor Enterprises, a JV
375 Burma Road
Oakland, CA 94607

Dear Michael Flowers,

Response to NCRs 1, 5, 7, 8, 9, 10, 11, 12 & 13

This letter is issued as a response to ABF-CAL-LTR-000443, 444, 445, dated February 14, 2008, and ABF-CAL-LTR-000446, dated February 15, 2008, requesting written confirmation from the Engineer that the referenced Non-Conformance Reports (NCRs) at Zhenhua Port Machinery Company, Ltd (ZPMC) have been closed. The Department considers the following ZPMC NCRs closed:

NCR No.	State Letter No.	ABF Document No.	Description
1	05.03.01-000123	ABF-CAL-LTR-000443	Radiographic Testing issues (IQI placement, source type, etc.)
5	05.03.01-000757	ABF-CAL-LTR-000444	Repairs to longitudinal stiffener welds greater than 10% in length on the 77m Mock-up
7	05.03.01-000757	ABF-CAL-LTR-000444	QC not following the approved UT procedure on 114m Mock-up
8	05.03.01-000757	ABF-CAL-LTR-000444	Repairs to skin plate welds greater than 10% in length on the 114m Mock-up
9	05.03.01-000795	ABF-CAL-LTR-000445	Third time repairs to Skin B sub-assemblies on the 114m Mock-up without Engineer approval
10	05.03.01-000795	ABF-CAL-LTR-000445	Repairs to longitudinal stiffener welds greater than 10% in length on the 114m Mock-up
11	05.03.01-000795	ABF-CAL-LTR-000446	Failure to document fit-up of longitudinal stiffener on Mock-up
12	05.03.01-000795	ABF-CAL-LTR-000446	Repairs to skin plate welds greater than 10% in length on the 114m Mock-up
13	05.03.01-000795	ABF-CAL-LTR-000446	Welding electrode used on 89m Strut Sub-Assembly not in compliance

American Bridge/Fluor Enterprises, a JV
February 22, 2008
Page 2 of 2

Please contact us if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Gary Purcell".

GARY PURSELL
Resident Engineer

cc: Rick Morrow
Brian Boal
Gary Lai
Mark Woods

file: 05.03.01

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** ZPMC Changxing Island - Shanghai, China**Report No:** NCS-000015**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:****Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0012**Type of problem:**

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

Date the Non-Conformance Report was written: 15-Oct-2007**Description of Non-Conformance:**

ABF/ZPMC welded parts of 89M Strut Sub-Assemblies, MUSB-MA25 and MUSB-MA26, with an electrode not in compliance with contract specifications. The material welded was ASTM A 709M GR345 to ASTM A709M GR485. The Contract Drawings Sheet numbers MUSB-MA25 and MUSB-MA26, specify in Note 2 "Filler metal matching the higher strength of base metals shall be used". The filler metal actually used was E7018. ZPMC had posted and was following ZPMC approved Weld Procedure Specification (WPS) WPS-B-T-U3b-2 which was for welding the same materials, but in an undermatching condition. The Contract Drawings specified an overmatching condition. The parts in 89M Sub-Assembly MUSB-MA25 which were affected were: piece marks mp209-1 to p516-1 and mp209-2 to p516-2. The parts affected in 89M Sub-Assembly MUSB-MA26 were: piece marks mp517-1 through mp517-4 to p1114-1 through p1114-4. There were 6 weldments in total which were welded with the undermatching E7018 electrode.

Contractor's proposal to correct the problem:

Remove all E7018 filler metal from the weld joint by air arc and grinding. Fit, tack and weld in accordance with the correct WPS with the correct filler metal.

Corrective action taken:

ZPMC issued an internal NCR for the and removed the lower strength filler metal. The weld was rewelded using the higher strength filler metal as required.

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

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Inspected By: Ishibashi,Josh

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer